

**GLOBAL BUSINESS AND TECHNOLOGY
ASSOCIATION**

**BUSINESS STRATEGIES AND TECHNOLOGICAL
INNOVATIONS FOR SUSTAINABLE DEVELOPMENT:
CREATING GLOBAL PROSPERITY FOR HUMANITY**



Editors:

Nejdet Delener, Ph.D
Leonora Fuxman, Ph.D.
F. Victor Lu, Ph.D.
Anna Putnova, Ph.D.
Luis Eduardo Rivera-Solis, Ph.D.

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ELEVENTH INTERNATIONAL CONFERENCE

READINGS BOOK

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FIVE YEARS OF BANKING ANALYSIS WITH THE HELP OF PRODUCTION FUNCTION

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ABSTRACT

Econometric models have not been widely used for thorough analysis of the statistics published by Estonian banks. So far no one except the present authors has made an attempt to use models to prognosticate the amount of total income during the following period(s).

The article presents the results of analyses made by the authors during the last five years. These results have been published in a number of collections of research articles and have been reported on international conferences worldwide (in Mexico, South Africa, Egypt, Poland, Check Republic, Chile, China, USA, etc.).

From econometric models the Cobb-Douglas production function with income-earning assets, equity, liabilities and fixed assets as inputs was selected. The time period chosen is from the first quarter of 1995 to the end of 2007, that is a total of 52 periods. The secondary condition set was that the sum of the elasticity multipliers α and β should equal 1.

The balance sheets and income statements published quarterly by the banks were used as the empirical base of analysis.

INTRODUCTION: THEORETICAL BACKGROUND AND OVERVIEW OF RELATED LITERATURE

The history of econometric models is rich and varied. In the 1960s researchers were hypnotically fascinated by the opportunities offered by the introduction of econometric models. However, this history has suffered also less brilliant days: when in numerous countries the actual level of inflation surpassed the level prognosticated economists began to doubt the usefulness of applying econometric models. It was found that the time span over which interrelationships between economic indicators are stable is not long enough and therefore these indicators cannot be used for economic forecasts (Greespan, 2001). It was found that the forecasts made with the help of such models need continuous tuning and are therefore too expensive. (Gaida et al., 1998). Still, over time econometric models have been improved and are again widely used in making economic forecasts.

Economy as a whole functions like a joint organism for which banking is a very important, even vital part. No wonder that in this vital part of economy econometric models have found quite wide application. For example, in 2001 analysts of the World Bank used an econometric model to analyse the influence of deposit insurance on the development of the financial sectors of nations (Cullet et al., 2001). In numerous banks economic indicators have been analysed with the help of econometric models in order to prognosticate the activities of the bank in the future. It was as early as in 1975 that the Federal Reserve Bank of Minneapolis used an econometric model to assess economic activity in the United States. In that model the total output of the economy was selected as the input variable and different components of the federal budget, indicators of employment and some other indices were used as independent variables (Supel, 1975). The latest example of the use of an econometric model in banking analysis could be the model constructed under the guidance of Timothy J. Richards, which treats the competitiveness of banks located in small towns and in rural places in the United States depending on the distances between the banks (Richards et al., 2007). The award of the 2003 Nobel Prize in Economics to Robert Engle crowned econometrics as

a successful branch of economics. The Prize was awarded to Engle for research into methods of analysing economic time series with time-varying volatility (ARCH) and the application of ARCH in the evaluation of banking risks and pricing options (Engle, 2003).

In addition to US economists, econometric models have been applied for analysing banking also by researchers from Russia (Zamkova, 2002; Kraminski, 2003), Ukraine (Azarenkova, 2004), Finland (Pesola, 2005), India (Sathye, 2005), Nigeria (Balogun, 2007) and several other countries. All they set different goals and they used different models; however, the ultimate aim was analogous: prognostication of future conditions on the basis of data collected.

An econometric model used for analysis by the Central Bank of Ireland (McQuinn et al., 2005) was of special interest for the present authors. The reason was that this model was based on the Cobb-Douglas production function. We had not seen earlier the use of the production function as the basis of an econometric model. The model used in Ireland is significantly larger as compared to our model. The aim of the study is to compile such a quarterly model for each country in the EU system so that it would be possible to analyse shocks and simulations in the Eurozone. The model includes 96 variables and 89 equations have been constructed. Without going into detail, we can say that this model has been regarded as suitable for making simulations because it responds to various types of shocks and yields credible results. Thus it was concluded that the model is a suitable tool for analysing economic policies and for macroeconomic prognostications. The time period chosen for the model was 1980–1999.

This stimulated us to continue with our model although the preliminary results had not been especially encouraging. We made our first attempts at analysing the statistics published by the Bank of Estonia with the help of econometric models already in 2003. By that time the balance sheets and income statements published by the Estonian banks formed already a sufficiently large database so that application of econometric models could be expected to give some results.

Our first task was to select the type of econometric model. As is known, a very large number of different econometric models have been used for analysis in the world and thus the first thing is to select the most suitable of them.

The authors decided to select the Cobb-Douglas production function. We set two additional conditions. The sum of elasticity coefficients α and β had to equal 1 and the values of the elasticity coefficients had to be between 0 and 1. Having solved the first problem, we had to address the next one: what should we choose as variables? For the input variable we selected the total income of banks, as this is the indicator that is of greatest interest for customer groups connected with the bank. Indeed, the total income of a bank (or actually its size) is of interest in addition to the bank's own employees also to shareholders, investors, creditors and borrowers. However, it should be mentioned here that these customer groups do not constitute a very large proportion of a bank's customers because it is the depositors who make up the largest group of bank customers. Their deposits, however, are safeguarded by a relevant law valid since 1998 (RT 1998, 40,612).

Selection of independent variables required more consideration. Theoretically, these could be very different indicators. Finally, we selected four indicators: income-earning assets (x1), equity (x2), liabilities (x3) and fixed assets (x4).

In 2003 it was possible to construct a time series of data available for public use that included information on 30 quarters (1st quarter 1995 to 2nd quarter 2002). The first tests of the suitability of the model were made using the time series of that length. Each year has added four points to the series, and by the time of writing the present paper it included already 52 points (1st quarter 1995 to 4th quarter 2007).

As a production function can simultaneously include only two independent variables, then by using the four selected variables in pairs, six different combinations can be formed. In the further processing we included only the combinations that met the preconditions that $\alpha + \beta = 1$ and that α and $\beta > 0$. All these suitable combinations with their coefficients of elasticity are presented in Table 1.

Table 1: Coefficients of elasticity meeting the precondition set

Length of time series (points)	Elasticity coefficients	Income earning assets and equity (x1x2)	Income earning assets and liabilities (x1x3)	Income earning assets and fixed assets (x1x4)	Equity and liabilities (x2x3)	Equity and fixed assets	Liabilities and fixed assets

30	α		0,5414				
	β		0,4586				
31	α	0,921					
	β	0,079					
32	α						0,1675
	β						0,8325
33	α	0,4023		0,0787	0,4067		0,1334
	β	0,5977		0,9213	0,5933		0,8666
34	α	0,5275		0,0487	0,3837		0,1093
	β	0,4725		0,9513	0,6163		0,8907
35	α				0,8447		0,0782
	β				0,1553		0,9218
36	α	0,8589			0,8458		0,0739
	β	0,1411			0,1542		0,9261
37	α				0,8386		0,0854
	β				0,1614		0,9146
38	α	0,9417		0,332	0,1045		0,3528
	β	0,0583		0,668	0,8955		0,6472
39	α	0,9861		0,5922	0,0223	0,0605	0,5984
	β	0,0139		0,4078	0,9777	0,9395	0,4016
40	α	0,6832		0,3350	0,8076	0,1072	0,3404
	β	0,3168		0,6650	0,1924	0,8928	0,6596
41	α	0,5263		0,8019	0,6011	0,7375	0,5849
	β	0,4737		0,1981	0,3989	0,2625	0,4151
42	α	0,1953			0,8519		0,9422
	β	0,8047			0,1481		0,0578
43	α	0,4379			0,7998		
	β	0,5621			0,2002		
44	α	0,1192			0,4401		0,9545
	β	0,8808			0,5599		0,0455
45	α	0,91				0,8269	
	β	0,09				0,1731	
46	α	0,1501					0,9591
	β	0,8499					0,0409
47	α			0,9212			0,7835
	β			0,0788			0,2165
48	α	0,8965			0,0324	0,4116	0,9392
	β	0,1035			0,9676	0,5884	0,0608
49	α			0,8742			0,8988
	β			0,1258			0,1012
50	α						0,823
	β						0,177
51	α	0,0597					
	β	0,9403					
52	α			0,6909	0,0623	0,4656	0,6881

	β		0,3091	0,9377	0,5344	0,3119
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Source: Authors calculations

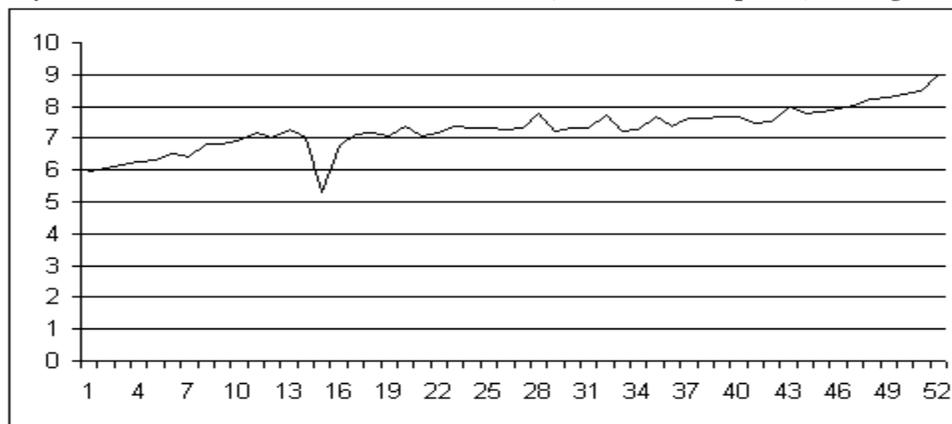
It is possible to get quite a lot of information from this table:

The column where the pair of independent variables consists of income-earning assets and liabilities is quite empty. This is caused by the fact that after the calculation of the random component of the time series we checked correlations between different indicators and we always found multicollinearity between the indicators 'income-earning assets' and 'liabilities'. Therefore this pair was excluded from analysis.

In each row one pair of the coefficients of elasticity is written in boldface. This designates the pair for which the coefficient of elasticity r is the largest, and consequently the model constructed on the basis of this pair is the most suitable and trustworthy.

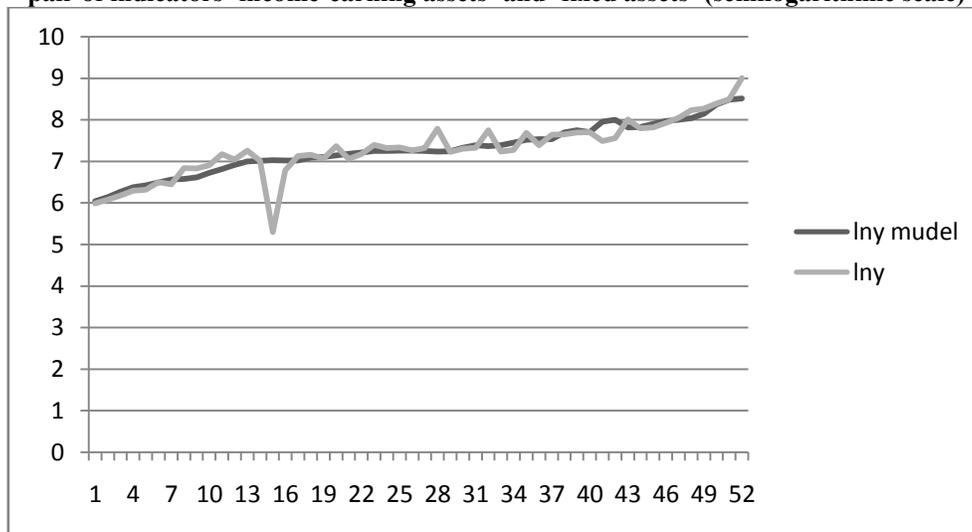
Figure 1 shows the dynamics of the total income of Estonian banks from the 1st quarter of 1995 to the end of 2007. The time series includes a total of 52 points.

Figure 1. Dynamics of the total income of Estonian banks, 1995–2007 (52 points, semilogarithmic scale)



The production function calculated for this period gave four suitable pairs of indicators meeting the preconditions (see Table 1). The most suitable among them was the pair 'income-earning assets' and 'fixed assets' (see Figure 2).

Figure 2. Total income of Estonian banks and the suitability of the graphs constructed on the basis of the pair of indicators 'income-earning assets' and 'fixed assets' (semilogarithmic scale)



The model constructed on the basis of this pair of indicators

$$\ln y = -2,517 - 0,0071t + 0,0945\cos\alpha + 0,0021\sin\alpha + 0,0083\cos2\alpha + 0,0442\sin2\alpha + 0,0155\cos3\alpha + 0,0812\sin3\alpha + 0,6909\ln x_1 + 0,3091\ln x_4$$

has the coefficient of elasticity $r = 0,89112$. The other pairs of indicators meeting the preconditions have a smaller coefficient of elasticity and thus also their suitability is lower.

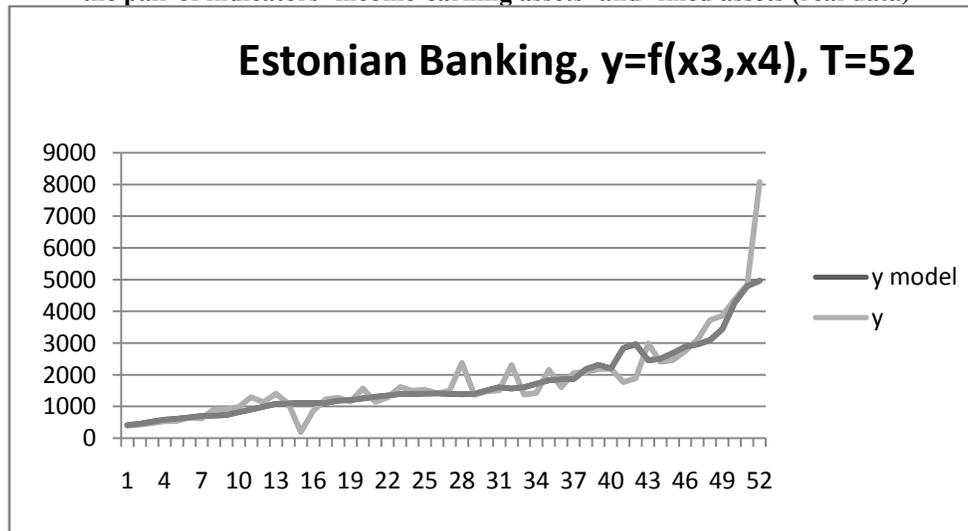
It can be deduced from the model that if income-earning assets increase by 1%, the total income will increase by 0,6909% and if the fixed assets increase by 1%, the total income will increase by 0,3091%.

Table 1 suggests that the combination of the indicators 'liabilities' and 'fixed assets' was most often the best one. With certain reservation, this can be regarded as a logical outcome. Liabilities form the base of earning an income by a bank and fixed assets create conditions for earning this income.

As the two graphs in Figure 2 are quite close, we can conclude that the methodology used – application of the production function to prognosticate the future – seems to be promising. However, for this the time series should become still longer because the correlation coefficients calculated already for the time series of all different lengths show a tendency towards increasing, which refers to increasing credibility of the model with lengthening time series.

In Figure 3 the data analysed are presented as real data.

Figure 3. Total income of Estonian banks and suitability of the graph of the model constructed on the basis of the pair of indicators 'income-earning assets' and 'fixed assets (real data)



Also this figure proves close agreement of real data and the model constructed with the help of the production function.

CONCLUSIONS

1. The Cobb-Douglas production function is a suitable modelling tool for revealing relationships between different indicators of banking.
2. The suitability of the production function increases with increasing length of the time series.
3. The production function may prove to be a suitable basis for modelling with the aim of forecasting future values of banking indicators.

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FORECASTING OF THE DEVELOPMENT OF BANKING: THE ESTONIAN CASE (5)

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ABSTRACT

The main purpose of the paper is to test the possibilities of treating a bank as an enterprise that produces services and for which the same laws are valid (at least in Estonia) as for other enterprises. As Estonia is a small country, the banks here can be considered small or medium-sized, despite the high profitability of their enterprises. Banks and other financial institutions compose a unique set of business firms whose assets and liabilities, regulatory restrictions, economic functions and operation make them an important subject of research. Banks' performance monitoring, analysis and control deserve special attention in respect to their operation and performance results from the viewpoint of various audiences such as investors/owners, regulators, customers, and management. This paper presents two econometric models. In addition, whether the development of the Estonian banking agrees with R. Solow's theory of balanced growth is considered.

INTRODUCTION

Econometric models have not been widely used for thorough analysis of banks. So far no one except the present authors has made an attempt to use models to prognosticate the amount of total income of banks. We have got remarkable results (Aarma A., Vainu J., 2004-2008).

One can ask what is the production or product of a bank? In our opinion, the product of the bank is the amount of the services, the volume of which can be measured by the total income of the bank, which is the measure of the amount of production. Our main purpose was to test the possibilities of treating a bank as an enterprise that produces services and for which the same laws are valid (at least in Estonia) as for other enterprises.

We made our first attempts at analysing the statistics published by the Bank of Estonia with the help of econometric models already in 2003. By that time the balance sheets and income statements published by the Estonian banks formed already a sufficiently large database so that application of econometric models could be expected to give some results.

Our first task was to select the type of econometric model. As is known, a very large number of different econometric models have been used for analysis in the world and thus the first thing is to select the most suitable of them.

The authors decided to select the Cobb-Douglas production function. We set two additional conditions. The sum of elasticity coefficients α and β had to equal 1 and the values of the elasticity coefficients had to be between 0 and 1. Having solved the first problem, we had to address the next one: what should we choose as variables? For the input variable we selected the total income of banks, as this is the indicator that is of greatest interest for customer groups connected with the bank. Indeed, the total income of a bank (or actually its size) is of interest in addition to the bank's own employees also to shareholders, investors, creditors and borrowers. However, it should be mentioned here that these customer groups do not constitute a very large proportion of a bank's customers because it is the depositors who make up the largest group of bank customers. Their deposits, however, are safeguarded by a relevant law valid since 1998 (RT 1998, 40,612).

Selection of independent variables required more consideration. Theoretically, these could be very different indicators. Finally, we selected four indicators: income-earning assets (x_1), equity (x_2), liabilities (x_3) and fixed assets (x_4).

In 2003 it was possible to construct a time series of data available for public use that included information on 30 quarters (1st quarter 1995 to 2nd quarter 2002). The first tests of the suitability of the model were made using the time series of that length. Each year has added four points to the series, and by the time of writing the present paper it included already 52 points (1st quarter 1995 to 4th quarter 2007).

RESEARCH METODOLOGY

We selected the total income of the banks (y) as the output variable (dependent variable) and used profit earning assets (x_1), equity (x_2), liabilities (x_3) and fixed assets (x_4) as factors (independent variables).

The time series were treated as consisting of three components:

$$(1) \quad y(t) = f(t) + h(t) + e_t$$

where $y(t)$ represents the actual time series;

$f(t)$ represents the linear trend in the time series;

$h(t)$ represents the harmonious component in the time series;

e_t represents residuals.

The harmonious component is determined by Fourier's series:

$$(2) \quad h(t) = a_0 + \sum_{j=1}^k (a_j \cos \alpha + b_j \sin \alpha), \quad \alpha = j \frac{t2\pi}{T}$$

where j represents the number of harmonious components,

t represents time,

T represents length of the time series (the number of periods).

We chose the power function as the type of the model.

$$(3) \quad y = ax^\alpha z^\beta, \quad \alpha + \beta = 1.$$

To estimate the parameters a and α with the method of least squares, it was necessary to first find logarithms of the primary data. Then, according to the rules of analysing time series, we checked for the existence of a trend and harmonious component in the time series of the logarithms of the selected parameters.

We followed R. Solow's approach and assumed that the chosen factors can be regrouped so that two groups would be formed: profit earning current assets, $x = x_1 + x_2 + x_3$; and profit earning fixed assets, $z = x_4$.

$$(4) \quad y = ax^\alpha z^{1-\alpha}.$$

Now we assume that part of the total income will be invested into profit earning current assets:

$$(5) \quad I = sy = dx/dt$$

and that the fixed assets will remain unchanged for a certain period of time.

$$(6) \quad z(t) = z_0, \quad dz/dt = 0.$$

Now

$$(7) \quad \frac{dx}{dt} = sy = sf(x, z) = sf(x, z_0).$$

Now let the ratio of current assets to fixed assets $k = x/z$; then

$$(8) \quad x(t) = k(t)z_0.$$

Differentiating (8) on the basis of time, we obtain

$$(9) \quad \frac{dz}{dt} = \frac{dk}{dt} z_0$$

and

$$(10) \quad \frac{dk}{dt} z_0 = sf(x, z_0),$$

from which

$$(11) \quad \frac{dk}{dt} z_0 = sz_0 f\left(\frac{x}{z_0}, 1\right)$$

and denoting $f\left(\frac{x}{z_0}, 1\right) = f(k)$,

we get

$$(12) \quad \frac{dk}{dt} = sf(k).$$

Equation (12) shows that all investments are directed toward increasing the amount of profit earning current assets. In the case of the power function

$$(13) \quad \frac{dk}{dt} = sak^\alpha.$$

By integrating (13) we get

$$\int k^{-\alpha} dk = \int asdt$$

from which

$$(14) \quad \frac{1}{1-\alpha} k^{1-\alpha} = ast + A.$$

To determine the constant A , we assume that $k(t) = k_0$, if $t = 0$.

$$A = \frac{1}{1-\alpha} k_0^{1-\alpha},$$

$$k^{1-\alpha} = ast(1-\alpha) + k_0^{1-\alpha},$$

$$(15) \quad k(t) = \left[ast(1 - \alpha) + sak^{1-\alpha} \right]^{\frac{1}{1-\alpha}}.$$

The increment of the total income is found as follows:

$$(16) \quad \frac{dy}{dt} = \frac{d}{dt} \left[ax^\alpha z_0^{1-\alpha} \right] = \left[\alpha ax^{\alpha-1} z_0^{1-\alpha} \right] \frac{dx}{dt} = \alpha a \frac{x^{\alpha-1}}{x} z_0^{1-\alpha} \frac{dx}{dt} = \alpha y \frac{1}{x} \frac{dx}{dt},$$

$$(17) \quad \frac{1}{y} \frac{dy}{dt} = \alpha \frac{1}{x} \frac{dx}{dt} = \alpha \frac{sy}{x} = \alpha sb,$$

where $b = y/x$ is the productivity of profit earning assets, the rate of increment of which is

$$(18) \quad \frac{1}{b} \frac{db}{dt} = \frac{x}{y} \frac{d}{dt} \left(\frac{y}{x} \right) = \frac{x}{y} \frac{1}{x} \frac{dy}{dt} - \frac{x}{y} \frac{1}{x^2} \frac{dx}{dt} = \frac{1}{y} \frac{dy}{dt} - \frac{1}{x} \frac{dx}{dt} = (\alpha - 1)sb.$$

The rate of increment of the productivity of fixed assets is

$$(19) \quad \frac{1}{v} \frac{dv}{dt} = \frac{1}{v} \frac{d}{dt} \left(\frac{y}{z_0} \right) = \frac{1}{v} \frac{1}{z_0} \frac{dy}{dt} = \frac{z_0}{y} \frac{1}{z_0} \frac{dy}{dt} = \frac{1}{y} \frac{dy}{dt} = \alpha sb.$$

Let us now examine the situation where the increase of fixed assets is linear:

$$(20) \quad z(t) = a_0 + a_1 t.$$

Now the amount of the profit earning current assets is

$$(21) \quad x(t) = k(t)z(t) = k(t)(a_0 + a_1 t)$$

and its increment is

$$(22) \quad \frac{dx}{dt} = \frac{dk}{dt}(a_0 + a_1 t) + a_1 k(t).$$

Assuming the existence of the function

$$(23) \quad y = f(x, z) = f(x, a_0 + a_1 t),$$

we can write:

$$(24) \quad \frac{dk}{dt}(a_0 + a_1 t) + a_1 k_t = sf(x, a_0 + a_1 t),$$

from which

$$(25) \quad (a_0 + a_1 t) \left(\frac{dk}{dt} + k_t \frac{a_1}{a_0 + a_1 t} \right) = s(a_0 + a_1 t) f \left(\frac{x}{a_0 + a_1 t}, 1 \right)$$

or

$$(26) \quad \frac{dk}{dt} = sf(k) - k \frac{a_1}{a_0 + a_1 t},$$

where $a_1 / (a_0 + a_1 t) = n = \frac{1}{z} \frac{dz}{dt}$ is the increment rate of fixed assets.

The condition of equilibrium is here

$$(27) \quad \frac{1}{x} \frac{dx}{dt} = \frac{1}{z} \frac{dz}{dt},$$

from which $m = s/n$, where m represents the ratio of current assets and total income.

As

$$(28) \quad m = \frac{x}{y} = \frac{x}{zf(k)} = \frac{k}{f(k)},$$

then, in the case of equilibrium

$$(29) \quad \frac{s}{n} = \frac{k}{f(k)}.$$

In the case of the Cobb-Douglas function

$$(30) \quad \frac{dk}{dt} + nk = sak^\alpha.$$

Equation (30) is a first-order non-linear non-homogeneous differential equation the solution of which is the function

$$(31) \quad k(t) = \left[\left(k_0^{1-\alpha} - \frac{as}{n} \right) e^{-n(1-\alpha)t} + \frac{as}{n} \right]^{\frac{1}{1-\alpha}}.$$

It can be seen from equation (31) that if $t \rightarrow \infty$, then $e^{-n(1-\alpha)t} \rightarrow 0$ and the ratio of current assets and fixed assets will move towards the equilibrium state $\left(\frac{as}{n} \right)^{\frac{1}{1-\alpha}}$.

RESEARCH RESULTS

Let us first construct two-factor power function (6 functions), of which the best was the function with the minimum standard error

$$(32)$$

$$y = 0,0919 x_1^{0,66} x_2^{0,34} \exp \left[\begin{array}{l} 0,1835 \cos \alpha + 0,0266 \sin \alpha + 0,1001 \cos 2\alpha + \\ + 0,0712 \sin 2\alpha + 0,069 \cos 3\alpha - 0,107 \sin 3\alpha - 0,0184 t \end{array} \right] R = 0,9367.$$

The suitability of function (32) can be seen in Figure 1.

Then we found the parameters of the function $y = f(k)$. As a result we obtained the function

$$(33) \quad y = 79,41k^{0,81}, \quad R = 0,84.$$

The suitability of this model is demonstrated by Figure 2.

Already the figures indicate that the forecasting capability of the models is low due to the rapid economic growth in Estonia in 2007.

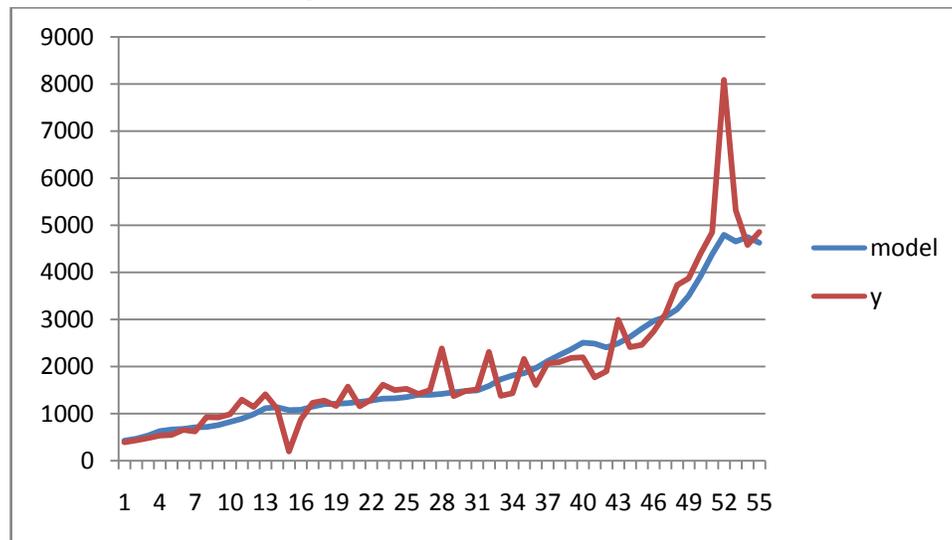
Let us now examine the development of Estonian banking from the perspective of the theory of balanced growth. It can be seen from Equation (31) that the state of equilibrium can be calculated using the following formula:

$$y^{bal} = \left(\frac{as}{n} \right)^{\frac{1}{1-\alpha}}.$$

By using Equation (33) and taking $s = 0,1$, we get the value of the equilibrium state equal to 2,1845E+12 million Estonian kroon. Actually, the level of the Estonian banking was 4851,3 million Estonian kroon.

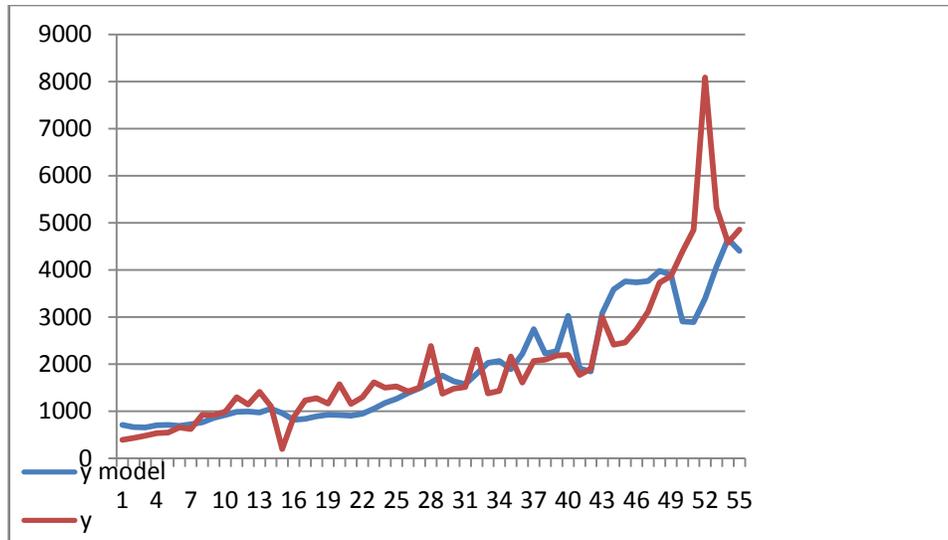
It is absolutely impossible to achieve such a level. The authors are of the opinion that. Solow's theory of balanced growth and "golden age" is just a beautiful concoction.

Figure 1. Suitability of the model,



Source: Authors' calculations

Figure 2. Suitability of the model $y = f(k)$



Source: authors' calculations.

CONCLUSIONS

1. Econometric models can be used to analyse and prognosticate banking parameters; power functions give the best results.
2. Different functions give somewhat different results, but these differences are not large.
3. Analysis of the dynamics of Estonian banking from the perspective of the theory of balanced growth revealed that Estonian banking is far from a state of equilibrium.

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POSITIONING OF WHOLESALE IN THE SUPPLY CHAIN: COMPARATIVE ANALYSIS EU-SERBIA

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ABSTRACT

Wholesale trade has significant place in the distribution of various goods. The theory teaches us that the wholesale trade justifies its position in supply chain with increasing efficiency of transactions, specialization and consolidation of assortment from various suppliers. Too many wholesale enterprises in one supply chain make the turnover more expensive and the final price of the goods too; therefore, sustainability of this system is also problematic. This is actually the characteristic of distributive sector in Serbia – to many wholesale enterprises, their low productivity, insufficient specialization, low quality of the service, non-existence of necessary institutions (for example, wholesalemarket), etc. This paper shows short comparative analysis (EU vs. Serbia) of functioning wholesale segment of distributing sector, enabling us to identify key differences. These wholesale developing gaps shall be the basis for proposals for changes that we would suggest in Serbian wholesale trade, and that would be able to help the process of wholesale transformation during Serbian approaching to EU.

INTRODUCTION

When considering historical development of the wholesale trade as an intermediary on the market, one can see its continuous battle for survival. Factors which produced emerging of this intermediary in supply chains (enlargement of transactions efficiency, unification of range of goods and functional specification for assortment) are on “continuous trial” of the market game which is ruling in intermediary channels of all articles in the market. Especially, considering the conditions of the world economic crises, the necessity is noticed that wholesale trade strengthen its place and position within the supply chain, i.e. to adapt its consumer supply and service to actual situation. This paper would stress the comparison of European and Serbian practice in developing wholesale distribution sector. The following indicators would be especially compared: 1) Distribution sector structure and wholesale trade contribution, 2) Wholesale trade efficiency (for example, number of employees per enterprise, number of enterprises/employees ratio in retail trade and wholesale trade, turnover per employee/enterprise in the wholesale trade, etc.), 3) Branch structure of the wholesale trade (according to key groups of goods/assortments) and 4) Quality of wholesale trading network, client’s supply packages and service.

In the next part of the paper we would, in short, point out the problem of shortage of wholesalemarket, as a modern market institution in mediation in wholesale, in fruit supply chain, and supply chains of vegetables and other perishable goods in Serbia. This negative example, actually, is the best way to show all the faults with which certain supply systems are functioning (of perishable and extremely sensitive goods) when only one link in the chain (wholesalemarket) is left out. Finally, judging by the first indicators from the Serbian market, under the conditions of world economic crises and growing insolvency from every supply chain, the first link is always the first to be left out, and this is, in the most cases, the wholesale trade, which therefore needs significant and faster changes. It appears that introducing some changes in Serbian wholesale trade activities can be of benefit for upgrading business performances of this segment of distribution sector in certain EU countries.

COMPARISON OF EUROPEAN AND SERBIAN WHOLESAL TRADE EFFICIENCY AND QUALITY

Selected indicators of Serbian and European wholesale trade efficiency

The position of every economic branch can be viewed from its participation in gross domestic product. EU data (2004) show the fact that the whole distributing sector (retail trade + wholesale trade + motor vehicles trade and repairs) is making very significant segment in the field of services and that participation is growing in creation newly made value (with 13% in the year 1997 increased to 20% in the year 2004). The wholesale trade is, besides retail trade, the most important part of distributing sector and it is participating with approximately 9% in the number of enterprises, with approximately 20, 6% in income and with about 7,6% in the employment of the whole economy. Distributing sector of Serbia is participating with almost 10% in gross domestic product (the average for the period from 2002-2006 is 8,3% - while including only turnover of classical wholesale trade, without wholesale turnover made by producers and retail trade).

It is very encouraging that the average annual growth rate of Serbian distributing sector is 15%, and the wholesale trade is annually growing 14%, and the whole gross domestic product - 6% (all data are from the period from 2002-2006). All of the above mentioned indicate more dynamic growth rate of activities in distributing sector of Serbia as a whole and especially in the wholesale trade, in relation to the average of the economy. The wholesale trade is participating with 4% in gross domestic product of Serbia, and this is bigger participation from that of retailing and vehicle trade (3,71% and 1.99% respectively - data for the year 2006). These data indicate the fact that the distributing sector and the wholesale trade within is relatively important factor of Serbian economy, but negligible less in relation to the average of EU countries. The following table is showing that the distribution of participation of three main branches within distributing sector is relatively similar in EU countries as well in Serbia:

Table 1. Comparison of distributing sector structure of Serbia and average of European Union

	Average income for EU countries 2003	Average income for Serbia for the period from 2002-2006
Wholesale trade	45,5%	41.11%
Retail trade	39,4%	38.50%
Motor vehicle trade	15,1%	20.39%
Total trade – distribution	100,0%	100,00%

Source: Eurostat, Statistical yearbook of Serbia

Territorial development and network capacity of any segment of mediating activity are the most important infrastructural assumption for the development of that activity, and it is especially important for the wholesale trade. Looking from the point of view of the structure, quantity, quality and many other factors we can clearly see reached rate of wholesale trade development of any country, at any period of time. According to the quantity (the number of enterprises) of performing wholesale trade activities in Serbia, this economic activity is very intense. With this very short survey we shall show a few comparative facts, especially having in mind comparability of number of wholesale trade enterprises and the relation of the number of wholesale trade enterprises and retail trade enterprises in Serbia and in selected countries of European Union:

Table 2. Comparison of basic indicators of wholesale trade in Serbia and EU

Country and the year	Number of enterprises (000)	Number of employees (000)	Number of employees per an enterprise
Austria	25,6	193	8
Belgium	43,0	233	5
Bulgaria	23,1	142	6
Check Republic	61,6	237	4
Denmark	16,1	164	10

Estonia	7,9	39	5
France	183,3	1.056	5
Finland	15,1	82	6
Greece	75,6	312	4
Holland	57,9	469	8
Ireland	7,2	79	11
Italy	406,8	1.076	3
Cyprus	2,3	18	8
Luxemburg	3,2	14	11
Latvia	6,6	71	8
Lithuania	6,5	52	4
Hungary	33,1	169	5
Malta	/	/	/
Germany	93,5	1.208	13
Portugal	59,6	274	5
Poland	123,6	679	5
Romania	51,7	311	6
Slovenia	11,3	42	9
Slovakia	8,4	79	4
Spain	201,8	1.120	6
Sweden	43,6	220	5
Great Britain	111,0	1.201	11
EU 27 (2004)	1 682,2	9.554	7
Serbia (2006)	26	74	3
Serbia (2007)	26	78	3

Source: Eurostat, Statistical yearbook of Serbia, Centre for financial status of the National Bank of Serbia

It is clear that the number of employees per an enterprise in wholesale trade is smaller then in most of European countries, indicating fragmentation of this Serbian distributing sector segment. As a key indicator of irrational wholesale network in Serbia we point out completely opposite relation of number of enterprises/employees in retail sale trade and wholesale trade in Serbia and in European Union countries:

Table 3. Comparative analysis of relation of number of enterprises and employees in wholesale and retail trade in Serbia and EU countries

Country and year	Number of enterprises in retail trade per one enterprise in wholesale trade	Relation of number of employees in retail trade per employees in wholesale trade
Austria	1.63	1.66
Belgium	1.69	1.25
Bulgaria	4.06	1.77
Czech Rep.	2.18	1.59
Denmark	1.50	1.24
Estonia	0.52	1.08
Finland	1.46	1.60
France	2.33	1.64
Greece	2.60	1.54
Holland	1.36	1.51
Ireland	2.47	2.05
Italy	1.73	1.65
Cyprus	6.09	1.61
Latvia	4.03	1.43
Lithuania	1.98	1.59

Luxemburg	0.45	1.90
Hungary	3.27	2.02
Malta	/	/
Germany	2.93	2.14
Poland	6.92	1.43
Portugal	1.17	1.76
Rumania	2.44	1.41
Slovakia	0.40	1.14
Slovenia	0.86	0.90
Spain	2.63	1.52
Sweden	1.32	1.20
Great Britain	1.81	2.64
EU 27 (2004)	2.22	1.78
Serbia (2006)	0.53	3.50
Serbia (2007)	0.53	3,36

Source: Eurostat, Statistical yearbook of Serbia, Centre for financial status of the National Bank of Serbia

In European countries, the relation of numbers of retail trade enterprises to wholesale enterprises is approximately from 0,4 (Slovakia) to 6,92 (Poland), while the average for the whole EU is 2,22. So, to one wholesaler in EU there are 2,2 retailers, and this is logic ratio in accordance with essence of impact of both trade branches. Data for Serbia show very different relationships in distributing sector, indicating anomalies of relative relation between wholesale and retailing enterprises in EU. If we observe only enterprises which make annual balance sheet in Serbia (without a pretty large number of small shops), then the ratio is as follows: to one wholesaler there is 0,53 retailer, i.e. to one retailer there are 1,88 wholesalers. "Picture from the field" is in favor of the fact that Serbian economy is gradually becoming bigger, but the wholesale trade is still in stagnation, without enough changes.

When realizing the most important proportions in relation of number of employees in retail and wholesale trade, we shall see that only Slovenia has smaller number of employees in retail trade in relation to wholesale trade (the ratio is 0,90). All other EU countries have more employees in retail trade in relation to the wholesale trade, and this ratio is between number of employees (except Slovenia) from 1,08 (Estonia) to 2,64 (Great Britain). Also, average coefficient of ratio of employees' number in these two branches of distributing sector for EU 27 is 1,78. Serbia has significantly different indicator of ratio of employees' number in retail trade to employees' number in wholesale trade (3,5 for the year 2006, i.e. 2007 is 3,36) from all EU countries individually. The cause should be found in still excessively small economic entities and objects of retail trade and much larger number of employees (low labor productivity) from these indicators in all EU countries.

While conducting wider research of Serbian wholesale sector development and position (this paper is only representing the summary), we made comparison of two important indicators in operating of wholesale trade of EU and Serbia - turnover according to an enterprise (in EUR) and turnover per an employee (in EUR). From present point of view (this research was conducted within the period from 2003-2008), these data are not reliable enough because of instability on foreign exchange market in all East-European countries. Namely, under the influence of world economic crisis there is a fall in almost all currencies in East-European countries which are not in EUR zone. Also, the ratio of Serbian Dinar has fallen in relation to EUR for 25%. Based on the all above mentioned, we concluded that the presentation on comparative analysis of financial data on turnover per an enterprise and turnover per an employee in wholesale trade, that we had prepared during the period of growth, would have been pointless.

Quality gap of Serbian and European wholesale trade

Besides presented quantity data on wholesale trade in Serbia and EU countries, quality aspect is also very importing for this analysis, as in any other comparative review. Unsufficient statistical compatibility on the level of all EU countries and Serbia and a very problematic statistical base conducted for any segment of economic activity in Serbia are important reasons that justified introducing quality comparison of wholesale trade in Serbia with

conducting operating activities of wholesale trade in EU countries. When taking into consideration everyday activities in practice, i.e. personal expert experiences of this paper's authors, we estimate that the set of descriptive grades that can be given on quality of conducting wholesale trade in Serbia (the following table) are more reliable indicators for comparison of wholesale trade in Serbia with the same sector in developed countries.

Table 4. Evaluation of quality gap between European and Serbian wholesale trade network

ASPECT OF ANALYSIS	WHOLESALE TRADE IN EU	WHOLESALE TRADE IN SERBIA	DIFFERATION RATE (large, medium, small)
Concentration rate	Mostly large, with tendency of growing	Small, without serious move	LARGE
Specialization rate	Completely recognizable	Gradually identifying	MEDIUM
Profitability, its own and in the channel	Large, with small margins, efficient for other participants	Medium, with relatively large margins and expensive mediation in the channel	LARGE
Internationalization of business operations	Mostly large, with tendency of growing	Symbolic	LARGE
Information connection	Large	Non-sufficient, in opposition to the significance of informatics/computer science for business	LARGE
Branch profile	In all wholesale branches	Mostly on consumer goods	LARGE
Influence in distributing channel	Solid	Limited	MEDIUM
Importance of logistics	Logistics is in the centre of attention	Starting to identify the importance more	MEDIUM
Participation in processes of supply chains	More and more	This matter is not familiar enough	LARGE
Managing Human Resources	One of the most important segments of business practice	The problem is recognized but there are no quality solutions	MEDIUM
Number of employees	Mostly small	Relatively exaggerated	MEDIUM
Customer service	Mostly full range of the offer	Solid offer of additional services	MEDIUM
Process of receiving and realization of the order	Fast and efficient	Slow, though advanced recently	MEDIUM
Speed of business and organizational transformation	Large, with using benchmarking approach and consultancy knowledge	Business models of Western wholesaler are further more desired.	MEDIUM

We wish to point out once again that this table is made on the basis of knowledge of wholesale theory, but also actual practice of functioning of wholesale sector in developed countries in EU and in Serbia. Furthermore, the table sublimates our estimation of relations in supply channels of both "sides" of wholesale trade (suppliers and retail trade). Above mentioned table has identified 6 large and 8 medium exceptions in quality of Serbian wholesale functioning in relation to the average quality of wholesale development in EU countries. This quality evaluation is additionally emphasizing the conclusion that Serbian wholesale trade is falling behind in many things in its development, regarding modern solution of European wholesale sector solutions (especially wholesale trade in developed part of European Union).

WHOLESALEMARKET AS MISSING WHOLESALE INSTITUTION IN SUPPLY CHAIN OF PERISHABLE GOODS ON SERBIAN MARKET

Wholesalemarket can be defined as primary mediator in perishable products/goods turnover (firstly, fruits and vegetables, also meat, fish, milk, flowers, etc.) that require special terms of preserving and storage. At the same time, this means that the wholesalemarket as mediator undertakes some functions in turnover, functions which are expensive to the others (because, wholesalemarket is working at one place, according to economy of scope system), or, simply, other mediators have no need to perform these functions because there is one organized place for all that. Furthermore, it implied that every wholesalemarket is positioned in distributing chain as a specialized mediator in logistic and/or commercial sense:

Picture 1. Usual mediators in distributing channel of fruits and vegetables in the world



The following picture is showing situation in distributing flow of perishable goods turnover on the Serbian market:

Picture 2. Evaluation of current situation in distributing channel of fruits and vegetables on the Serbian market



The function of wholesale market is pushed out of the market, i.e. it does not exist in institutional sense because only small part of the turnover in Belgrade and Serbian territory is done through wholesale market. A large part of wholesalemarkets' deals and functions are not performed at all or they are performed inadequately. Wholesale market, as a supposed "predecessor" of a wholesalemarket, presently, it has almost no capacities at all with which it could attract both supply and demand.

Just because there is no wholesalemarket, it doesn't mean that these functions are not performed at all. The largest part of wholesalemarket's logistic functions are performed in smaller distributing capacities, often in inadequate conditions, bad and old warehouses and in inadequate and worn out cold storage plans in Belgrade and surroundings. In commercial sense, wholesamarket activities are done today by wholesalers (importers and others), manufacturers and strong retailers, but with more expensive price. Reasons for law efficiency of wholesale turnover and higher price of the services should be found in the fact that all mediators do their activities, there is no correct division of labor, thus affecting increased cost of distribution, therefore also the final price for the goods. Also, as the goods are stored in quite inappropriate conditions, the rate of its depreciation is much larger than usual. The largest price of the fact that there is no wholesalemarket is paid by (as always) the final consumers on the two basis - the goods is more expensive and with poorer quality.

Belgrade, the capital of Serbia, with population of 2 million and quite solid consumer power (in relation to leading consumer's centers of the region,) is the only as large city as it is within Europe that has no wholesalemarket, as the modern wholesale institution for the turnover of fruit, vegetables, fish, meat, milk and other perishable goods. The realization of the wholesalemarket project in Belgrade (preliminary design and technical solution have been already

made) is today the most urgent strategic goal of wholesale function re-composition in Serbia. Temporary markets under the open sky, present all over Serbia, are not suitable anymore as a place for performing this very important wholesale function in the turnover, for human consumption of perishable products. Further delays of building modern capacities of Belgrade Wholesalemarket will mean more goods of poorer quality for final customers, quite larger level of prices, unusually larger percentage of perished goods, smaller tax revenues for the state (because, there is a high level of gray economy within unorganized turnover of fruit and vegetables), marginal import of Serbian fruit on organized way (with making higher level of prices), etc.

RECCOMENDATIONS FOR THE TRANSFORMATION OF WHOLESALE TRADE IN SERBIA

All previous analysis (as many others performed by us, but, due to lack of space, are not included in this text) and differences in performing wholesale in Serbia and other EU countries, speak in favor of the following: 1) Serbian wholesale trade is excessive, both in vertical and horizontal sense, 2) there are a lot of people performing wholesale trade in Serbia, but they are not statistically processed (we estimate that when manufacturers or retailers perform wholesale functions, the efficiency and quality of these functions are even poorer in relation to presented Serbian indicators) and 3) quantity in performing some activity does not mean also the quality of that activity, especially regarding the wholesale trade.

There are numerous specific features, even certain branch anomalies within wholesale trade itself. For example, there is a large concentration in certain branches of wholesale trade which are not specialized at all (in the branch called Mediation in the wholesale trade, the first five firms are “making” almost 35% of income), and that is not the case in the most EU countries. Also, Serbian firms are finding as very attractive branches which are performing wholesale of food and drinks (the first 10 firms participate in the market with almost 42%), while wholesale branches for example wholesale of household products, raw materials and semi-finished goods and waste, and wholesale of machines and devices are almost found unattractive (there is a small number of firms, and a small concentration of large enterprises). This is, certainly, a very bad situation, taking into consideration some general European tendencies in connection with the wholesale trade.

Main anomalies of Serbian wholesale trade are including the fact that it is not profiled (the largest concentration of turnover in trade in so called Other wholesale trade), on the one hand and fragmentation, on the other. Serbian wholesale trade is not specialized, i.e. the largest number of enterprises prefers to have wide range of activities, and they “like” to do everything. The largest turnover in the branch called Other wholesale trade is also partly consequence of previous times when domestic wholesalers were developing their business (the nineties), but also the wish to deal with all goods and to avoid risk from specialization. This is, in a way, normal, because economy in Serbia was unstable within the previous period, therefore hardly any wholesaler could specialize for machine or raw-materials wholesale, when nobody has ever known whether the buyer (some manufacturer) would pay, i.e. would they be able to “survive” transitional changes and/or new competitive advantages.

The key direction of wholesale network transformation in Serbia should be based on the following: 1) making wholesale network larger and rationalized, 2) growth of the volume and productivity of the turnover, 3) more accurate branch segmentation of the wholesale network and 4) introducing missing wholesale institutions (as wholesalemarket). Concentration of the wholesale market in Serbia, and developing countries among EU members is inevitable; all relevant world experiences are showing this, i.e. this is the only possible way for wholesale to survive. This is, at the same time, barrier which prevents other participants in supplying (mostly strong retail sellers) to take over wholesale functions. Therefore, in the future, the main changes on Serbian wholesale market can be expected in the area of its specialization and introduction of new institutions. If we look at the experiences of certain EU countries, we shall see that every wholesale group and sub group has its own strategy, ways of working and very different conditions of competition.

So, what could be the basic recommendation regarding a necessity of restructured development of every aspect in wholesale network in Serbia? Mainly, the specialization is necessary as general tendency in wholesale trade

transformation in Serbia (but also some neighboring member states of EU). Market opportunities, intensified discipline in public procurement and need for faster connecting of domestic wholesaler with foreign enterprises, shall all bring to more correct development of all wholesale network segments in Serbia. Furthermore, this means that in future period of time, further growing of raw-material wholesale is to be expected, because this wholesale segment is marginal on Serbian market today, although it is very important in supply chain of many product articles. A very similar attitude can be also said about the need of further growing of machines and devices wholesales. Increasing concentration in this branch on Serbian market shall inevitably follow by entering strong foreign wholesale companies. This has been already present on Serbian wholesale market of household appliances and other consumer goods - new investments are announced in spite of world economic crises.

Brand new formats are needed for Serbian wholesale market. Most of all, it is about a missing link in supply chain of fruit and vegetables (wholesale market). Also, aiming to further development of shoe and cloth wholesale, it is expected in the near future that outlet, cash&carry stores and wholesale centers are to be opened, for these kinds of goods wholesale, and they would be located on the outskirts of cities. Although a large number of food and drink wholesales have been registered in Serbia, even in this area of wholesale, further changes are to be expected, mainly in domain of further competition, specialization and increasing the productivity.

All together, wholesale trade in Serbia is expecting very powerful changes. The first notions of these change's necessity come out of last couple of months from the market. Namely, under the influence of strong economic crisis, where real sector of Serbia is mostly damaged, Serbian wholesale trade is first to suffer in almost all supply systems. The crisis of insolvency is very much present within the last few years and months on Serbian market and it is attacking "the weakest link in the chain" - and when it comes to distributing sector in Serbia, it is the wholesale trade. The world economic crisis, that reached Serbia also, was merely a "trigger" for further erosion of Serbian wholesale trade. No wonder, having in mind all data we stated in this paper on efficiency and quality of wholesale trade in Serbia, when compared with European benchmarking experiences. Therefore, Serbian wholesale trade (but, it appears also true for wholesale functions of East-European countries, especially countries in the same region as Serbia) needs faster changes than it is necessary for retail trade, where changes happened very much faster, by the nature of things. The necessity of all kinds of market changes in the whole distributing sector and especially in domain of wholesale and different kinds of abilities to adapt are inevitable in expecting process of Serbia approaching EU membership.

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THE CHALLENGES OF ENTREPRENEURSHIP IN NIGERIA: A CASE OF SMALL AND MEDIUM ENTERPRISES IN THE TEXTILE INDUSTRY

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ABSTRACT

SMEs face significant constraints in a turbulent developing economy like Nigeria. This research seeks to analyse and evaluate the factors influencing entrepreneurial activities in Nigeria, based on a survey of ten SMEs in the textile industry and interviews with five bank managers. Major findings of the study are that finance, government, bank policy, economic environment and operating costs are the most important constraints. Also, interviews with bank managers revealed that SMEs generate less than thirty percent of banks' turnover, and that economic and financial instability has a huge impact on banks' ability to provide funds to SMEs. The study argues that the government should not only create and facilitate a business environment that is favorable to SMEs' growth and development, but should also manage such policies efficiently and effectively to ensure higher productivity and competitiveness.

INTRODUCTION

Nigeria, a less developing country (LDC) with low GNP per capital, unemployment, and poor infrastructure has seen rising levels of unemployment and government policies giving rise to entrepreneurship and entrepreneurial development (Iyang, 2004). From a public policy perspective the Nigerian government encourages entrepreneurial efforts because it creates jobs and helps to improve the social and economic well-being of the country and reduces dependence on multinationals whose incomes are often divested to their native countries rather than the host communities. Despite the growing awareness of entrepreneurial activities, and government's strategies to initiate plans facilitating entrepreneurs in the SMEs sector, there still remain drawbacks. Several issues such as corruption, poor infrastructure, political instability, lack of funds, inability of the financial institutions to support fresh ideas and even ethnic conflicts plague the Nigerian economy. Such issues have not just a theoretical but a practical impact on entrepreneurship.

State owned enterprises in Nigeria traditionally clogged business opportunities and state restrictions prevented entrepreneurs from entering the market. The state enterprises did little to promote entrepreneurship despite the fact that governments invested hugely in such public enterprises; mismanagement and corruption often led to the continued low performance of the public sector (Nwoye, 1997). Jones (1981) shared this sentiment that when the state attempts to organize production without being subjected to market discipline, corruption, low productivity and inflationary tendencies often result, making the entire process difficult for more adventurous investors, the entrepreneurs. As Nze and Nkamnebe (2003) state if the public sector is exposed to the influence of entrepreneurship, the ills plaguing state owned businesses pave way for healthy competition and enhanced entrepreneurial activities. Even though markets have now opened to competition, entrepreneurship is still dependent on the economic and political economy. For owners of SMEs in Nigeria, being an entrepreneur provides a certain degree of control over their affairs. It also guarantees job security in the face of massive downsizing and unemployment. People are looking for something that works, thus entrepreneurship offers something to look forward to. The literature on SMEs in Nigeria increasingly considers and attempts to explain the development and

ways of promoting its activities. Little attention has been focused on investigating what goes on within these organizations. In addition, most of the research undertaken on SMEs has often been in the manufacturing industry or the private sector. The Nigerian government in recent times has been initiating schemes to promote SMEs owned and run by the local people; and as such placing bans on some imported goods.

The Nigerian textile industry is rich with opportunities. With constant increase in the activities of internationally reputed fashion designers and models, and with a corresponding increase in the demand for local fabrics, the Nigerian textile industry has seen something of a rebirth. However, the influx of foreign fabrics from Asia, particularly China and the United Arab Emirates, Europe and America, undermine the contribution of local manufacturing companies. Another contributing factor is that most of the locally made fabrics are considered inferior. The government responded by banning the importation of foreign fabrics of certain classes of materials, which include lace materials, Guinea brocade and cotton materials. To emphasize this, government functionaries often wear locally manufactured fabrics to promote Nigerian textile products. But these efforts are a little above significance when compared with the cheap and attractive imported textile products which litter the Nigerian market.

Other challenges affecting the textile industry are common to most industries in Nigeria. Such challenges as power, local materials and particularly technology transfer undermine the capability of Nigerian textile industry to meet up with global standards. One major reason responsible for the popularity of Chinese fabrics is that they offer similar imitation of western fabrics which local textiles manufacturers have not been able to produce. China has the technology to create fabrics in vogue – though most of these are inferior; however, local manufacturers have not been able to meet up with this challenge. Economic Commission for Africa (2001) and Lado and Vozikis (1997) emphasize the need to have technological capital and competence to meet the needs of SMEs in Africa, particularly the manufacturing industry.

ENTREPRENEURSHIP AND SMEs IN NIGERIA

SMEs account for a substantial part of total industrial employment, production and value-added concerns in Nigerian business concerns despite the presence of multinationals like Shell, Mobil and Lever Brothers (Osuagwu, 2001). SMEs are generally owned by local people for local markets, and use mainly materials from the locality of the businesses. Developing countries like Nigeria are beginning to value small and medium enterprises for several reasons, such as their potential to grow into larger, more productive units; their ability to invest and adopt new technologies; and their ability to adapt to new economic circumstances (Berry, Rodriguez and Sandee, 2001). SMEs in Nigeria face many obstacles such as inadequate sources of finance and infrastructure but the failure of many can equally be attributed to private, psychological or even social costs or indeed market failure (Uzor, 2004). Nigeria's attitude to investment and entrepreneurship has changed remarkably. There is a sudden upsurge in the number of Nigerian businesses in the country. Government programmes are serving as further catalysts in this new buoyancy in entrepreneurial spirit. The present democratization of Nigeria has necessitated the stimulation of the economy, making it more competitive in the global market with emphasis on the private sector as a means of stimulating this growth. Deregulation and liberalization strategies are being pursued in order to make the economy more competitive.

Perceptions of Entrepreneurship and SMEs in Nigeria

The increasing resort by well-educated Nigerians to entrepreneurship can be attributed to fewer opportunities for work in the government sector and with multinational corporations. As the economic recession restricts jobs in the government and with MNCs to a handful of the well-connected, the vast majority through the cavernous small business sector to earn their livelihood, and even to seek upward social mobility (Monibo, 2003). More so, the possibility of building own business to the level of notable names such as Michael Adenuga, Jimoh Ibrahim, Aliko Dangote, etc., is making people venture into entrepreneurship. Monibo asserts that the reason people resort to entrepreneurship in Nigeria, among other things, is the unavailability of prominent public office positions or desire to gain some recognition in society. This assertion is doubtful, however even if this is the case, for those who do not have any formal education; entrepreneurship and small businesses is possibly perceived as the only

alternative for survival for many. People are therefore looking for something that works not necessarily to gain some recognition in society.

SMEs' Development

Past regulations in Nigeria had tended to favor the development of large-scale enterprises at the expense of the small-scale enterprises. This had restrictive effects on the productive capacity of SMEs, weakened the overall industrial structure and hindered rather than promoted the process of industrialization. It also created market distortions and policy biases to the benefit of large-scale enterprises in Africa (Ekpenyong, 2002). Perhaps the most powerful tributary feeding the river of interest in entrepreneurship was the constriction in the economy after a several decades of economic growth (Shapiro, 1985). Over reliance on oil by the government led to the collapse of the oil boom in 1980s. Several economic and social problems plagued the Nigeria economy; for example, the Naira was devalued and there was a reduction in most manufacturing plants (Jamodu, 2001). Consequently, this led to the adoption of the Structural Adjustment Programme (SAP). Two objectives of SAP were to introduce local products to international markets and to increase output, earnings and employment both in industry and agriculture (Iyanda, 2003). SAP emphasized the essential role of the private sector and the need to shift focus from the large businesses or enterprises. Even though SAP largely distorted the operating environment of most businesses in countries that implemented it, the programme received substantial support and several policies were implemented. The main objectives of recent policies are to increase the role of the private sector organisations; to promote entrepreneurship and trade skills development; give assistance to SMEs to ensure their continued existence; increase the utilization of local materials and to increase the competitiveness of SMEs in domestic and international markets (Jamodu, 2001). Despite these and more recent efforts to promote SMEs, their contribution is still relatively low. Nwoye (1997) is sceptical that despite policies to promote SMEs in Nigeria, their impact on the development of entrepreneurship is comparatively insignificant. Government policies and assistance, whilst laudable in theory, tend to fail at the delivery stage. For example, business incubator schemes were designed to expedite the development and promotion of SMEs. However, such incubators failed due to problems such as mismanagement, lack of funding and weak organizational structures; and the few still in operation do not achieve the intended objectives due to several internal problems.

RESEARCH METHOD

This research is exploratory in nature, using surveys and interviews to identify and examine a number of issues. Questionnaires were administered to ten SME companies in the textile industry in Nigeria. The mail questionnaire and semi – structured telephone interviews proved most appropriate due to remoteness of location and time constraints. Interviews were in the form of note taking, these were transcribed and analyzed through reasoning and comparative methods. Banks as financiers of the entrepreneur were also interviewed, to give information on the significance of SMEs as a source of finance, their experiences in relation to today's financial and economic instability and the limitations to providing capital funds to SMEs. Ten questionnaires were sent out; eight were returned but one was unusable, giving a response rate of 70%.

FINDINGS

Most of the companies engaged in trading businesses, either distributive or retailing - mainly importation of textiles - but this has now been banned by the government. Businesses were set up between 1965 and 2007. Assets did not exceed the range of over 100m – 250m Naira, neither did annual profit exceed the range of over 10m – 100m. In addition, the number of employees did not exceed one hundred. Table 1 shows constraints that the businesses faced. Over 71% of the respondents strongly agree, and 28.5% agree, that finance and operating cost are important external constraints on the business. Most of these entrepreneurs or SMEs, clarified that obtaining finance restricted the smooth operation of the business due to high interest rates and often due to restrictive bank lending policies. This might also explain why 71% agreed that bank policy was a constraint on the business; these two appear to be linked. Interestingly, though unsurprisingly, over 85% of respondents disagreed that securing Labor was a constraint. The reason is clearly due to the availability of cheap unskilled labor as well that the nature of the businesses operated does not require a significant number of employees; most of the SMEs employ between 10 to 24

employees, only two employed between 25 – 99 employees; a few with as little as 0 – 9, and have remained small. Coupled with this, all respondents agreed that employees are a constraint in terms of Education and skills, an indication of the level of literacy in Nigeria. One company stated that *“there is more uneducated and skilled labor in Nigeria than the educated ones”*. Nearly all respondents agreed that Government Policy was a constraint, despite all the initiatives and schemes to support SMEs. Over 85% of the respondent cited Political Instability as constraint whilst Legal barriers were thought to be constraints by just over half the respondents.

Interviews with Bank managers gave interesting insights into their approach and attitudes to SMEs financing. The questions were covered under six categories. In terms of “Risks in Providing Loans”, the main concerns were Risk of repayment / default, Diversion of funds; Inadequate entrepreneurial skills to manage business efficiently and Technical competence. In terms of “Significance to SMEs to Bank Turnover”, the consensus was that it was “Relatively low, generally about 30%, for some as low as 10%. When asked what “Internal Firm Limitations” there were to providing funds the factors cited were Lack of adequate security / collateral; High risk of default; Inability of SMEs to allow supervision & usage of funds; Poor managerial abilities; Lack of business plan or planning; Improper accounting records & financial discipline; and Lack of organizational structure / coordinating organization.

Table 1 Constraints to business (%)

EXTERNAL CONSTRAINTS	Strongly Agree	Agree	Disagree	Don't Know
Finance	71.4	28.5		
Bank policy	28.5	71.4		
Government policy	14.3	85.7		
Legal		57.1	28.5	14.3
Operating cost	71.4	28.5		
Technology		28.5	42.8	28.5
Political instability	42.8	42.8		14.3
Local competition	14.3	57.1	14.3	14.3
International competition	14.3	28.5	42.8	14.3
Labor		14.3	85.7	
Education & skills		85.7	14.3	

When asked about “External Factors that impact on provision of funds the factors cited were Inconsistent government policy; Central Bank of Nigeria (CBN); Financial institutions SMIEIS; Ambiguities in regulatory issues e.g. taxation; and Structured and blue-chip companies. When the managers were asked what had the “impact of economic and financial instability had on their operations, they cited high interest rates; insistence on collateral; reduced availability of funds to SMEs; and planning uncertainties. When asked what services they provided to assist businesses they cited low take up but offered legal services; training / workshops; financial advisory services; provision of manpower & investment; and management advisory services. Low response to these services was also attributed to low level of interest by some SMEs.

ANALYSIS AND INTERPRETATION OF EVIDENCE

Empirical results on the challenges of entrepreneurship in Nigeria reveal several factors, some of which are interlinked; not all the constraints were important, though most were. The interviews further elucidated the approach and perceptions of the banks towards SMEs and why granting loans to SMEs is often problematic. The constraints on SMEs in Nigeria, as in other countries, are influenced by the business environment. By examining the environment in terms of its component parts - economic, social, technical, legal and political – we can see the impact of changes in any of these factors on the operations of SMEs.

Economic

The economic conditions in Nigeria, are not ones to facilitate an efficient business management or administration. SMEs are compounded by numerous issues like: finance or capital, competitors, level of productivity, customers, rising price levels due to high inflation and interest rates (19%), government fiscal and tax policies, operating costs etc. For any business to thrive; it cannot ignore these factors otherwise the business will collapse. Similarly, if a system or rule is capricious in nature, SMEs will not feel the need to comply with it. Finance is one of the most important constraints the respondents specified in the questionnaire. As stated earlier, during the interview with the bank managers, it was made known that the reason banks are reluctant to grant loans to SMEs is due to high risk of default, banks will prefer to invest where the risks are relatively low and the returns are high. A 2001 World Bank survey on Nigerian firms showed that although 85 percent of the firms had relationships with banks, not all of them had access to external credit. This also supports the view that banks prefer to give credit facilities to larger firms than SMEs; their structures often restrict or dissuade banks from granting SMEs capital. The survey revealed that most are private firms, the large firms have access to capital and more foreign owned companies have access to capital than indigenous companies. Therefore, banking services are inadvertently modified to suit the needs of large companies. However, banks cannot be completely held responsible for this; the economic and financial instability has reduced the availability of funds. Besides, with CBN mandating banks to raise their shareholders fund from two billion Naira to two hundred and fifty billion; there is a great deal of pressure on the banks to remain profitable and as such a need to be cautious when approving any SMEs business funding. Even though the government is working towards mitigating some of these financial constraints for example, the set up of SMIEIS for equity investment, it has generated five billion Naira so far in the hope that will reduce borrowing and relieve SMEs from interest and other bank charges that are not favorable to their capital structure. Some of these SMEs worry that the funds earmarked, will not be sufficient to satisfy the demand of SMEs in the country, due to the volume of applications already received. Besides, these loans tend to favor those manufacturing rather than those trading.

Taxation is another factor. There are laws but not strictly adhered to; some SMEs have the propensity to evade tax. The government often do not use or allocate tax funds efficiently. Corporate tax level is 30% but the capacity to administer tax collections is low; hence, revenue for the government is reduced. An erratic tax system does not encourage compliance; it creates fiscal problems. Fraud and embezzlement undermines the financial system, thus long-term growth prospects are threatened. Likewise, high interest rates create inflationary problems. The exchange rate is invariably affected, because most of these trading companies import their goods. This in turn affects consumers' purchasing power; the SMEs then compete to meet the changing needs of consumers. Thus, all these factors are interlinked. An unstable economy diminishes the level of productivity of SMEs.

Social

Labor is important in any economy, it is one of the factors that enables any business to function. An unexpected, 85.7% of the respondents indicated that labor is not important, however, the same percentage agreed that education and skills is important. These SMEs find it difficult to employ skilled labor, and those employed soon want to leave, in the hope of working with bigger corporations. Consequently, those employed are often unskilled workers. In the 1999 – 2002 field survey of small enterprises (Ekpenyong, 2002), labor was ranked as the fourth major problem in current operations. Issues related to lack of skilled and unskilled workers and high wage and benefits for skilled workers. Findings from this study have shown that insufficient skilled workers are the major constraint. It should also be noted that this view might not be the same for all trading companies in the textile industry, due to the small the sample size. Nwachukwu (1988) asserted that many Nigeria employees lack a sense of belonging in the organization and act as strangers. He further stated that employees do the least possible to avoid losing their employment, as long as they do not belong, there is a tendency for them not to exert themselves or have a full sense of commitment and dedication. In addition to these constraints, recent government prohibition of imported textiles has been a source of concern for these trading companies. Customers perceive foreign goods to be of a superior quality to locally produced goods. These SMEs fear that government's ban will lead to the demise of their business. This belief also draws attention to the need to renew awareness and confidence in locally produced goods; it also becomes crucial to develop a means, to market locally produced goods in a way that attracts customers; to restore their confidence in the quality of goods. Moreover, it is possible that SMEs will resort to smuggling, if they believe they are losing customers. SMEs do have unexploited potential, and though liberalization seem to have created problems, SMEs can still be more productive and competitive.

Technical

Most of these SMEs involved in trading require little or no technology, particularly the very small businesses. Of the total respondents, only 28.5% agreed technology is an important constraint on the business, 42.8% disagreed about its importance and 28.5% did not even know if this was important – this lays emphasis on the need for good information channels and more knowledge of the dynamic technological environment. Usually, small businesses are more flexible, and can innovate and introduce new products. Conversely, they may not have the expertise, time and capital to develop a new product (Geoffrey, Robert and Philip, 1996). Taking into consideration the nature of the businesses of the respondents, which is trading, either distributive or retailing, there is probably little use of technology. There is an aversion or reluctance to manufacture textiles, particularly due to infrastructure constraints, machinery and costs involved. SMEs in the textile industry, will prefer to trade rather than manufacture and their reasons agree with previous studies and theoretical assumptions. Osuagwu (2001) commented on the reasons small business enterprises prefer commercial / service to manufacturing: there is quick return of profit; capital funds are not usually tied down, there is no heavy machinery / spare parts involved and there are little or no technological risks involved. Theory further maintains that the lack of proper information to help entrepreneurs select the appropriate technology is one of the major causes of low productivity, because SMEs are not encouraged to compete. It cannot be assumed that every sphere of a business will require the use of technology. Any change in technology, in the textile trading industry will take time; some of these traders have not even acknowledged its use or importance; although a few do use computer packages like Excel for their book keeping and accounts. For now, the manufacturing sector of the textile industry will find technology more useful especially for product development like textile designs. It is worth noting that globalisation and the impact of developments in information and communication technology in a subtle way promotes competition, its use of technology can help SMEs to be more competitive. Onyemenam (2004) articulated that this would remain a mirage, unless prerequisites for competition are met locally.

Legal and political

This incorporates the government and the legal system. Governments usually have a tremendous effect on any legal system; and the Nigerian system is no different. Just over 57% of the respondents agreed that the business laws are an important constraint on SMEs in Nigeria, while 28.5% disagreed with this. On the other hand, most of the respondents did agree that government policies and regulations were an important constraint. A respondent indicated that the process of business registration should not be difficult, but lawyers often make this complicated. Others stated that, even though there are policies in place to assist SMEs, there is no visible evidence of anyone benefiting from them. Licensing and business registration also restricts the activities of SMEs in Nigeria. For example, multiple permits and fees are required at the state, local government and municipal levels, often spontaneously, concurrently and with little justification or proportionate benefits. Whilst there is a high degree of entrepreneurial capacity among SMEs, there is a widespread culture of operating in the informal economy. This is due to low trust in the government and low compliance with the law, which they perceive to be time-consuming and corrupt (Anon [3], 2004). Hence, due to arduous processes or administrative barriers, some SMEs operate illegally for example; by setting up stalls without permits. Subsequently, the judicial system is ineffective and corrupt, it can take three years for a claim to be heard at first instance, and companies have little confidence that the process will be fair (Anon [3], 2004). Underlying problems include inadequate training of lawyers, staff shortages, inadequate funding and poor facilities. Disputes are often dealt with through informal mechanisms i.e. alternative dispute resolutions (Anon, [3], 2004). SMEs cannot have their rights adjudicated fairly in such circumstances.

Furthermore, political instability does have an impact on the activities of SMEs whether explicitly or implicitly. Prior to the current democracy, instability was characterized by repeated incursion of the military in government. This is the most apparent rationale for economic instability and perhaps low competitiveness of the Nigerian industry. 85.7% of the respondents strongly agreed that political instability was a constraint on the business. The legal and political situation is a constraint on the operations of SMEs, whether directly or indirectly. The government often makes elaborate plans to implement certain things but eventually do not follow it through. Therefore, inconsistent policies make future planning problematic for SMEs.

Competitive Environment

The nature of the local market seems to be a monopolistic competition. There are several businesses competing for the same customers and all selling very similar products. 57.1% of the respondents indicated that local competition was a constraint on the business, with 14.3% regarding it as very important. As such, SMEs are looking for new ventures, new methods of satisfying the customers. Only 28.5% agreed international competition was a constraint, 42.8% disagreed on this. This was unexpected because some of the manufacturers in China and Korea where these traders buy textiles have now set up premises where these SMEs operate, thus competing for their customers at relatively cheaper prices. While this might stimulate inward foreign investment, it is not favorable to these SMEs. Though, it could encourage these foreign industries to set up manufacturing plants in the country, the economic instability would be a deterrent. One entrepreneur was optimistic it would not be permanent.

Besides competition, the business environment is plagued with infrastructural inadequacies that make business operations difficult. It also impedes international competitiveness. Government's over dependence on the oil sector has also reduced incentives for SMEs to export. Inadequate infrastructures like telecommunications, transportation, electricity, water etc; all have an impact not only on SMEs but also businesses in Nigeria. In the 1999 – 2000 field survey on small businesses, infrastructure was ranked as the second most important problem in their current operations. Respondents in this present study frequently refer to this as a problem. Thus, this study agrees with the above survey as well as a World Bank report. In a 2004 World Bank survey on the barrier to manufacturing competitiveness, out of 233 firms, 94% complain that infrastructure is their major problem. 97% own generators, they depend on it for 67% of the time, to generate electricity 2.42 times more than they would have paid with reliable public provision. In addition to this, these manufacturing companies have to include the cost of maintenance and spare parts etc. The problem of infrequent or inadequate electricity is a major constraint when considering the textile manufacturing industry in Nigeria. This could explain why most of the respondents trade rather than manufacture; and why they find operating costs to be an important constraint.

Nigeria's business environment does not facilitate the growth of SMEs. The business environment entails the customers and competitors, as well as all of the external factors discussed. Entrepreneurs and SMEs must consistently examine the business environment in order to identify its strengths, weaknesses, opportunities and threats. It should also be noted that the government is committed to providing assistance in the form of financial, technical and even proposed privatization schemes. It would be beneficial if SMEs participate in some of the various schemes. Creating a model for the entrepreneurs and SMEs in view of the above discussion is quite difficult. Banks are convinced that SMEs do not make quick turn over, particularly judging from the persistent harsh environment. Though there are new policies generated regularly with different names, which include microfinance, financial assistance is still at low ebb. Uzor (2004) supports our view on the need for SMEs to cluster into a stronger entity. The position canvassed here is relevant to the development of SMEs if current trends in the country are anything to go by. Recently, financial institutions, which include banks, insurance, stock brokerage and securities firms, had to merge to form bigger entity. From 89 banks in 2005, 25 banks emerged from the recapitalization and merger process to form mega banks. This can be applied to the textile industry. SMEs with similar culture and production line can merge or cluster to form larger SMEs. This would make them better positioned for the challenges of increasingly globalised economy. Clustered SMEs have the benefits of enjoying institutional support in finance and technology (Economic Commission for Africa, 2001), can become localization agents for technology transfer for multinational corporations (Robert, 2003) and compete better for exportation in a global economy (Ibeh and Young, 2001). This will definitely impact positively on the physical, human and organizational capitals needed to reposition SMEs for modern businesses environment and ensure steady development (Barney, 2001). This will boost the Nigerian economy as well as promote concerted entrepreneurial activities. The result will be better and well financed local alternatives to direct foreign investment and multinationals.

CONCLUSIONS

In attempting to identify the most crucial factors or constraint on SMEs development in the textile industry, the empirical results reveal that finance, operating costs; government policy and bank policy are the most important

factors. These findings support general notions in the literature and previous studies about some of the factors which impact on SMEs' growth. The state of the business environment, for example poor infrastructure, high interest rates and technological constraint have caused a huge reliance on imported textiles which has now been prohibited to encourage local production and export. Banks cannot be entirely held responsible for low availability of funds to SMEs for the reason that factors like government policy; the economic and financial instability also impacts or restricts their funding capacity. It was surprising that against such a background most of these banks provide services like training workshops and financial services to assist some of these SMEs. However, it was apparent that there are also constraints on the banks' operations as well. Most of the small business owners (57.1%) find the government policies to be ineffective, there was an indication that some of the SMEs programmes are not publicized enough, hence the government and agencies should increase awareness of such programmes and encourage such a culture. The findings suggest the need to take a closer look at policies and their effectiveness. With careful assessment and planning, and proper management schemes, the SMEs can develop and eventually make their mark in the economy. What is evident from the research is that the government seems to be making significant efforts to promote the SME sector. Over reliance on the reducing oil sector and the declining state of domestic production has highlighted the need for the government to begin to value SMEs and encourage the means whereby they can thrive and grow. Even though the government is trying to improve the business environment, the fear is that most of these policies will be shrouded in theory with very little practical application. Notwithstanding, it is anticipated that a positive trend will emerge; the question then is how long will the growth and development take? The answer to that might be to wait and see what transpires. Yet, considering the state of the economy, any noticeable change will inevitably take years to manifest.

It is hoped that this research will encourage further comprehensive study of the activities and challenges facing SMEs in the textile industry; and a better practical approach can be espoused.

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DO SMEs NEED ACCOUNTING? TURKEY / KONYA INDUSTRIAL ZONE CASE

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ABSTRACT

Increasing globalization process accompanied by financial liberalization in the last decade has led to an increase in the costs. Rapid developments in technology also limited the mobility capacities of big companies. To see the matter from the perspective of countries, the importance of the SMEs arises at this point for the survival of economies. The SMEs, which can adapt themselves to new developments rapidly with their flexible nature, have a great share in the number of the businesses both in the EU and Turkey. However, one of the biggest problems of these rapidly growing and changing SMEs is financing. The most efficient factor for the resolution of this financing problem is the realisation of fair and information-oriented accounting appliances. In this framework, the purpose of this research is to analyse whether the 424 SMEs in Konya industrial zone use accounting appliances effectively and need orientation and to understand to what extent they benefit efficiently from accountants.

INTRODUCTION

The process of globalisation and financial liberalisation which continued in an increasing manner especially in the 1980s increased the importance of companies that can easily adapt to changing conditions and innovations. Large-scale enterprises have limited capacity of action in the face of changes in economic and political situation and they experience harmonisation problems because the adaptation of the latest innovations in technology to these enterprises is costly. In contrast, SMEs are highly adaptable to changes in economy, resistant to situational fluctuations and flexible in the face of economic and financial crises and we believe that they are fundamental elements of stability in economic and social life. Therefore, their importance is increasing on a global level (Erçel, 2000).

Accounting for 99.8 % of the total number of enterprises in our country, the SMEs cover 76.7 % of the total employment figure. The share of the SME investments reaches 38 % of the total investments and these same enterprises also produce 26.5 % of the total added value. The SMEs make 10 % of the total exports of our country. When the shares of the SMEs in the total added values of other countries are examined, the figures stand at 43 % in the USA, 49 % in Germany, 25 % in England, 54 % in France and 52 % in Japan. Likewise, when the shares of the SMEs in the total exports of the same countries are examined, it is observed that the figures are 32 % in the USA, 31 % in Germany, 22 % in England, 26 % in France and 39 % in Japan (Ercan, 2005).

The SMEs can prove to be better than large-scale enterprises in some areas by using some of their basic properties that distinguish them from large-scale enterprises. Some of the strengths of the SMEs are that they can establish closer relationships with the customers and their own personnel, are more flexible regarding marketing, production and services in comparison to larger enterprises, can provide more production and wider range of productions with less investment, create more employment opportunities with less investment cost and are less affected by economic fluctuations. However, there are areas where SMEs are not superior to large-scale enterprises. Some of the weaknesses of the SMEs are that their efficiency is low due to the fact that they are very small-scale and disintegrated, their knowledge of the market and the sector as well as their technical information is insufficient, they are weak in terms of management, organisation and competitiveness, and suffer from a lack of infrastructure and know-how regarding marketing and public relations (Yılmaz, 2003; Çelik and Akgemci, 2007: 125).

The most important problems that SMEs encounter in European Union have been defined as administrative and regulatory burdens, access to finance, taxation, lack of skills and access to public procurements (European Commission, 2008). The case is almost the same for the SMEs in Turkey. Some of the problems that the SMEs in Turkey, which is in process of integration with the European Union, experience and that form the fundamental setbacks that prevent them from gaining competitive power both in the world and in the internal markets of the European Union have been defined as insufficient know-how and low level of technology, insufficient financial environment and factors that affect competition between Turkey and European Union (differences in regional development levels, problems concerning infrastructure and environment, low R&D capacity and some sector-based problems etc.) (DPT, 2004).

Financing and taxation constitute a major part of the problems that the SMEs in Europe and in Turkey encounter. In our opinion, the reason for this is the way the SMEs perceive the importance of accounting. The present study investigated how accounting is perceived by the SMEs.

A GENERAL VIEW ABOUT KONYA AND SMEs IN KONYA

Konya was the capital of the Anatolian Seljuk Empire and an important transit center and accommodation for the historical Silk Road. This is one of the most significant characteristics of Konya, which has been standing from the period of the Ottoman Empire, and now it tends to be an important city of industry in Turkey. Konya is a province with a large area of 40.814 km² (tuik.gov.tr). According to the data in 2007, its population is 1,959,082. Konya is rated 26th with 0.25254 index points in terms of level of development among 81 provinces.

In 1965 the Organised Industry Regions was created to develop the manufacturing industry within the Framework of 3rd Development Plan. In accordance with the data in 2007, 150 firms in Organised Industry Region 1 and 274 firms in Konya Organised Industry Region (KOS) are active (Konya Ticaret Odası, 2008: 34).

Konya, which has one of the largest organized industrial regions, is also a Small and Medium Enterprises (SMEs) center. Most of the enterprises consist of small and medium enterprises. Organised Industries came together and built Konya Organised Industry Region (KOS). Konya has been honored as “Runner up”--“The City Following First Class” in the category, “The Best City Having Economic Potential” in a competition organized by “Foreign Direct Investment,” published by Financial Times once every two years. The Konya Chamber of Industry has also been included in Euro Info Centre Network, which operates in all European countries dating from 1987. Its international code has been registered at EICTR705 Konya. (Karasioğlu, Büyüksalvarcı, 2008: 671-672).

RESEARCH DESIGN

Purpose

The purpose of this study is to investigate whether the SMEs in the Organised Industrial Zone in Konya/Turkey are aware of the significance of accounting or not (Karasioğlu, Duman, 2004). On the basis of the data obtained, an attempt will be made to draw conclusions by investigating the relationships between the areas of activity of the firms that participated in the survey and accounting.

Methodology

The survey technique was used in the study. The survey was administered to those who are in charge of the accounting departments, the owners and directors of the SMEs in the Organised Industrial Zone in Konya/Turkey. Since no such study had been conducted for this purpose before, the survey questions were prepared by taking into consideration other survey questions regarding accounting.

The survey consists of three major groups. In the first groups, the firms were asked what they thought accounting and various questions were asked about the accounting system that they used in their enterprise. In the second group,

questions were asked about how the firms utilised the data that they obtained from accounting. In the third group, the firms were asked the services they received from their accountants. The firms that were included in the study were divided into three groups, namely regional, national and international. On the basis of these three main groups, an attempt was made to determine whether there were any differences between the firms in terms of the way they perceived accounting, they utilised the data they obtained from accounting and the services they received from their accountants.

Sampling

The bulk of the study consisted of 424 SMEs in the Organised Industrial Zone in Konya/Turkey, of which 124 firms agreed to respond to the survey. Appointments were made from these firms and face-to-face interviews were held with the relevant personnel. 46 of the questionnaires were not included in the study because the questions on the survey form had not been fully answered. Thus, the survey was administered to 78 firms out of the 424 SMEs, which account for 18.4 % of the total population.

Data Analysis

SPSS 11.0 software was used in data analysis and One-way Anova test was conducted. Our questionnaire contained a total of 38 questions except for the statements regarding the institutional identity of the firms. 17 of the questions were about the first group, 9 about the second group and 12 about the third group. As a result of the tests conducted, of the responses to the questions that we had grouped above, those that contained significant differences in terms of their areas of activity were subjected to an evaluation. As a result of One-way Anova test, 4 of the first group statements, 6 of the second group statements and 4 of the third group statements were included for evaluation as significant differences emerged. Information concerning the frequency distribution of the questions with significant differences is provided.

Findings

Of the 78 firms that were included in the study, 11.5 % were regional, 21.8 % national and 66,7 % international firms.

29.5 % of these firms represented the automotive sector, 11.5 % the agricultural sector, 12.8 % the packing sector, 9 % the construction sector, 28.27 % machinery sector, 5.1 % food sector and 3.8 % the forest products sector.

Table 1: Results of the ANOVA Test

	df	F	Sig.
Accounting is used for the procedures of assets and liabilities.	77	34,014	,000
Accounting is used to generate information so as to plan the future of the enterprise.	77	9,413	,000
Needs of the enterprise are anticipated beforehand by the help of accounting.	77	7,666	,001
Our enterprise acts in accordance with the rules, principles and standards of accounting.	77	5,000	,009
I utilise accounting data when I make decisions concerning the interests of the firm.	77	11,644	,000
I use the financial tables required to form accounting data.	77	9,668	,000
I try to plan the future of the firm by making financial analyses of the information that I obtained from the past financial tables.	77	9,007	,000
I can prevent the obstacles that may hinder the progress of the firm by making financial analyses of the information that I obtained from the past financial tables.	77	10,496	,000
I seize investment opportunities thanks to the information that I obtained from the financial tables.	77	7,801	,001
I can meet my firms needs for funds thanks to the information that I obtained from the financial tables.	77	12,370	,000

Services are received from the accountant about financial issues.	77	7,586	,001
Services are received from the accountant about financial issues.	77	4,741	,012
The best accountant is the one who helps pay the least tax.	77	2,136	,125
The best accountant is the one who keeps the records in accordance with the rules.	77	,633	,534

Significance level: .05

Table 2: The Ways Firms Perceive Accounting According to Their Areas of Activity

(Scheffe)			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Areas of Activity	(J) Areas of Activity				Lower Bound	Upper Bound
Accounting is used for procedures of assets and liabilities.	Regional	National	,5490*	,09236	,000	,3184	,7797
		International	,6667*	,08089	,000	,4647	,8687
	National	Regional	-,5490*	,09236	,000	-,7797	-,3184
		International	,1176	,06259	,178	-,0387	,2740
	International	Regional	-,6667*	,08089	,000	-,8687	-,4647
		National	-,1176	,06259	,178	-,2740	,0387
Accounting is used to generate information so as to plan the future of the enterprise.	Regional	National	,1830	,18737	,623	-,2850	,6510
		International	,5812*	,16410	,003	,1714	,9910
	National	Regional	-,1830	,18737	,623	-,6510	,2850
		International	,3982*	,12699	,010	,0810	,7153
	International	Regional	-,5812*	,16410	,003	-,9910	-,1714
		National	-,3982*	,12699	,010	-,7153	-,0810
Needs of the enterprise are anticipated beforehand by the help of accounting.	Regional	National	,1307	,18842	,787	-,3399	,6013
		International	,5085*	,16502	,011	,0964	,9207
	National	Regional	-,1307	,18842	,787	-,6013	,3399
		International	,3778*	,12770	,016	,0589	,6967
	International	Regional	-,5085*	,16502	,011	-,9207	-,0964
		National	-,3778*	,12770	,016	-,6967	-,0589
Our enterprise acts in accordance with the rules, principles and standards of accounting.	Regional	National	,0982	,11758	,707	-,1957	,3921
		International	,2665*	,10446	,044	,0054	,5276
	National	Regional	-,0982	,11758	,707	-,3921	,1957
		International	,1683	,07417	,083	-,0171	,3537
	International	Regional	-,2665*	,10446	,044	-,5276	-,0054
		National	-,1683	,07417	,083	-,3537	,0171

* The mean difference is significant at the level of .05.

Also perceived as “the language of an enterprise”, accounting plays a significant role in reflecting the economic phenomena that occur in the enterprise to the relevant parties. In this context, all of the firms that participated in our survey responded positively to the statement “accounting is performed for taxation”, but they responded negatively to the statement “accounting is performed to cover up the errors and irregularities in the enterprise”. These responses are positive indicators of how the firms perceive accounting. However, firms that operate on a regional basis display differences in their responses to the statement “Accounting is used for the procedures of assets and liabilities” compared to the firms that operate on a national and international basis. In other words, while regional firms do not accept the statement that accounting is used for the procedures of assets and liabilities (% 66,7), national (% 88,2) and international firms (% 100) state that they use accounting for the procedures of assets and liabilities.

Accounting is an important information-generating system within and outside the enterprise. While regional (% 88,9) and national (%70,6) firms responded negatively to the statement “Accounting is used to generate information so as to plan the future of the enterprise”, firms operating on an international level (% 69,2) regards accounting as a tool for generating information to plan the future of the enterprise. In this context, while regional (%77,8) and

national (% 64,7) firms responded negatively to the statement “Needs of the enterprise are anticipated beforehand by the help of accounting” as they did to the previous statement, firms that operate on at international level (% 73,1) stated that they utilise accounting to intuit the needs of the enterprise.

One of the most fundamental principles in the application of a sound accounting system is to act in accordance with the rules, principles and standards of accounting. In this context, as can be seen from the table above, an effort was made to determine the firms included in the survey complied with this principle or not. In conclusion, differences arise in the practices of firms regarding rules, principles and standards of accounting depending on their size. While international firms (%98,1) comply most with the standards, the way national firms (%76,5) and regional firms (%55,6) approach the issue exhibit differences.

Table 3: The Way Firms Utilise Data They Obtained from Accounting on the Basis of Their Areas of Activity

(Scheffe)			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Areas of Activity	(J) Areas of activity				Lower Bound	Upper Bound
I utilise accounting data when I make decisions concerning the interests of the firm.	Regional	National	-,6536	,49754	,426	-1,8962	,5890
		International	-1,7735*	,43575	,001	-2,8618	-,6852
	National	Regional	,6536	,49754	,426	-,5890	1,8962
		International	-1,1199*	,33720	,006	-1,9621	-,2778
	International	Regional	1,7735*	,43575	,001	,6852	2,8618
		National	1,1199*	,33720	,006	,2778	1,9621
I use the financial tables required to form accounting data.	Regional	National	-,4771	,62298	,747	-2,0334	1,0792
		International	-1,8889*	,54639	,004	-3,2539	-,5239
	National	Regional	,4771	,62298	,747	-1,0792	2,0334
		International	-1,4118*	,42323	,006	-2,4691	-,3545
	International	Regional	1,8889*	,54639	,004	,5239	3,2539
		National	1,4118*	,42323	,006	,3545	2,4691
I try to plan the future of the firm by making financial analyses of the information that I obtained from the past financial tables.	Regional	National	,0458	,39674	,993	-,9451	1,0366
		International	-,9509*	,34746	,028	-1,8186	-,0831
	National	Regional	-,0458	,39674	,993	-1,0366	,9451
		International	-,9966*	,26888	,002	-1,6681	-,3251
	International	Regional	,9509*	,34746	,028	,0831	1,8186
		National	,9966*	,26888	,002	,3251	1,6681
I can prevent the obstacles that may hinder the progress of the firm by making financial analyses of the information that I obtained from the past financial tables.	Regional	National	-,1176	,38984	,956	-1,0912	,8560
		International	-1,1154*	,34142	,007	-1,9681	-,2627
	National	Regional	,1176	,38984	,956	-,8560	1,0912
		International	-,9977*	,26420	,001	-1,6576	-,3379
	International	Regional	1,1154*	,34142	,007	,2627	1,9681
		National	,9977*	,26420	,001	,3379	1,6576
I seize investment opportunities thanks to the information that I obtained from the financial tables.	Regional	National	-,0654	,39306	,986	-1,0470	,9163
		International	-,9466*	,34424	,027	-1,8063	-,0869
	National	Regional	,0654	,39306	,986	-,9163	1,0470
		International	-,8812*	,26639	,006	-1,5465	-,2159
	International	Regional	,9466*	,34424	,027	,0869	1,8063
		National	,8812*	,26639	,006	,2159	1,5465
I can meet my firm's needs for funds thanks to the information that I obtained from the financial tables.	Regional	National	-,0784	,41171	,982	-1,1067	,9498
		International	-1,2436*	,36057	,004	-2,1441	-,3431
	National	Regional	,0784	,41171	,982	-,9498	1,1067
		International	-1,1652*	,27903	,000	-1,8620	-,4683

	International	Regional	1,2436*	,36057	,004	,3431	2,1441
		National	1,1652*	,27903	,000	,4683	1,8620

* The mean difference is significant at the level of .05.

It is inevitable that accounting data should be used when decisions are made about the interests of the firm, because when plans and programs about future are prepared, firstly financial positions of the firms are taken into consideration. When perceived from this perspective, all firms need to utilise these data when they make decisions about their future. However, of the firms included in the survey, 88,9 % of those that operate on a regional level and 70,6 % of those that operate on a national level either do not utilise accounting data at all or partially utilise them. On the other hand, 63,5 % of the firms that operate on an international level stated that they utilise accounting data of the firm when they make decisions regarding future.

Financial tables constitute the stage where information obtained from the accounting department companies become meaningful and are converted into data. 88,9 % of the regional firms and 88,2 % of the national firms stated that they did not utilise financial tables. This result is in parallel to our previous comment. 52,9 % of the international firms constantly utilise financial tables.

Establishing a relationship between the past and the present is important to shed light on the future. When it is considered if the firms utilise accounting data belonging to the past when they guide their policies regarding future, it is observed that all of the regional firms and 94,1 % of the national firms do not utilise data belonging to the past period. This means either these firms do not have financial tables belonging to the past or they ignored them. On the other hand, 63,5 % of the international firms stated that they took into consideration the financial data they obtained from previous periods when they made decisions about their future. In this context, similar results emerged from the responses to the statement "I can prevent the obstacles that may hinder the progress of the firm by making financial analyses of the information that I obtained from the past financial tables". It is observed that all of the regional firms included in the study and 94,1 % of the national firms do not take heed of their past errors and do not take measures against problems that might arise in the future. On the other hand, 59,6 % of the firms operating on an international level stated that they used the data they obtained in the past as a tool in solving the problems they encountered.

Firms need to predict the opportunities that might arise and form their financial structure accordingly in order to ensure their survival and compete in both national and international arenas. When the issue is perceived from this perspective, it is observed that all of the regional firms included in the study and 94,1 % of the national firms do not follow such a course of action whereas 57,7 % of the international firms stated that they used the data they obtained from the financial tables in order to take advantage of the opportunities that might appear. A similar approach becomes important for the data obtained from the financial tables to meet the firm's needs for funds. Here again, it is observed that 53,8 % of the firms operating on an international level could utilise the data they obtained from the financial tables as a tool in establishing funds needed by them.

Table 4: The Services the Firms Receive from the Accountant Depending on Their Relevant Areas of Activity

(Scheffe)			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Areas of activity	(J) Areas of activity				Lower Bound	Upper Bound
Services are received from the accountant about financial issues.	Regional	National	-1,2680*	,48861	,040	-2,4882	-,0477
		International	-1,6560*	,42792	,001	-2,7247	-,5873
	National	Regional	1,2680*	,48861	,040	,0477	2,4882
		International	-,3880	,33114	,506	-1,2150	,4390
	International	Regional	1,6560*	,42792	,001	,5873	2,7247
		National	,3880	,33114	,506	-,4390	1,2150
Services are received from the accountant about financial issues.	Regional	National	-,0850	,51521	,986	-1,3717	1,2017
		International	-,9786	,45121	,102	-2,1055	,1483
	National	Regional	,0850	,51521	,986	-1,2017	1,3717
		International	-,8937*	,34917	,043	-1,7657	-,0216

	International	Regional	,9786	,45121	,102	-,1483	2,1055
		National	,8937*	,34917	,043	,0216	1,7657
The best accountant is the one who helps pay the least tax.	Regional	National	,2868	,59599	,891	-1,2021	1,7756
		International	,8750	,52792	,260	-,4438	2,1938
	National	Regional	-,2868	,59599	,891	-1,7756	1,2021
		International	,5882	,38836	,323	-,3820	1,5584
	International	Regional	-,8750	,52792	,260	-2,1938	,4438
		National	-,5882	,38836	,323	-1,5584	,3820
The best accountant is the one who keeps the records in accordance with the rules.	Regional	National	-,0261	,29430	,996	-,7612	,7089
		International	-,2094	,25775	,720	-,8531	,4343
	National	Regional	,0261	,29430	,996	-,7089	,7612
		International	-,1833	,19946	,657	-,6814	,3149
	International	Regional	,2094	,25775	,720	-,4343	,8531
		National	,1833	,19946	,657	-,3149	,6814

* The mean difference is significant at the level .05.

It is not logical to think that the personnel employed in the firms are highly qualified experts in accounting and finance. Accounting and finance are separate fields of expertise as all other fields are. Therefore, firms need to take professional assistance on this issue. All of the firms included in the study stated that they received counseling services from the accountant regarding book-keeping, financial standing, preparation of tax statements and taxation. However, the responses that the firms included in the study gave to the statement about receiving services from the accountant concerning financial issues exhibit differences. 44.4 % of the regional firms that participated in our study stated that they never received services from the accountant regarding financial issues while 22.2 % stated that occasionally they did not receive such services. 70.6 % of the national firms and 78.9 % of the international firms stated that generally they received services from the accountant regarding financial issues.

On the other hand, concerning the statement about receiving services from the accountant regarding financial analyses, 88.9 % of the regional firms stated that they had never received such services. Surprisingly, 88.2 % of the national firms included in the study also declared that they had never received such services. According to these results, it is understood that the firms operating on a regional and national level that are included in the study do not have different approaches regarding the service in question. However, 43.3 % of the international firms included in the study stated that they received services from the accountants concerning financial analysis.

The basic rationale behind receiving assistance from a professional accountant is to determine the risks, threats and opportunities that might confront the firm and determine a strategy accordingly. The professional assistance received here is taken with a view to evading tax. The research results also support this basic philosophy. According to this, 62.5 % of the regional firms, 70.6 % of the national firms and 86.5 % of the international firms do not consider accounting services as a way of tax-evasion. Likewise, the responses given to the statement "The best accountant is the one who keeps the records in accordance with the rules" seem to be in support of our conclusion. Regarding the responses given to this statement, 77.8 % of the regional firms, all of the national firms and 92.3 % of the international firms support this basic idea.

CONCLUSION AND EVALUATION

One of the most important goals of accounting is to produce accurate information that could be used in the decisions of the relevant parties about the enterprise. This imposes different responsibilities on accounting such as analysis, planning, regulating, checking, cooperation with the management and managerial policies in the face of increasing need for information today. This information system, which has a significant influence on the decisions taken about both the current state of the enterprise and its future, is also effective in anticipating the needs of the enterprise that may arise in the future. The most important factor in establishing a sound information system requires acting in accordance with the rules, principles and standards of accounting while performing accounting applications.

According to the results of the study, while regional and national firms exhibit a different approach concerning perception of accounting, international firms seem to have a more professional approach in this regard. It is understood that the regional firms included in the study act on the principle of saving the day and gaining maximum profits in short term and thus cannot plan their future. National firms, on the other hand, attach more importance to accounting because they intend to compete in the free market rather than gaining profits and continue their existence by increasing their market shares. It is observed that international firms utilise accounting in a more efficient way in terms of institutionalisation, reliability, frequency of auditing, taxation differences, experience and comparing themselves with other international firms.

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MARKETING A COUNTRY AS AN INVESTMENT LOCATION IN THE REALM OF THE 21ST CENTURY: THE CASE OF THE REPUBLIC OF TURKEY

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ABSTRACT

Country image has proven to have impact on several areas including the appeal for foreign direct investment (FDI) thus, contributing to the economic development of a country. Therefore, countries like companies are competing with each other and using the marketing tools so as to promote their country as an investment location. Countries like Ireland and Singapore have started promotion activities and applied a strategic marketing management approach at an early era, in the second half of the 20th Century by establishing their “Investment Promotion Agencies”. Although the success of those countries implies the necessity of the functions performed by those agencies, the realm of the 21st Century urges the newly established Investment Promotion Agencies to take a different marketing approach. The paper presents a general overview of the world FDI movements focusing on Turkey and underlines the image of Turkey as an investment environment in the light of empirical research. The description of the activities of Investment Services and Promotion Agency of Turkey (ISPAT) are evaluated and the need for a new marketing approach required to be successful in the changing global environment is pointed out.

INTRODUCTION

Due to recent latest trends in globalization and increasing international trade, the effect of the country of origin image has increased as an important variable influencing the sales of products and services in international markets. In general, many studies in the literature suggest that favorable country perceptions lead to favorable inferences about product attributes and subsequent evaluations. Furthermore, country image has also proven to have impact on several areas such as the development of the tourism, international trade and attraction of foreign direct investment (FDI) thus, contributing to the economic development of a country. Therefore, countries, like firms, are competing with each other in order to attract tourists to visit their country, create demand for their products abroad, encourage foreign students to have education in their universities/schools, and create opportunities to attract FDI.

The creation of a more favorable and appealing business environment is crucial. Although those adjustments are vital for the attraction of FDI, unless they are communicated to the right public, the desired result could not be obtained. That is why several countries have established their investment promotion agencies (IPAs) whose main duties are to promote the formation of business relationships between foreign investors and local companies, assist investors to help them access the required infrastructure, boost trade and generate revenue by creating a favorable image of the country as an investment location. Research supports the promise that investment promotion has a statistically significant influence on foreign investment flows (FIAS, 2000).

As supported by the research, investment promotion agencies are effective in generating foreign direct investments. Those which entered in the market earlier; being more active or concentrated on certain sectors made huge successes which resulted in the faster development of their countries (FIAS, 2000). The countries like Ireland who have recognized the necessity and impact of a strategically managed investment promotion function, made the first move to establish an investment promotion agency in 1960s with its Industrial Development Agency (IDA). The IPA of Ireland succeeded in capturing a very high level of FDI using sound marketing approaches focusing on specific

sectors, whereas, Turkey could achieve the establishment of such an investment boosting organization only in 2006, nearly 5 decades later than Ireland and many years later than its regional competitors (TIPA).

This paper concentrates on the importance of attracting FDI and points out the significance of marketing efforts in reaching this objective. In the first part of the paper, a general overview of the world FDI movements focusing on Turkey is provided. Then, the image of Turkey as a business environment is discussed in the light of empirical research. The final section examines the role of marketing in promoting a country as an investment location and presents the activities of Investment Services and Promotion Agency of Turkey (ISPAT).The paper offers suggestions for a revised marketing approach to investment promotion agencies to cope with the dynamics of the 21st Century.

1. FDI MOVEMENTS IN THE WORLD AND IN TURKEY

The amount of the foreign investment attracted to a country is an important phenomenon contributing to the development of the country's economy. The general macroeconomic figures in the world offer opportunities to compare the performance of countries in terms of attracting FDI. In the literature there are several studies focusing on FDI. Many authors conclude that FDI has a positive effect on economic growth (Choe, 2003; Lipsey and Sjöholm, 2004; Mullen and Williams, 2005). However, others claim that FDI will promote economic growth only when certain economic conditions such as a threshold level of human capital are met in the host country (Borensztein et al., 1998; Alfaro et al., 2008). Furthermore, it is argued that different forms of FDI would have differential effects on economic growth. Based on data for 84 countries from 1987 to 2001, the results of Wang and Wong (2009) indicate that the growth effect of greenfield investment is significantly positive, while that of M&As is negative. On the other hand, Lipsey (2000) finds that the relationship is ambiguous. Nevertheless, a major part of the literature seems to conclude that FDI has a positive impact on growth especially in the presence of sound financial institutions, greater trade openness and greater human capital, (Balasubramanyam, Salisu and Sapsford, 1996; Hermes and Lensink, 2003). All these findings stress the impact FDI has on the host country.

According to the World Investment Report (2008), global FDI inflows rose in 2007 by 30% to reach \$1,833 billion, well above the previous all-time high set in 2000. Despite the financial and credit crises, which began in the second half of 2007, the developed countries, developing countries and the transition economies of South-East Europe and the Commonwealth of Independent States (CIS) experienced a continued growth in their FDI inflows. Around 70% of the total FDI was received by the developed countries, The United States being the largest recipient followed by the United Kingdom, France, Canada and the Netherlands. Whereas, the European Union (EU) was the largest host region, attracting almost two thirds of total FDI inflows into developed countries. The developing countries received \$500 billion FDI inflows which represent the highest ever amount. The least developed countries (LDCs) attracted \$13 billion worth of FDI in 2007 – also a record high (World Investment Report, 2008).

The World Investment Report (2008) further shows that despite the positive picture for 2007, the global economic crisis that started in United States in 2007 has affected financial markets and created liquidity problems in many countries, leading to higher costs of credit. As a result, both inflows to and outflows from the developed countries are expected to decline. The report estimates a 10% decline in FDI flows in 2008 compared to 2007. Meanwhile, FDI flows to developing countries are expected to be less affected (World Investment Report, 2008). FDI in West Asia rose by 12% to \$71 billion in 2007, marking a new record and a fifth consecutive year of growth. More than four fifths of the inflows were concentrated in three countries: Saudi Arabia, Turkey and the United Arab Emirates, in that order. Saudi Arabia was the leading FDI recipient in the region in 2007. Turkey followed, with inflows of \$22 billion – an increase of more than 10% compared with 2006 – despite worsening macroeconomic conditions such as slow growth and rising inflation. The increase in FDI reflected mainly large-scale privatizations and private sector cross-border M&A deals. In 2007, European firms selected Turkey, particularly the Dutch firms invested \$13 billion (Turkey, Treasury, 2008), of which M&A transactions accounted for \$7.2 billion (Deloitte Turkey, 2008).

When the FDI/GDP ratio is examined, the jump that Turkey has made in 2006-2007 is observed to have slowed down in 2008. Compared to the performance of other countries, although Turkey has made a considerable

improvement in terms of attracting FDI, among the countries studied, Egypt, Georgia and even a developed economy, namely France performed better in 2007.

Table 1: FDI/ GDP Turkey 1998-2007
FDI/GDP

Year	FDI Inflow (million USD)	GDP	FDI Inflow / GDP
1998	573	267914	0.20%
1999	138	247830	0.10%
2000	112	266341	0.00%
2001	2855	195072	1.50%
2002	939	232067	0.40%
2003	1222	304063	0.40%
2004	2005	392154	0.50%
2005	8967	482820	1.90%
2006	19261	528564	3.60%
2007	19940	646774	3.10%
2008	15602	733051	2.10%
Source:	Central Bank of the Republic of Turkey		

Table 2: 2007

Countries	FDI Inflow / GDP
Germany	1.5%
France	6.2%
Spain	3.7%
Italy	1.9%
Portugal	2.5%
Greece	0.6%
Brazil	2.6%
China	2.6%
India	2.0%
Georgia	16.1%
Egypt	9.1%
Source:	UNCTAD - World Investment Report 2008

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RKEY AND THE TURKISH BUSINESS ENVIRONMENT

Academic research on brand image is abundant. However, country image has been a topic of interest mainly in the last decade of the 20th Century (Niss, 1996). When the relationship between the country image and brand image has been examined, it is argued that to the extent that consumers have a negative image for a given country, they develop negative images for the people of that country and this in turn, affects their attitudes towards the products originating from that country (Morello, 1984). Especially when current and accurate information does not exist; wrong images created about the country, its people, and about its products may influence several issues such as the number of the tourists visiting the country, the amount of the foreign direct investment generated, the perceived value of its products etc.. Although a massive work related to country of origin effect and especially tourism image has been carried out separately, the general image of the countries, more precisely that of Turkey has not been deeply investigated until beginning of the 21st Century. In this part of this paper, the empirical research on the image of Turkey, especially concentrating on its effects on FDI will be presented.

The comprehensive study of Altinbasak (2004) attempted to determine the constituents of country image using Turkey as a case. A theoretical framework identifying the antecedents and the consequences of the country image has been developed and the relationships among the variables have been examined (Please See Appendix A for the Model). The “Intention to do business” has been determined as one of the main dependent variables affected by the country image. Therefore, the effect of the independent variables on “the intention to do business in Turkey” is tested in the research. The country image is a multi-dimensional and complex phenomenon involving a wide range of factors. After a thorough literature review a series of in-depth interviews followed by comprehensive statistical analysis through a survey is carried out. As Ger (1996) stated, the country image may vary according to the geographical proximity, cultural contact and familiarity of the respondent with that country. Italy and the United Kingdom are chosen as two European countries to conduct the research. The choice is made taking into consideration many factors such as geographical location, strong economic and trade relationships with Turkey and the approach of those countries with respect to the adhesion of Turkey to EU etc.

As no other similar model is found in the literature and the nature of the topic is of a multi-dimensional type, the qualitative study aims to explore the dependent and independent variables constituting the theoretical framework and derive new scales for the quantitative part of the study. A total of 16 in-depth interviews with the British and Italians working in or visiting Turkey have been conducted. The demographic characteristics such as age, gender,

education and occupation are taken into consideration in choosing the respondents. Interviews are carried out in the native language of the individuals and are tape recorded. The ethnographic summary method is used to analyze the data. Consequently, the researcher developed eight new scales to measure different dimensions of country image to be used in the scale developed. The respondents admitted that country image plays a crucial role affecting the investment decisions of the foreign companies. The perceptions of the foreign managers living in Turkey also indicate that there are certain problems related to the business environment in Turkey. However acknowledging the big market size and the industrial potential of the country, the general expectations about the future are positive. The issues to be prioritized by Turkey in order to attract more foreign direct investment and the opportunities provided by the country are defined as follows (Altinbasak, 2004):

Social Environment
Improve the education system and the vocational training
Ensure the principles of secularism in business systems
Political Environment
Achieve political stability for long-term commitments
Strengthen the legal system in line with EU standards
Economic Environment
Control the inflation
Establish and make sure the application of laws/regulations
Diminish red tape/bureaucracy/administrative barriers
Refrain from sudden fiscal or taxation policy changes
Provide taxation incentives/guarantees and/or other financial support for the establishment of new businesses
Provide long-term security to foreign investors
Accelerate the privatization programs
Solve the problem of corruption
Provide specific incentives to diminish regional disparities
Invest on the training of the workforce
The advantages of Turkey to attract foreign direct investment:
The attractive size of the market
The young population of Turkey
Adaptability of the country's people and its systems to changes and crisis
The opportunity of being a hub- advantages of the geographical location
Talented, hardworking, reliable work force
Dynamism, high energy level of the country

Another study carried out with foreign business people working in Turkey has revealed very similar results in relation to the economical, political and cultural aspects to be improved to promote the nation brand image of Turkey abroad (Altinbasak, 2008). In this study, 5 focus group interviews with 41 foreign managers working in Turkey were carried out. Germany, France, Italy, Netherlands, Austria and Scandinavian countries' managers participated in the research. The data is analyzed through the content analysis and in line with the previous study, similar themes about the economical and political conditions in relation to the business environment are identified.

The study of Erdal and Tatoglu (2002) has also revealed that the market size and market attractiveness of host country, openness of the economy to foreign trade, existing physical infrastructure, had a positive effect, but exchange rate instability of domestic currency had a negative effect on realized FDI in Turkey. Therefore, beside the economic stability exchange rate stability would contribute to increase the performance of Turkey in order to attract more FDI. In another study (Demirbag et al., 2007), the performance dimensions of Multinational Companies (MNC) in Turkey are examined. The results pointed out that the government regulations have a positive relationship with all performance dimensions whereas, the financial incentives are found to be more important for FDI location decisions.

The research of Altinbasak (2004) revealed that the businessmen are eager to invest wherever there is opportunity. However, those opportunities have to be well communicated to the target group. Otherwise, the potential of the country as an investment location may be misinterpreted or not understood. The findings of the Nation Brands Index (2005:Q1) show that similar to other aspects, Turkey is perceived to be the least attractive as an investment location compared to other 10 countries investigated which are: Italy, Sweden, United Kingdom, USA, Japan, Germany, China, India, Russia, and South Korea.

It is also observed that there are many distorted image themes and prejudices related to religion, living style etc. related to Turkey, mainly originating from history and those images are affecting the potential of Turkey to attract investment, tourists etc. Therefore it is necessary to identify the distorted image issues and try to change them to reflect the real picture of Turkey (Altinbasak, 2009).

2.3 Perception of Turkey as an Investment Location

The previous research reveal that the amount of the foreign investment attracted to a country is expected to contribute to the economic development of that country. When concrete information or experience doesn't exist, the image of the country may affect the decision of the investors. There are international organizations, official groups concentrated on the FDI or on the economic development of the countries, doing periodic research to detect changes and provide assistance and advice to the countries. Turkey, like many other competitive countries while improving the business conditions should also communicate the opportunities to potential investors especially in the targeted sectors. The previous data about the investment environment of Turkey is worth examining to detect the achievements and the areas that need improvement.

The Investment Advisory Council Report for Turkey (April, 2002) pointed out that Turkey may distinguish itself as a trade and investment destination, since its location between Europe, the Middle East and Central Asia provides an economic gateway to regions with sizeable markets and purchasing power. However, the study conducted by FIAS- Foreign direct Investment Advisory Service (February, 2001) revealed that most of the investors were ignorant about Turkey. The main strength of the country is stated to be its geographical location, followed by its large domestic market and cost effective workforce. The World Business Environment Survey (WBES, 2000) had pointed out that inflation and political instability and uncertainty are the leading constraints for Turkey. Besides the high inflation in Turkey, the lack of adjustment accounting, especially for taxation payments purposes was worrying the investors. Furthermore, administrative regulations in Turkey were perceived as burdensome. The foreign investors stated that the legislative reform of Turkey did not appear to be sufficiently reliable. Adopted laws were not often implemented on time.

The Global Competitiveness Report of the World Economic Forum (2000) put in evidence the importance of administrative barriers as having a dampening effect on competitiveness in Turkey is demonstrated by investors surveyed which ranked bureaucratic "red tape" as one of the leading competitive disadvantage of the Turkish business environment. The recent issue of the same report (2008) highlights the bureaucracy problem, presented also by the findings of Altinbasak (2004, 2008) at the top of the problematic issues decreasing the competitiveness of the country. Turkey ranked lower than many other countries in terms of competitiveness indicators, especially in the areas of administrative and procedural matters. The problem with cumbersome, unclear, informal and time-consuming administrative procedures create an opaque and uncertain business environment, which raises costs for investors. Furthermore, Turkey which was at the 40th rank in the World Global Competitiveness Index in 2000, went back to the 63th place in 2008. Market size is the only factor which received a higher score (5.2) in a 7 points scale. Whereas, bureaucracy followed by tax regulations, political instability and access to financing have been cited as the most problematic factors for doing business (World Economic Forum, 2008). Very similarly, a very recent survey conducted among foreign investors operating in Turkey by International Investors Association of Turkey (YASED, 2009) reveal that the main barriers to FDI in Turkey are economic instability, legal framework, unregistered economy, taxes and incentives political instability and red tape.

3. HOW TO PROMOTE A COUNTRY AS AN INVESTMENT LOCATION: THE ROLE OF MARKETING

Although the competition for attracting foreign investment between governments has always existed, its intensity has increased in the last couple of decades. This is mainly due to several factors such as globalization and freer movements of capital, increased number of new players and the changes in the world trade environment. To compete in this era, the governments, like private companies, started to adopt marketing strategies so as to be preferred by foreign investors.

The marketing mix consists of the elements through which the companies seek to reach their marketing objectives. Similar to companies, countries adopted the marketing approach to be able to develop competitive strategies to differentiate themselves from their counterparts. The variables that can be manipulated in the marketing program are (FIAS, 2000):

- The *product*, which will consist of the inherent advantages and disadvantages of the investment site which is the country;
- The *price*, which is the cost to the investor to invest in that country
- The *promotion*, or activities that spread out information about, or attempt to create an image of the country and provide investment services for the prospective investor.

It is also a fact that an active investment promotion and sound investment policy have to go hand in hand. As governments strive to develop transparent and open regulatory frameworks to attract investors, investment promotion agencies have an important role to play as public supporters for investment reforms and to help investors take full advantage of these reforms and the country's comparative strengths (WAIPA Annual report, 2007, p: 13). The survey of Investment Promotion Practices, presented at United Nations Conference on Trade and Development (2000) underlined the importance of Investment Promotion Agencies (IPAs). In order to receive more FDI inflow, it is necessary that foreign business people be familiar with the country, its business environment and opportunities available especially for the targeted sectors. Therefore the investment promotion agencies play a crucial role for the marketing of a country in order to attract long term investment rather than short term capital movements. The survey highlights that investment promotion grew rapidly in the 1980s and 1990s, together with the opening up of the world economy and the remarkable growth of FDI worldwide. At that time, considerable number of IPAs was relatively young, especially in developing countries and transition economies. Important factors behind the increased number of IPAs, especially in the 1990s, were the opening up of Eastern Europe and the Former Soviet-Union and the liberalization of FDI regimes throughout the developing world.

Besides working on image building and investment generation, investment promotion agencies should devote considerable effort for investor servicing functions before and after the investment is made. Those efforts can influence the amount, length of stay and location of investment in different ways. The IPAs also achieve other functions such as investor targeting, after care programs, consulting services, and promotion of privatization etc. according to the stage of development of the country. Among image building techniques are developing promotions with a focus on advertising, participating in investment exhibitions; facilitating investment missions from source countries, and organizing information seminars on investment opportunities to targeted groups. These techniques set the stage, helping convince prospective foreign investors that a certain country may be a good place to invest.

Image building alone is not enough to generate further FDI, however, especially when the reality in a country is better than the perception held by the international investment community, transmitting the real image to those groups is crucial. These activities must be based on truth. The report of UN demonstrates that the role and priorities of the IPAs are different in each country. In some countries government organizations still promote their own sectors/industries, while the IPA focuses its efforts on the sectors which are not capable of promoting themselves. However, the attention of the IPAs to attract foreign investment into infrastructure is observed to increase worldwide (UN Conference on Trade and Development, 2008). The report states that IPAs from developed countries concentrate primarily on attracting FDI into technologically more advanced industries, such as mobile telephony and Internet services, whereas many developing country IPAs also seek foreign investment in the infrastructure services (Conference on Trade and Development, 2008, p:15).

3.1. The Case of Investment Support and Promotion Agency of Turkey: ISPAT

The experiment of the Industrial Development Authority (IDA) of Ireland-which is one of the oldest successful IPA-suggests that, the task of IPAs should be supported by a transparent investment policy in order to attract long-term foreign investments. As suggested, Turkey should enhance the marketing of the country and develop a better image in the eyes of the international investors by establishing a focused and pro-active promotion institution according to international best practice that best suits Turkish promotional needs (FIAS, 2001). Acknowledging this fact, the Investment Support and Promotion Agency of Turkey (ISPAT) is established in July 2006 as the official organization for encouraging and promoting investment in Turkey. ISPAT's mandate is to present investment opportunities (Greenfield investments, privatizations, infrastructure investments, BOT & PPP, etc.) to members of the global business community and to assist them before, during, and after their entry into Turkey. It serves as a reference point for international investors and as a point of contact for all institutions engaged in promoting and attracting investments at national, regional, and local levels (www.invest.gov.tr). The agency set a representative network of 13 countries consisting mostly of nationals from Canada, China, Germany, the Gulf States, France, India, Israel, Italy, Japan, Kazakhstan, Russia, UK, and USA. These representatives are entitled to make first contacts within the strategic priorities set by the Agency. Furthermore, a team of professionals consisting of project experts proficient in several foreign languages is employed to help investors successfully develop their business operations in Turkey. The agency defines its objective as to guarantee continuous client support with a 100% quality service attitude in the Ankara and Istanbul offices. The approach is fully integrated with private sector methods and is supported by all governmental institutions. The Agency provides an extensive range of services to investors through a one-stop-shop approach and assists them in obtaining optimum results from Turkey (www.invest.gov.tr).

ISPAT performs different duties for different parties. The Agency having close contact with existing and potential investors proposes policy reforms to improve the overall business environment to Government. Branding and improving Turkey's image as an FDI destination, promoting sectors/industries with high potential to prospective investors and informing them about investment opportunities in Turkey are among the tasks performed by ISPAT. The Agency also provides support services before, during, and after the investment process, such as acquiring investment-related approvals and permission from central and local authorities and assist foreign investors through start-up clearances.

The main activities realized by ISPAT in 2007 are: (1) *Investor Contacts and participation to national/International events*: In one year, the Agency contacted more than 500 investors directly, 61% of which had no previous investment relationship with Turkey. Furthermore, presentations and speeches are given in 59 different national or international events, delegations led by the Ministry of Foreign Affairs with the participation of relevant institutions made visits to the different regions of the world, (2) *The establishment of a multilingual portal* : On September 24, 2007, an investment Portal, <http://invest.gov.tr>, became operational in 10 different languages, (3) *Advertisements*: In order to promote investment opportunities in Turkey, the Agency has prepared visual advertising materials such as CDs, brochures, TV and magazine ads in 11 different languages and published them in 70 newspaper and magazines in more than 50 countries. Commercials have been on air on the prominent international broadcasting channels (Investment Advisory Council For Turkey Progress Report 2008).

3.2 Suggestions for the policy makers to make ISPAT more effective: A New Approach for the 21st Century

The analysis of the past and current research demonstrates that Turkey could not achieve yet the standards required for a favorable business environment encouraging FDI. The obstacles stated in the beginning of 2000s by foreigners related to FDI in Turkey are still valid. The establishment of an investment promotion agency is a positive step showing the desire of the Turkish government to change the picture. It is crucial to develop a strategic roadmap for the agency, articulating its operating targets and key policy initiatives to advocate in order to increase the country's attractiveness in the eyes of the investors. However, times have dramatically changed since the 1960's when Ireland and Singapore have established their Promotion Agencies and representative offices in multiple countries to increase awareness about and interest into their countries. They managed to reap the benefits of their pioneering act which

was a good fit for their times. The investment model in those times has mostly been green-field investments where companies had to compare and choose countries to invest in. The more they knew about the business environment and opportunities in those countries, the higher would be the chances of investment. At that era, information could be obtained through physical channels and contact. However, now we are living in a digital age where one can obtain all relevant information, country statistics and company data on the fingertips through the Internet, hence diminishing one previous task of the investment promotion agencies. The investment model has also shifted dramatically towards M&As and Privatizations where Private Equity companies or the Acquirers already set their eyes onto some regions, even industries and companies as part of their strategy and then work out operational details such as whom to buy and how.

These developments imply a need to revise the approach towards investors. ISPAT should establish a strong and geographically spread local presence in addition to a broad international presence with a focus on target countries. However, in a period where the resources are tight for every institution, targeting of sectors and countries become crucial for a more focused approach. Reevaluating the marketing mix elements, in terms of *product*, ISPAT has to identify the differentiating advantages of Turkey and communicate them to selected target groups. Policy advocacy is a key function of an IPA as a government entity with close contact with industries and insight on their needs. The successful implementation of this function is vital for ISPAT especially in a period of crisis. Furthermore, to remain competitive, ISPAT needs to work hard on decreasing the costs of investors acting as a channel between foreign investors and the Government. It is no more enough to help the realization of an investment, but the Agency has to help the investors with their on-going operations to encourage them to remain as well. Therefore, the *price* element has to be well managed not only during the entry phase but during the operations of the companies. Providing information on the local business climate as well as on relevant regulations *to promote* the country is among the main tasks of IPAs. Consulting, matching and after care are provided by most IPAs, however, nowadays the needs of investors are more complex. The need for new service products and high-tech areas should be emphasized as well as defense and health related fields. The advertisements emphasizing the strengths of the country need to be backed up by sound economic and political practices. During the global economic crisis where financing is tight and new large-scale investments seem less likely in the short-term, most companies who set up businesses abroad face difficult times and the risk of retreat. All these new issues require a revised and enhanced focus for ISPAT along with the classical image management and promotion activities. In this regard, Kotler's (1986) Megamarketing Mix approach may seem more feasible-adding Public Relations and Politics/Power as the fifth and the sixth marketing mixes. Additionally, a very local concept of FDI attractiveness tool, labeled as BOOM (Build, Own, Operate, Model) by the business media in 1980's may give new impetus to the Turkish efforts to attract more FDI in the years to come.

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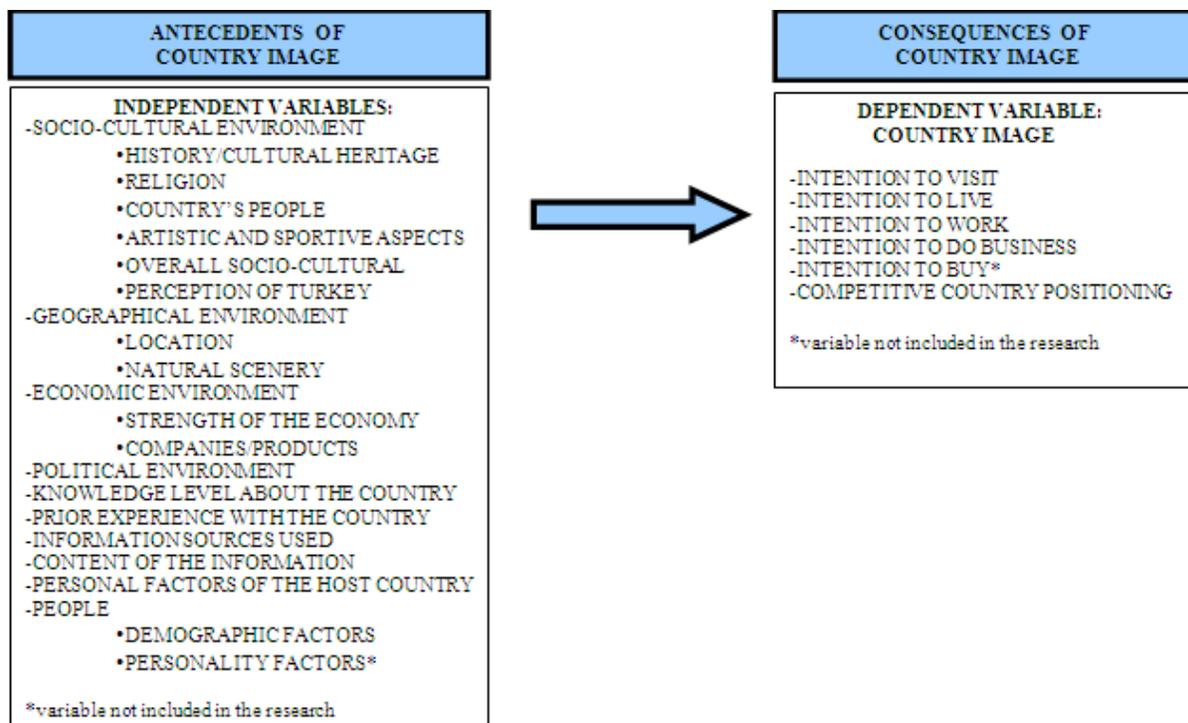
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APPENDIX A: MODEL – COUNTRY IMAGE ANTECEDENTS AND CONSEQUENCES



Source: Altınbasak, İ., Modeling the Constituents of the Image of a Country for the Determination of Priorities Related to Strategic Image Management: The Case of Turkey, the doctoral thesis, (2004),Bogazici University, Istanbul, Turkey

UNDERSTANDING THE CONSUMER ATTITUDES TOWARD MOBILE ADVERTISING AND ITS IMPACTS ON CONSUMERS' BEHAVIORAL INTENTIONS: A CROSS-MARKET COMPARISON OF U.S. AND TURKISH CONSUMERS

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ABSTRACT

Regarding the intensified competition and the increased number of alternative brands offering the same kinds of products, new marketing applications have been discovered by companies. A trendy and prevalent example to these applications is mobile marketing which refers to the marketing activities on or with a mobile device such as mobile phone, laptops or pdas. Among the mobile marketing tools, the most frequently applied one is mobile advertising. Mobile advertising is becoming a very popular marketing tool as a result of technological advancements such as the 3G technology. Some common examples of mobile advertising applications are receiving advertisements and coupons by e-mails that can be read anywhere via a portable mobile device (laptop, blackberry, iphone or pdas) that provides a portable mailbox, allows receiving SMS and MMS messages on the mobile phone (sometimes in return of free calls by the telecommunication company), getting incentives and coupons on the mobile phone, being exposed to Bluetooth devices and instant messages.

This study aims to measure the attitudes of U.S. and Turkish consumers towards the mobile advertising applications which are both experienced or are about to be experienced in the short term as companies make further investments to use mobile marketing applications. Besides, the correlation of these attitudes with consumers' behavioral intentions is examined.

The results of the independent sample t-test show that, the attitudes of Turkish and U.S. respondents are different regarding mobile advertisements. The results of the Pearson correlation analysis show that there is a positive correlation between these two constructs.

INTRODUCTION

Concepts like mobile commerce or mobile marketing are known to be derived from the concept of mobility. Mobility is defined as "the quality or state of being mobile" (www.thefreedictionary.com/mobility, May, 5, 2009). As understood from the definition, anything that is wireless, moving and portable is perceived as to be mobile. Oh and Kun-Pyo have listed some properties that they have linked with mobile objects, such as portability, activity and interactivity (Oh & Kun-Pyo, 2005:2).

The remote transportation of information has been an issue of consideration for human beings since ages. Many primitive tools known to be used as information transporters such as drums, pigeons and smoke have turned into more complicated and technological devices at the present day. Today, the wireless technology enables the opportunity of mobility all along the line for humans.

Any kind of a media where the consumers exist and interact is perceived to be an opportunity by marketing professionals. The mobile phones, PDAs, portable computers and wireless networking systems have been developed and improved at a great pace and they have become the inevitables of our lives. Like anything that makes up a vital part in human's life, these devices also have engaged the marketing professionals' attention. As a result, above-mentioned mobile devices have gone beyond being communication devices but become ideal platforms for marketing communications.

As mobile marketing enables more personal and interactive brand-consumer communication than traditional marketing, so many brands invest in mobile marketing applications. These applications such as mobile marketing platforms and global wireless systems enable brands and consumers to interact in a more personalized and customized way (Rohm and Sultan, 2006:5).

The purpose of this study is to empirically examine the U.S and Turkish consumers' attitudes towards mobile advertising and to reveal in what ways those attitudes differ in these two cultures and how they are correlated with the behavioral intentions. .

LITERATURE REVIEW

M-Commerce and Mobile Marketing

“The terms “wireless marketing” and “mobile marketing” are often used interchangeably to describe the use of wireless media as an integrated content delivery and direct response vehicle within a cross-media or stand-alone marketing communications program (www.mmaglobal.com, May 4, 2009).

Mobile marketing is “the systematic planning, implementing and control of a mix of business activities intended to bring together buyers and sellers for the mutually advantageous exchange or transfer of products” (Carter, 2008:62) where the primary point of contact with the consumer is via their mobile device.

In their article through which they aim to posit and clarify certain implications of mobile technology in the context of mobile commerce, Balasubramanian et al. (2002:350) describe mobile commerce as a type of communication that involves “either one-way or interactive, between two or more humans, between a human (or humans) and one or more inanimate objects or between two or more inanimate objects (e.g.. Between devices)”.

Interactivity, customization – eligibility and being able to be adapted to customization make mobile marketing an important marketing tool. “A survey by Airwide Solutions, a builder of mobile infrastructure and applications, shows that advertisers are ready to invest in mobile. The survey among 50 global brands also found that more brands are looking to spend a greater proportion of their marketing budget on mobile campaigns in the future with 71 percent of brands projecting to spend up to 10 percent of their budget on mobile marketing” (Thurner, 2008:122).

Mobile Advertising

Mobile advertising is one of the very common forms of mobile marketing. Leading companies like Procter & Gamble, Microsoft, Disney, Coca-Cola, Sony Pictures and McDonalds have been embracing mobile advertising and including it within their marketing budgets. “Since the first mobile text advertising was done in Scandinavia in 1997, mobile advertising has grown consistently. It's expected that by 2011 marketers will be expending \$11.3 billion annually on mobile advertising, up from \$871 million in 2006. As a reference, it took 2 years for broadcast TV, 4 years for the internet and 5 years for cable TV advertising to reach \$1 billion in ad revenue, and 5 years for internet and broadcast TV advertising to reach 5 billion \$” (Hanley and Becker, 2006:68).

Different from traditional advertising which is non-personal and applicable only via mass media, mobile advertising is more individual and interactive while informing and persuading the customer (Ayanwale et al. 2005:11; Chowdhury et al., 2006:42).

Among the most common mobile advertising applications may be listed the “embed advertisements in mobile radio, inline and interstitial ads on mobile internet sites, text messaging on mobile phones, Bluetooth alerts and multi media messaging” (Hanley and Becker, 2006: 68).

Mobile advertisements’ getting more popular day after day, have made them subject to rules and regulations in some countries. In some countries, new regulations have been brought to mobile advertisement applications like getting the approval of the customer prior to sending the message. For instance, in USA, access to mobile consumers is dictated by federal law and industry best practices. (Mobile Marketing Association, CAN-SPAM ACT 2003) (www.mmaglobal.com, May 4, 2009). In Turkey, efforts are under way to lay down rules and regulations regarding mobile advertisements but there is not a general law in force on mobile advertisements yet (www.dpid.org.tr, May 13, 2009). However, the mobile market in Turkey has become a distinctive market when compared with some developed countries. The youth rate of the population, the increased number of mobile phone users and the emerging wireless internet need makes Turkey a promising market in terms of mobile applications (Barutçu, 2007(b):30).

Attitudes Towards Mobile Advertising

Studies aiming to explore the attitudes towards both mobile marketing and mobile advertisements are based on the theory of technology acceptance models. Among the various theories that contribute to the understanding of the adoption process of new information – communications technologies; *technology acceptance model (TAM)* is one of the most widely visited ones (Yang, 2007:34). Technology acceptance model was first developed by Fred Davis in 1989 (Davis, 1989) and has been developed and extended in many further studies (Davis et al. 1989; Subramanian, 1994; Legris et. al. 2002; Olson and Boyer 2003; Venkatesh and Davis 2000).

As same with other traditional marketing applications, consumer attitudes are decisive in the success of the mobile advertising campaigns, too (Yang, 2007:37). “Based on different strategic applications, wireless marketing can be permission-based, incentive based, or location-based” (Chowdhury, Parvin, Weitenberner and Becker, 2006:36).

The consumer attitudes towards mobile advertisement construct in marketing literature generally is based on four dimensions *as entertainment, informativeness, irritation and credibility* (eg. Ducoffe, 1996; Parissa and Maria, 2006; Tsang et al. 2004). *Entertainment* dimension refers to the enjoyment associated with the message. Many mobile advertisement applications involve games, music and visual applications. “Individual’s feelings of enjoyment associated with advertisement strongly influence their attitude toward advertisement” (Shavitt et al, 1998). *Credibility* of the advertising refers to its truthfulness and believability in general according to the consumer perceptions (MacKenzie and Lutz, 1989:51; Pavlou and Stewart, 2000). The credibility of mobile advertising message is known to have a positive effect on the consumers’ attitudes towards the advertisement (Chowdhury et al. 2006:37). Mobile advertisement research has revealed that informativeness ability of the advertisements can influence the satisfaction and purchase decision of consumers (Ducoffe, 1996:22). *Informativeness* dimension refers to the ability of the advertisement to provide up-to-date, timely and immediately accessible information about the products. *Irritation* is the only negative dimension of attitudes. “When advertising employs techniques that annoy, offend, insult or overly manipulating, consumers are likely to perceive it as an unwanted and irritating influence” (Ducoffe, 1996:23). When consumers receive an advertisement message and feel irritated with it, they may ignore it.

In some of the research studies examining consumer attitudes towards mobile advertisements, another dimension has been added to those basic four dimensions (eg. Ducoffe, 1996; Parissa and Maria, 2006). Mostly this dimension refers to (and named as) *perceived advertising value*. The perceived value of mobile advertising is “a subjective evaluation of the relative worth or utility of advertising to consumers” (Ducoffe, 1995:1).

Measurement of Consumer Attitudes Towards Mobile Advertisements

Mobile advertisement studies regarding the consumer attitudes have mostly cited the study of Ducoffe (1996) where he aims to measure the advertising value on the web. The original Ducoffe scale has 25 items and five constructs (informativeness, entertainment, irritation, advertising value and other items). There are other studies based on the

study of Ducoffe. In some of these studies the researchers developed Ducoffe's model and added new items to the scale (eg. Parissa and Maria, 2006; Tsang et al. 2004; Shen and Chen, 2008).

In this study, the scale used to measure the consumer attitudes towards mobile advertising has been developed by adapting the scales in the studies by Ducoffe (1996), Tsang et al (2004) and Parissa and Maria (2006).

Behavioral Intentions

Customers who remain loyal to the company are likely to engage in favorable word-of mouth behavioral responses. In addition, the company may be able to cross-sell to these customers or even charge them a premium price (Athanasopoulos et. al., 2001: 691). When a customer praises the company, this behavioral response is indicative of the customers' decision to remain with the firm (Athanasopoulos et. al., 2001: 691).

Based on research findings Zeithaml et al. (1996) summarized behavioral intentions with favorable (say positive things, recommend company, remain loyal to the company, spend more with company, pay price premium) and unfavorable (say negative things, switch to another company, complain to external agencies, do less business with company) intentions. In their above-mentioned study, they developed a 13-item scale in order to measure behavioral intentions. As a result of factor analysis they obtained five factors. These factors were labeled as loyalty to the company (*loyalty*), propensity to switch (*switch*), willingness to pay more (*pay more*), external response to problem (*external response*) and internal response to problem (*internal response*).

Likewise Zeithaml, (1996), Athanasopoulos (2001) also measured behavioral intentions by three priori categories: *word-of-mouth communications*, *intentions to switch*, and *decision to switch*. In some of the studies, only the purchase intentions were examined to explain behavioral responses. One of these studies was conducted by Taylor and Baker (1992). In this study, purchase intentions were operationalized like Zeithaml (1996) did with loyalty dimension. Another study conducted by Heijden et. al. (2003) aimed to investigate the factors influencing consumer's intentions of online purchasing at an electronic commerce website.

In this study, in order to measure the behavioral intentions used are mostly generated from the study of Zeithaml et al (1996). Four additional variables were adapted from Heijden et al.'s study (2003).

RESEARCH QUESTION

Within this study, consumers' attitudes towards mobile advertising are investigated in two different cultures: U.S.A and Turkey. The reason why those two countries are included in research is that, these two countries are at different levels in terms of development. U.S is a developed country whereas Turkey is a developing country. For this reason, the results will reflect the position in two countries where as linked with this development level, the level of technology consumption, the attitude towards both technology in general and mobile Technologies particularly and advertisements will differ.

As a result of globalization, those two countries involve same global brands. As mobile marketing has become an important marketing tool for companies all over the world, the results of this study will involve also managerial implications for those companies operating both in Turkey and U.S or other developed countries via revealing the Turkish consumers' attitudes towards mobile advertising and most importantly by emphasizing the comparison of those attitudes with a developed country's citizens.

One can see numerous studies in the field of mobile marketing as the subject is getting more popular day after day in parallel with the technological investments and developments. Among those studies attitudes towards mobile marketing tools and advertising has been investigated. But, the number of studies correlating these attitudes with behavioral intentions is still limited in number (eg. He ve Lu, 2007; Shen and Chen, 2008). For this reason, this study may be a good source to reveal the relationship between attitudes and behavioral intentions.

Based on literature review and the objectives stated above, the research questions below were formulated:

RQ1: Do the attitudes of U.S and Turkish consumers towards mobile advertising show any difference?

RQ2: How these attitudes of consumers in both cultures are correlated with behavioral intentions?

METHODOLOGY

Survey Instruments and Procedures

In this study, two scales are used for measuring the attitudes towards mobile advertising and behavioral intentions. The scale used for measuring attitudes is based upon the ones that were developed by Ducoffe, 1996; Tsang et al., 2004; Parissa and Maria, 2006, whereas the behavioral intentions scale was adopted from Zeithaml et al., (1996) and Heijden et al., (2003). As the surveys were conducted both in Turkey and U.S, the original surveys were back translated to Turkish by a Turkish – English bilingual person. After back translation, in the light of validity studies, the scales were checked by two academicians who are well-known with their cross-cultural and consumer behavior studies. After the face validity studies, a pre-test consisting of sample sizes of 30 in both cultures were conducted. As a result of the pre-tests and face validity studies, some items were dropped and some were adopted because of the cultural differences. As a result of these attempts, the mobile attitudes scale has turned into a modified 22 item revised scale whereas the behavioral intentions scale has turned into a 9 item scale.

The questionnaire consists of 3 parts as the attitude towards mobile advertising, behavioral intentions and demographic variables.

Sampling Method

Based on a convenience sampling method, the questionnaires were administered in two different university campuses in U.S (UTD) and Turkey (Sakarya University). The questionnaire forms were distributed using drop-off survey method where all the questionnaires were left to the respondents and were collected back in 2 days.

Sample Characteristics

The total number of surveys distributed in Turkey was 120. Among those, the number of usable completed surveys was 98 with a response rate of %81. The total number of distributed surveys was 135 in U.S with number of completed surveys of 94 and response rate of %70.

The gender distribution shows that majority of both of the samples were males (61.5% for U.S. and 51.5% for Turkish) and the age distribution was mostly 53 and over for both samples. The major distribution in both samples were married and the education level was mostly bachelor degree with a percentage of 42,2 for U.S. and 57.1 for Turkey.

RESULTS and DISCUSSION

Assessment of Validity and Reliability

In the context of validity studies, the scale was made to be examined by two scholars who are known with their cross-cultural studies. After the face validity studies, the reliability analysis were conducted. In order to assess the reliability of the scale alpha coefficient score has been used. As a result of the reliability analysis for the attitude scale, the Cronbach's alpha was 0,945 which can be assessed to be acceptable level in parallel with Nunnally (1979).

Regarding the behavioral intentions scale, the Cronbach's alpha score was obtained to be 0,898 which is again an acceptable score (Nunnaly, 1979).

Descriptive Statistics

In order to analyze the respondents' attitudes towards mobile advertising, first of all descriptive studies were conducted. The results of the descriptive studies may be seen on Table 1 and Table 2 below.

Table 1: Descriptive Statistics for the Overall Respondents' (US and Turkey) Attitudes Towards Mobile Advertising

Rank	Statement	Standard Deviation	Mean
1	14. Mobile advertising allows immediate access to information.	1,152	2,79
2	7. Contents in mobile advertisements are often annoying.	1,116	2,73
3	13. Mobile advertising is a good source of up-to-date product information.	1,230	2,65
4	25. Most of the products perform just as the mobile ads claim.	0,952	2,53
5	23. Mobile advertisement helps me buy the best value brand for this price.	1,137	2,47
6	22. Mobile advertisement helps me to know which brands have the features I am looking for.	1,139	2,46
7	16. Mobile advertisement is useful.	1,014	2,45
8	17. Mobile advertisement results in better products for the public.	0,998	2,45
9	18. Mobile advertising presents a true picture of the product advertised.	1,018	2,44
10	3. I feel that mobile advertising is a good source for timely information.	1,233	2,43
11	5. I feel that mobile advertising is irritating.	1,273	2,43
12	19. I trust brands advertised by m-advertising more than brands that are not.	0,936	2,24
13	9. I trust mobile advertisements.	1,049	2,18
14	26. I am impressed by mobile advertisements.	1,122	2,17
15	21. Mobile advertisement helps me to find products that match my personality.	0,984	2,16
16	8. I use mobile advertising as a reference for purchasing.	1,035	2,09
17	11. Mobile advertising is fun to use.	1,007	2,05
18	12. Mobile advertising is exciting.	1,018	1,980
19	10. Overall, I like mobile advertising.	1,117	1,97
20	2. I feel that receiving mobile advertisements is pleasant.	1,022	1,83
21	24. I am willing to pay more for a product advertised by m-advertising.	0,950	1,83
22	I feel that receiving mobile advertisements is enjoyable and entertaining.	0,985	1,79

The overall sample's descriptive analysis results show that the statement with the highest mean value is "*Mobile advertising allows immediate access to information*" (mean=2,79; s.d.= 1,152) whereas the statement with the lowest mean value is "*I feel that receiving mobile advertisements is enjoyable and entertaining*" (mean=1,79; s.d.=0,985).

Table 2: Descriptive Statistics for the US and Turkish Respondents' (Separately) Attitudes Towards Mobile Advertising

US				TR			
Rank	Statement	Standard Deviation	Mean	Rank	Statement	Standard Deviation	Mean
1	14. Mobile advertising allows immediate access to information.	1,246	2,75	1	7. Contents in mobile advertisements are often annoying.	1,064	3,01
2	13. Mobile advertising is a good source of up-to-date product information.	1,304	2,45	2	5. I feel that mobile advertising is irritating.	1,225	2,99
3	25. Most of the products perform just as the mobile ads claim.	0,942	2,45	3	13. Mobile advertising is a good source of up-to-date product information.	1,131	2,84
4	7. Contents in mobile advertisements are often annoying.	1,097	2,43	4	14. Mobile advertising allows immediate access to information.	1,063	2,82
5	16. Mobile advertisement is useful.	1,009	2,34	5	3. I feel that mobile advertising is a good source for timely information.	1,168	2,73
6	17. Mobile advertisement results in better products for the public.	0,939	2,27	6	18. Mobile advertising presents a true picture of the product advertised.	1,005	2,70
7	22. Mobile advertisement helps me to know which brands have the features I am looking for.	1,198	2,25	7	23. Mobile advertisement helps me buy the best value brand for this price.	1,150	2,68
8	23. Mobile advertisement helps me buy the best value brand for this price.	1,086	2,25	8	22. Mobile advertisement helps me to know which brands have the features I am looking for.	1,053	2,65
9	18. Mobile advertising presents a true picture of the product advertised.	0,964	2,16	9	17. Mobile advertisement results in better products for the public.	1,027	2,62
10	3. I feel that mobile advertising is a good source for timely information.	1,230	2,12	10	25. Most of the products perform just as the mobile ads claim.	0,960	2,60
11	19. I trust brands advertised by m-advertising more than brands that are not.	0,895	2,03	11	16. Mobile advertisement is useful.	1,013	2,55
12	21. Mobile advertisement helps me to find products that	1,011	1,99	12	26. I am impressed by mobile advertisement.	1,109	2,46

	match my personality.						
13	8. I use mobile advertising as a reference for purchasing.	1,058	1,98	13	19. I trust brands advertised by m-advertising more than brands that are not.	0,938	2,42
Table 2. (Continued)							
14	9. I trust mobile advertisements.	1,074	1,96	14	9. I trust mobile advertisements.	0,987	2,38
15	26. I am impressed by mobile advertisements.	1,054	1,86	15	21. Mobile advertisement helps me to find products that match my personality.	0,935	2,32
16	11. Mobile advertising is fun to use.	0,945	1,83	16	11. Mobile advertising is fun to use.	1,024	2,25
17	5. I feel that mobile advertising is irritating.	1,023	1,82	17	10. Overall, I like mobile advertising.	1,109	2,21
18	12. Mobile advertising is exciting.	0,940	1,76	18	8. I use mobile advertising as a reference for purchasing.	1,007	2,19
19	10. Overall, I like mobile advertising.	1,072	1,72	19	12. Mobile advertising is exciting	1,047	2,19
20	2. I feel that receiving mobile advertisements is pleasant	0,944	1,71	20	24. I am willing to pay more for a product advertised by m-advertising.	0,979	1,98
21	24. I am willing to pay more for a product advertised by m-advertising.	0,893	1,66	21	2. I feel that receiving mobile advertisements is pleasant.	1,082	1,95
22	1. I feel that receiving mobile advertisements is enjoyable and entertaining	0,909	1,64	22	1. I feel that receiving mobile advertisements is enjoyable and entertaining	1,037	1,92

Examining the U.S. sample's descriptive analysis, it is seen that the statements with the highest and lowest mean values are the same with the ones of the overall sample. "Mobile advertising allows immediate access to information" (mean=2,75; s.d.=1,246) has the highest mean value whereas "I feel that receiving mobile advertisements is enjoyable and entertaining" (mean=1,64; s.d.=0,909) has the lowest mean value again.

The statement with highest mean value for the Turkish sample differs. This time, "Contents in mobile advertisements are often annoying" has the highest mean value (mean=3,01; s.d.=1,064). The statement with the lowest mean value is similar to the one of the overall sample and U.S. samples (*I feel that receiving mobile advertisements is enjoyable and entertaining*) with a mean value of 1,92 and standard deviation of 1,037.

Comparison of U.S. and Turkish Samples' Attitudes Towards Mobile Advertisements

In order to analyze whether there is a statistically significant difference between U.S. and Turkish samples regarding the overall attitudes (overall mean values for the 26 items) towards advertisement, independent sample t-test was conducted. The results of the t-test show that, with significance value of 0,000 the U.S and Turkish samples' overall mean scores of the 26 items that aim to measure the attitudes towards mobile advertisements show statistically significance difference. Analyzing the mean values, one can see that Turkish respondents hold more positive attitudes (mean value= 2.53) than the U.S respondents (mean value = 2, 15).

Factor Analysis

In order to detail the results and see the dimensions of consumer attitudes towards mobile advertisement factor analysis was conducted. Kaiser-Meyer-Olkin (KMO) measuring sampling adequacy result is 0.931 and Significance of Bartlett's test of sphericity is 0.00. The results of the factor analysis are displayed in Table 3 below.

Table 3: Factor Analysis

Rotated Component Matrix	Factor 1	Factor 2	Factor 3	Factor 4
Mobile advertisement is useful	.781			
Mobile advertising is a good source of up-to-date product information	.767			
I feel that mobile advertising is a good source for timely information	.742			
Mobile advertising allows immediate access to information	.647			
Mobile advertisement results in better products for the public	.641			
I use mobile advertising as a reference for purchasing	.620			
Mobile advertisement helps me buy the best value brand for this price	.599			
Mobile advertisement helps me to know which brands have the features I am looking for	.590			
Mobile advertising presents a true picture of the product advertised	.571			
I trust mobile advertisements	.522			
Mobile advertising is exciting		.813		
Mobile advertising is fun to use		.803		
Overall, I like mobile advertising.		.732		
I feel that receiving mobile advertisements is enjoyable and entertaining		.595		
I feel that receiving mobile advertisements is pleasant		.573		
I am impressed by mobile advertisements		.488		
Most of the products perform just as the mobile ads claim			.779	
I trust brands advertised by m-advertising more than brands that are not			.647	
I am willing to pay more for a product advertised by m-advertising			.597	
Mobile advertisement helps me to find products that match my personality.			.512	
Contents in mobile advertisements are often annoying				.715
I feel that mobile advertising is irritating				.696

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

The factor analysis has produced four factors with eigenvalues larger than 1.0 and they explain the 66% of the total variance. Those four factors are labeled as the *informative dimension of mobile advertisements* (Cronbach's alpha=.922), *enjoyment dimension of mobile advertisements* (Cronbach's alpha=.896), *credibility of mobile*

advertisements (Cronbach's $\alpha=.896$) and *irritation dimension of mobile advertisements* (Cronbach's $\alpha=.651$).

The factors and the variables that make up those factors may be seen on Table 6 above. Those factor analysis results seem to be parallel with the previous research as the dimensions seem to be similarly formed with those of previous studies which are mentioned above.

Correlation Analysis For Consumer Attitudes towards Mobile Advertisements And Behavioral Intentions

As mentioned above, this study not only aims to reveal the consumer attitudes towards mobile advertisements but also to examine how these attitudes are correlated with behavioral intentions.

In order to analyze this issue, Pearson Correlation analysis has been conducted. The results of the Pearson correlation analysis reveal that there is a significant positive relationship between consumer attitudes and behavioral intentions for the U.S. sample, which means the more the U.S. consumers' attitudes are positive towards the mobile advertisements, the more affirmative their behavioral intentions are (sig. = 0,000; $r=.720$). As for the Turkish sample, there is again a statistically significant and positive relationship between these two constructs (sig.=0,000; $r=.630$).

CONCLUSION AND LIMITATIONS

The results of this study show that the attitudes of U.S. and Turkish consumers differ regarding the mobile advertisements. The Turkish consumers reveal more positive attitudes than American respondents regarding mobile advertisements. This result is unexpected in some aspects that the mobile marketing is permission-based in U.S. and more incentive-based. These results may be perceived as the indicators in terms of the marketing mix plans. In Turkey, according to these results, the mobile marketing and mobile advertisement tools may be a better marketing mix component than in U.S. This may be an important implication for global companies. U.S. is a more developed country than Turkey where the technology acceptance is expected to be higher, so for many companies U.S. would seem to be a more promising market regarding the mobile applications than Turkey would. But the results show that, attitudes are not only correlated with the technological infrastructure but also with other cultural properties. Further research based on more qualitative data such as focus groups may reveal the details regarding these attitudes and differences. On the other hand, adding more incentives to mobile advertisements in Turkey may enhance the positive attitudes of consumers. Most mobile activities are in relation to promotions in Turkey (Barutçu, 2007b:30). Those mobile advertisement applications may be enriched via entertainment contexts, incentives and more interactive applications.

As expected before conducting the correlation analysis, the attitudes and behavioral intentions regarding the mobile advertisements show a positive relation. These results are parallel with the limited number of previous research (Bauer et al, 2005; Shen and Chen, 2008). Further research would be efficacious in order to examine in detail how those factors affect behavioral intentions. This positive correlation may point out a competitive advantage for those companies that work and invest on enhancing the positive attitudes towards mobile advertisements by modifying the entertainment, informative and credibility dimensions of these advertisements while decreasing the irritation level.

This study has its own limitations. First of all, the surveys were conducted at university campuses in both countries. This sampling procedure and sample size may deviate the results and decrease the external validity of the study by decreasing the generalizability. In a study by Barutçu (2007a), the Turkish consumers' attitudes towards mobile advertisements were investigated before. The results revealed that, the Turkish consumers hold positive attitudes towards mobile advertisements. Still, considering that this study was one of the pioneer studies in Turkey, the sampling size and procedure may be expanded in the future studies and if the study is repeated using random sampling, the results may be representative to the whole population. Another issue is that, this study only reveals the attitudes towards mobile advertisements in general. Limiting the study with specific product categories and focusing on the attitudes towards these categories may change the results.

In spite of the limitations mentioned above, this study carries the property of being one of the pilot and pioneer studies in this field and still sheds light on the consumers' attitudes towards mobile advertisements and the correlations of those attitudes with behavioral intentions.

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EXPORTER FIRMS IN TUNISIA: PROFILE DIFFERENCES

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ABSTRACT

The financial and economic actual global crisis has dramatically affected the Tunisian small and medium exporter firms and the government is making effort to sustain the economy. This research tries to draw the profile of mono destination exporter and multi destinations exporter in Tunisia. As essentially differences in resources and management style discriminate between the two types of exporters, the role of the government to help exportation development seems to be essential. The government can enhance Tunisian firms' exportations by promoting the image of Tunisian products and training managers to deal with foreign markets and profit from opportunities.

INTRODUCTION

Consensus exists on the important role of exportations in developing and enhancing the economy of any nation. Exportations increase currency reserves and limit economic balance deficit. Exportations maximize the use of production capacity, stimulate technology and marketing innovation and encourage the firms' efficiency. Firms in developing countries try to benefit from the exportations opportunities to enlarge their markets and increase their profits as exportations do not absorb resources as do the other forms of internationalization (Katsikeas and Morgan, 1994). This is the case in Tunisia where the economy is basically based on small and medium firms and the currency resources are heavily depending on their exportation activity. The adoption of exportation' activity requires several decisions related to the markets selection strategies, the products to export, the politic of mix marketing to design... Such decisions are aspects of the firm's exportation behavior which is largely influenced by two types of factors. The first group depicts the external variables or macroeconomic variables related to the sector's characteristics and the economic environment in which the firm is operating. The second group depicts the microeconomic characteristics related to the firm itself such as the firm's size, management and the degree of involvement in the exportation activity (Barker and Kaynak, 1996).The interest toward the microeconomic perspective had revealed many exporters typologies. One of these typologies considers the expansion's strategy chosen by the firm to target foreign markets. The expansion strategy is defined as the strategic decision related to the expansion rates of the foreign markets and the allocation of the marketing efforts in the different markets. Two types of exporters are then identified:

- The exporters adopting diversification targeting different markets at the same time: multi destinations firm.
- The exporters adopting concentration targeting only one market: mono destination firm.

In Tunisia, despite the government efforts to encourage firms toward increasing their exportations and diversifying their markets, still many enterprises choose to be oriented to one market avoiding the exploration of new targets choosing to deal with geographically and culturally close market. The identification of criteria differentiating the two types of exporters can help to understand the reasons behind the firm's reluctance to diversify its markets. Hence, our interest to disclose the profile differences between the two groups of exporters. Academically we will try to fill the literature gap by defining multiple sets of variable which could affect the expansion strategy choice. Empirically, this research can help Tunisian government and firms to identify the reasons behind the limitation of exportation activity and then to disclose the area needing improvement and change.

BACKGROUND

The literature stipulates that mainly three types of factors are influencing the exporting behavior of the firm: the firm's characteristics, the manager characteristics (Holzmuller and Kasper, 1991) and the targeted foreign market characteristics. The direct exportation offers an opportunity to the firms choosing to control their products without investing in the foreign markets. Exportation strategy is formulated by analyzing the firm's abilities and the market opportunities in order to neutralize the weakness harming the success. The selection of targeted markets is then a strategic decision deriving from the firm's orientations. The importance of such decision increases with the dependence of the firm on its international involvement. This decision is preceding the evaluation of the market identified as prior to penetrate. The international expansion politic makes the firm thinking about the identification of the potential markets and the penetration priority, the marketing efforts that the firm is able to make and the evolution of the expansion's rate during time. Two alternatives of expansion strategy exist: the concentration and the diversification (Lee and Yang, 1991). The geographic dispersion of the targeted market seems to be the method to differentiate between the two strategies. The diversification means that the firm penetrates several markets trying to diffuse their marketing efforts in all these markets. Such firm is then a multi-destinations firm exporting to many markets. The concentration is characterized by the allocation of financial and human resources to one zone. The firm is then mono-destination steering its exportations to one market.

However, practically, the firm can not be positioned on the extreme of the continuum concentration /diversification. The firm tries to have a mixed strategy. It tries to export to several markets concentrating its resources on some particular markets. Such strategy guarantees to the firm to be concentrated on the most important markets having some flexibility to benefit from the opportunities offered by the other markets at the same time. Some researchers explain the concentration choice by the fact that the firm can gain a great market share in one zone which maximizes its profit.

Other researchers recommend the diversification as small market shares in many zones are more profitable than the concentration. Katsikeas and Leonidou (1996) indicated that empirical researches show that in an early stage of internationalization, the firm adopts the concentration strategy. However, as long as its involvement increases, it becomes more motivated to penetrate different markets. This evolution can be explained by three reasons:

- the firm's resources became enriched with the increasing involvement in exportation activity
- the diversification minimizes the risk and allows better exploitation of the offered opportunities
- the management problems with the targeted market decrease as the firm accesses the information and gain experience

The decision to target one or several markets can be explained through the interaction of some objective (the firm's features the targeted market's traits) and subjective variables (the management characteristics).

The firm's characteristics

-The firm's size: The relation between the firm's size and its exportation activity is depicted through the advantage offered by the size (Cavusgil, 1984). Proportionally to its size the firm can access to some competitive advantages facilitating the presence in different markets. Big firms have easier access to financial resources and management skills. They have greater production capacity and can mobilize more effort to enhance exportation activity. Big firms make more marketing researches and collect information about all the details in their targeted markets. However, small firms with restricted marketing activity and limited resources do not have strategic plans for exportation. Lee and Brash (1987) found that the majority of small firms adopt irrational approach to start exportation. They have ambiguous definition of objectives as they lack developed plans and information access. Small firms perceive more problems related to the exportation and can not tolerate great risk as they have limited financial assets. They are more concerned by information related to the security, insurance and transportation when they export. Small firms prefer to export to « soft » markets where the entry is facilitated by bilateral agreement, favorable taxation and payment facilities. Big firms can export to more "difficult" markets where barriers are more complexes to franchise. The increasing involvement in exportation activity and the expansion on different markets require then adequate human, financial and marketing resources. Big firms have then more chance to diversify their markets as they can assume the inherent consequences. Hence our first hypothesis

H1: Firm's size affects the expansion nature of exportations.

-The firm's experience in exportation activity: Firm's financial resources are not sufficient to explain the decision to continue and expand exportation activity. The experience and learning are also important factors. Firms having more experience in exportation can gain new skills and learn developed technology through their repeated contacts with foreign markets. Such advantages encourage the firm to continue the exportation activity (Burpitt and Rondinelli, 1998). Rhee and Cheng (2002) find that the firms start to export to a geographically and culturally near market. As they accumulate experience, they become oriented to new markets far and different. With experience, firms can be less uncertain in their activities. They can understand better the foreign markets mechanism and perceive fewer problems related to these markets management. Hence our hypothesis:

H2: Exportation experience affects the choice of exportation expansion strategy.

Manager characteristics

In many researches interested to the exportation activity, the personnel involvement of the firm's manager seems to be determinant in the exportation activity and the management system of the firm. The manager has a great role in facilitating or inhibiting the progress of exportation activity as he is the decider about information collect, knowledge development and resources investment. The manager's characteristics are supposed to affect many dimensions in the exportation behavior such as the probability to start exportation activity, the speed of foreign markets penetration and the exportation performance (Léonidou et al, 1998). When studying the manager profile, focus should be made on the variables which can modify his perception of opportunities. The manager's way to select targeted markets, his decision about the marketing strategy to adopt and his management of the relations with the foreign customers are affected by the manager's values and attitudes.

-The attitude toward risk: The attitude toward risk is a discriminator character when drawing managers' typology. Manager who takes the risk is a manager attracted by risky alternatives. Risk's reasons are the lack of the situation control, lack of information and lack of time. Enthusiast managers are tolerant for risk and optimist. They, then, tend to benefit from opportunities. However, pragmatic managers are averse toward risk and avoid enlarging their activity. Their firms stay small limited to one niche in the market. Furthermore, the probability to export is related to the manager aversion toward risk. Managers having negative attitude perceive the exportation as a risky activity, complicated and not profitable. Such attitude limits the manager's involvement and reduces his interest to target foreign markets. Exportations expansion requires a great investment in information collection and in the adaptation to the different markets conditions. Such investment can be a source of risk that the firm must assume if it wants to diversify its markets. If the manager fears the risk, he will limit the targeted markets to one traditional market well known. Hence our third hypothesis:

H3: manager's attitude toward risk affects the choice of exportation expansion strategy.

-The innovation criterion: According to Koh (1996) an innovator person is a person tending to select an innovation as the most acceptable alternative in a fixed time. Innovator manager is then a proactive manager trying to benefit from all the opportunities and having creative ideas concerning the firm's strategies (Kickul and Gundry, 2002). The innovator criterion affects the exportation decision process in four stages:

1- *consciousness*: the innovation sense makes the manager considering the exportation as an opportunity to benefit from.

2- *the interest*: innovator manager becomes more favorable to run exportation activity

3- *the intention* : the motivation increases with the innovator sense

4- *the adoption* : the manager start to export

The innovation sense helps the manager to continue the exportation and multiply the experiences with the international markets. Innovator managers make more profit from exportation, search for the maximum of information and are oriented to new alternatives rarely chosen by the other exporters. Innovation sense seems to be then essential to push the manager to adopt exportation as a crucial activity for the firm. Innovator managers invest more in information researches and tasks management. Such investment is necessary for firms choosing to diversify their international markets.

Hence our fourth hypothesis:

H4: Manager innovator sense affects the choice of exportation strategy expansion

RESEARCH METHODOLOGY

Research instrument

To test our hypotheses, we carried out an empirical investigation among Tunisian firms. Measurements of the different variables were based on instruments used in previous researches. Two propositions are presented to define the firm's expansion strategy in exportation. The proposition to identify the multi destination firm was: the firm's strategy is to export to the maximum of possible markets without any particular concentration on a specific market. The proposition to identify mono destination is: the firm concentrates its efforts and resources on the exportation to one specific market. The number of targeted markets served to validate the proposed typology. The mono destination firm takes the code "0" and the multi destination firm is coded by "1". The size of the firm was assessed by the number of employees working in the firm. Experience in the exportation was measured by the number of years during which the firm was engaged in exportation activity. The manager attitude toward risk is measured by this question « could you please compare the risk related to the exportation to one market with the risk related to the international markets diversification ». 5point Likert scale was used from 1: not at all important to 5: very important. Measurement of innovator criterion is inspired from the work of Koh (1996). We used a 5point Likert scale for propositions like: "I am always searching for new markets", and "I always look for information about the innovation related to my firm's activity".

The sample and the data

The partially exporter Tunisian firms form the population of our study. Those forms can be grouped according to their activities sectors. The stratified sample is then applied. The sample size was calculated according to the formula of the stratified sample. We find that the number of firms should be equal to 68 firms. The table 1 shows the number of firms in every sector and the number to be considered in our study.

Table1: repartition of partially exporter firms according to the activity sector

Sector of activity	Number of partially exporter firms	Proportions (%)	number in the sample
Food-processing industries	797	25.6	17
Chemical industries	382	12.3	8
Construction materials, ceramic	428	13.7	9
Several industries	234	7.5	5
Leather and shoes	116	3.7	3
Electric and electronic materials	128	4.1	3
mechanic	426	13.7	10
Textile and clothes	424	13.6	9
Wood	181	5.8	4
total	3116	100	68

The questionnaire was delivered by the researcher to the firms' managers. We collected 52 answers. Our answer's rate is then equal to 76%.

Data analysis

Our sample characteristics are presented through some descriptive statistics. We proceed by a factorial analysis to assess the structure of the innovator sense structure. The research's hypotheses will be tested by the binary logistic regression as such method can test the effect of several variables on a dependent variable having two modalities. In our case, independent variables are firm's size and experience in the exportation activity as well as the innovator sense of the manager and his attitude toward risk. Dependent variable is the expansion strategy of the exportation activity. This variable can take two modalities: concentration if the firm is mono destination or diversification if the firm is multi destinations.

FINDINGS

Sample characteristics

Our sample is formed by 32 mono destination firms and 20 multi destinations firms. 78.125% of mono destination firms have less than 70 employees. 71.87% have less than 7 years in exportation activity. 50% of multi destination firms have less than 137 employees and 60% have less than 8 years of exportation experience. Grand Maghreb is the most targeted market by both mono destination (68.75%) and multi destinations firms (93.75%). The European market comes in second place, while the Arab market, America, Asia and Africa are rarely targeted by mono destination firms. Such markets are targeted by multi destinations firms in 65%, 40%, 45% and 65% of cases respectively.

Innovation sense structure

The application of factorial analysis with varimax rotation revealed two factors which underlie the concept of innovation sense. The first one explains 42.27% of the variance. 3 items are highly correlated with this factor “I am always searching for new markets”, “I always look for information about the innovation related to my firm’s activity”, “I agree on making changes to resolve the problems in my work”. These items depict the ability of manager to detect opportunities in the foreign markets through data collection and search of new clientele and his capacity to accept change to resolve problems. This factor can be labeled the manager’s opportunistic sense. The second factor explains 34.12% of the variance. It contains the items “It is easy to me to have new original ideas for my activity in the firm” and “it is easy to apply the new ideas that I got in my work”. This factor can be labeled the creativity of the manager as it presents the existence of creativity in the work.

The global quality of the model

In the logistic regression, the regression equation is:

Probability to be multi destinations = $1 / (1 + e^{-Z})$

$$Z = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 \quad (1)$$

X_1, X_2, X_3, X_4, X_5 are the independent variables namely the firm size, the experience in the exportation activity, the manager attitude toward risk, his opportunistic sense and his creativity.

β_0 : the constant to estimate according to the data

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ are the coefficient respectively related to the independent variables.

To ameliorate the global quality of the model, the observation number 29 was eliminated according to the SPSS out put. The analysis will then consider 51 observations. The significance of Chi2 coefficient prove that in our model there is one variable at least which can predict the exportation expansion strategy of the firms.

In the classification table 2X2, the percentage of correct classification obtained is 78.4%. It is better than the randomly classification rate (50%, 50%). The application of logistic regression is able to correctly predict the fact that the firm is mono or multi destination in 78.4% of cases. The adjustment test of Hosmer and Lemeshow shows the insignificance of Chi2 statistic. Therefore, the difference between the predicted and the observable values of the dependent variable is absent. Then the model is well adjusted to the observed data.

Based on the different tests of the model general quality, we could conclude that the proposed model fits the data.

We can then be based on the Wald criteria and the « odd ratio » to interpret the relationships between the different variables.

The relationships between variables

-The firm’s size: The size of the firm has a Wald index equal to 6.11 with $p=0.013$. This criterion is then significant so we can affirm that the size of the firm can discriminate between the mono destination and the multi destinations firms in Tunisia. Odd ratio is equal to $1.021 > 1$, this means that if the firm’s size increases, the probability that the

firm becomes multi destinations increases. **H1** is then confirmed. The firms concentrating their activities on one market have smaller sizes than the firms acting in many markets. Small firms could not obey to the different demands of several markets. However, big firms have more advantages as they benefit from the economy of scales and have more production resources to satisfy the demand of different markets. Tunisian firms could conquer several international markets as their sizes increase.

-The experience in exportation activity: Wald index related to the experience is equal to 1.792 with the probability equal to 0.181. It is non significant. The experience can not discriminate between the mono destination firms and the multi destinations firms. Our second hypothesis is rejected. Such result is similar to the finding of Katsikeas and Leonidou (1996) who could not affirm the effect of the experience on the exportation expansion strategy. The absence of relationship between the experience and the number of targeted markets can be justified by the approach of the Tunisian firms in the exportation activity. The proactive firms, who give great importance to the search for customers and the stimulation of demand in different markets, can be multi destinations from the beginning of their exportation activity. However, if the firm is reactive and waits to have order from foreign market, it can serve just one traditional market without having the ability to target new different markets. The experience of Tunisian firms in exportation activity is not affecting the choice of expansion strategy. The experience helps the firm to manage their exportation activity without affecting the ability of the firm to diversify its foreign destinations.

-The manager attitude toward risk: The Wald index associated to the attitude toward risk is 4.722 with a probability of 0.03. The significance of Wald index indicates that the manager attitude toward risk is a discriminator variable between the two types of firms. Our third hypothesis is then confirmed. Our result confirms the conclusion of many studies affirming the effect of attitude toward risk on the exportation behavior. Odd ratio is equal to 3.55 > 1. Such value indicates that the increase of the perceived risk by one unite results in the multiplication of the chance that the firm becomes multi destinations by three times. This effect contradicts our hypothesized relationship stipulating that the manager's fear of risk pushes the firm to be mono destination. Tunisian managers fearing risk tend to diversify the destinations of their firms exportations. They try to minimize the risk of dependence on one market by exporting their products to several international markets. The fear from dependence risk is greater than the fear from diversification risk. The manager try to reach performance in the exportation activity and then he diversifies the markets so the firm could avoid demand perturbation in one market and increase profit resources coming from other markets.

-The innovator criterion: The innovator sense is depicted through two features: opportunistic sense and creativity. Wald index associated with the opportunistic sense is 6.256 associated with $p = 0.012$. The opportunistic sense discriminates between mono destination and multi destinations firms. The odd ratio associated is 4.1 > 1. As the opportunistic sense becomes stronger, the probability of the firm to be multi destinations increases. Opportunistic manager is searching for opportunities in the foreign markets. This manager accepts changes that could enhance his ability to resolve the problems and to adapt his activity to the foreign markets need. The manager flexibility is determinant to the continuity of exportation activity. Flexible Tunisian managers are more involved in internationalization activities than curator ones. Wald index associated with creativity is 0.086 with $p = 0.769$. The non significance of this coefficient indicates that the creativity can not affect the expansion strategy. It seems that the manager could not benefit from his creativity unless the firm is offering him a favorable environment. In the Tunisian context the manager is facing many impediments related to the rules in the work, the power of foreign customers...etc, so his creativity disappears while trying to obey to all the exigencies of his work. The creative personality could not then have any significant impact on the expansion strategy of exportation. Our fourth hypothesis is then partially confirmed as the innovator criterion of the manager affects the expansion strategy through the opportunistic sense only.

IMPLICATIONS

As the exportation activity is crucial to the firm's growth and the economy's dynamism in Tunisia, exporter firms and organizations promoting exportations should invest more resources and effort to develop exportation activity. The firm should allocate enough resources to make the choice of diversification strategy effective and successful. The Tunisian firms should be more proactive to create demand in the foreign markets. They should better analyze the foreign offers and choose the most efficient ones to maximize their profits within a

long term conceived strategy to internationalize the firm. The Tunisian mono destination firms ought to diversify their markets avoiding the risk of dependency on one market. Such firms could profit from their experiences and their strong relationships with their traditional markets by surpassing the exportation stage toward the establishment of a joint venture or a sales agency in the markets. Through such step, the firm can increase its profit, better control its products and insure a continual presence in the foreign market. The organizations promoting the exportations could have determinant role to strengthen the relationship of Tunisian exporters with scarcely targeted markets by organizing commercial missions and professional meetings between the different officials. They could also run some marketing actions to ameliorate the image of Tunisian products in the foreign markets to create more demand and then to increase the profit from exportation activity. These organizations could assist the firms trying to target new markets by offering them some marketing plans to follow. They could provide training programs for the personnel about the management of several markets portfolio. The role of government seems then to be crucial to assist and encourage small and medium firms to enhance their exportation activities as they have limited access to the resources.

CONCLUSION

Through our study we tried to extend the knowledge about exportation activity. The studies in this area are generally interested to the firm performance in the exportation. We identified some criteria discriminating between mono destination and multi destinations firms. The description of the profile for every type of firms provided some important implications to consider by firms managers as well as the Tunisian government if they want to enhance the exportation policy. Theoretically, we were limited to the effect of the firm features on the exportation strategy. The effect of interaction between those features and the effect of the firm involvement in exportation activity are still to discover. Empirically, the limited sample's size in our study was caused by the managers' refusal to answer the questionnaire. Future researches should consider this impediment. Longitudinal study could indeed contribute better to define the profile for every type of firms and determine the evolution direction in the continuum concentration/diversification.

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FOREIGN DIRECT INVESTEMENTS IN THE CROATIAN TRADE SECTOR: DOES THE COUNTRY OF ORIGIN MATTER?

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ABSTRACT

The paper examines the impacts of FDI inflows on the Croatian trade sector. Findings indicate that foreign direct investments are positively related to gross fixed capital formation and value added in trade sector. The analysis shows that domestic retailers have still dominant position in the Croatian market and were not crowded out by foreign retailers. The results of consumer survey indicate that the origin of the retailer (as being domestic or foreign-owned) does not play an important role for Croatian shoppers in deciding where to shop and how much money to spend in those stores. Managerial implications are discussed in the paper.

INTRODUCTION

Since the beginning of the 1990s, trade sector in Central and Eastern European countries have experienced remarkable growth in foreign direct investments (FDI). A number of large European wholesalers and retailers have entered the Croatian market, perceiving it as a new market opportunity. Several studies examine patterns, the impacts of FDI and the motives for retail internationalisation (Williams, 1991; Alexander, 1995; Myers and Alexander, 1997; Quinn, 1999; Tatoglu, Demirbag and Kaplan, 2003; Anic and Jovancevic, 2006). However, the retail internationalisation process remains to be complex and poorly understood topic.

Intensive competition, global financial crisis and complex consumers' decision-making make the future growth of companies operating in trade sector more difficult. As attitudes can predict behaviour, researchers express a growing interest in the research of consumers' perceptions towards foreign goods and domestic goods and retailers (Hester and Yuen, 1987; Patterson and Tai, 1991; Hyllegard, Eckman, Descals and Borja, 2005; Wang, and Heitmeyer, 2006; Ilter, Aykol and Ozgen, 2009). Consumers' attitudes were shown to affect the success of FDI and thus they play an important role in designing retail strategy.

The purpose of our research is to gain better insights into the FDI inflows and their effects on trade sector in Croatia as a host country. We examine the impacts of FDI on total gross fixed capital formation (GFCF) and gross value added (GVA) in the trade sector. Two components of FDI are examined: foreign equity investments (FEI) and foreign greenfield investments (FGI). The paper further explores the relationship between the origin of retailers (whether they are foreign- or domestic-owned) and their performance. We examine whether domestic investments were crowded out by foreign investments. Finally, the paper explores to what extent might the performance differences between foreign-owned retailers and domestically-owned companies be explained by consumers'

attitudes towards foreign and domestic retailers. Trade sector includes wholesale trade, retail trade and sale of motor vehicles and automotive fuel.

The empirical analysis is based on primary data obtained from the consumer survey and the statistical data provided by the Central Bureau of Statistics and the Croatian National Bank. Data were analyzed using regression analysis, t-test and analysis of variance (ANOVA). Fishbein's multi-attribute model (1967) was used to analyze the consumers' attitudes towards foreign and domestic retailers.

This paper builds on previous work involving FDI and consumer attitudes towards domestic and foreign retailers. It contributes to the same literature by establishing the relationship between FDI inflows, gross fixed capital formation and gross value added. The paper extends the previous research of Anic and Jovancevic (2006) and contributes to the literature by extending the period of analysis (1993-2007) and analyzing the impacts of three categories of FDI (total foreign direct investments, foreign equity investments and foreign greenfield investments) on the performance of trade sector. It compares the performance of top ten foreign retailers with those of top ten domestic retailers. The aim of this paper is to explore the consumers' attitudes towards foreign and domestic retailers in grocery retail environment. Past research has provided inconsistent results on consumers' attitudes in various environments (Hester and Yuen, 1987; Patterson and Tai, 1991; Hyllegard, Eckman, Descals, and Borja, 2005; Wang and Heitmeyer, 2006; Ilter, Aykol and Ozgen, 2009), while the empirical research on the attitudes of consumers in developing countries and Central and Eastern European countries towards foreign products, and associated marketing practices is somewhat limited (Bhuiyan, 1997).

Several managerial implications might be derived from this study. The results might help public policy makers understand the effects of FDI on the trade sector, and might be useful in creating such environment that would be conducive to faster sector's growth in the long run. Knowing the differences in performance and differences in consumer's attitudes might be helpful for retailers for developing more effective retailing strategies for the Croatian market.

The paper is organized in six sections. Section two focuses on the theoretical background. The methodology used in this research is presented in section three, which is followed by research results in section four. Section five includes conclusions with theoretical and managerial implications and future research direction.

THEORETICAL BACKGROUND

Foreign direct investment (FDI) is a category of international investment that indicates an intention to acquire a lasting interest in an enterprise operating in another economy. It covers all financial transactions between the investing enterprise and its subsidiaries abroad. It differs from portfolio investments, because the direct investor acquires at least 10 % of voting power (United Nations, 2008). FDI might be categorised as inward investments where investment of foreign capital occurs in local resources and outward investments where local capital is being invested in some foreign resource. FDI inflows include equity investments (that include green-field investment and acquisitions), reinvested earnings and other capital investments.

Past research examine trends, patterns and the impacts of FDI on host economy. Although FDI inflows might have negative effects on host economy, including the adverse effects of FDI on competition within the host nation, adverse effects on the balance of payments, and the perceived loss of national sovereignty and autonomy, theory posits that FDI inflows have several positive benefits for the economy, including the resource-transfer effect, the employment effect and the balance-of-payments effect (Hill, 2000). FDI can make a positive contribution to the host economy by supplying capital, technology, and management resources that would otherwise not be available, which might boost that country's economic growth rate. Several studies indicate that FDI is positively related to GDP (Kamath, 2008).

Gross fixed capital formation summarizes the amount of capital invested in new stores, office buildings and other fixed assets in one country. Gross value added in trade sector is the value of output and it is a measure of the contribution to GDP made by trade sector. As the research results for the period of 1993-2002 indicate that foreign equity investment (FEI) was positively related to gross fixed capital formation (GFCF) which in turn positively

affected gross value added (GVA) in the Croatian trade sector (Anic and Jovancevic, 2004, 2006). Other things being equal, the greater the capital investment inflows, the more favourable its future growth prospects are likely to be. Viewed this way, FDI can be seen as an important source of capital investment and a determinant of the future growth rate of trade sector. Based on past research, the following hypotheses are proposed:

H 1a, 1b: The inflow of foreign direct investments is likely to be positively related to (a) gross fixed capital formation and (b) gross value added in the trade sector.

H 2a, 1b: The inflow of foreign equity investment is likely to be positively related to (a) gross fixed capital formation and (b) gross value added in the trade sector.

H 3a, 2b: The inflow of foreign greenfield investment is likely to be positively related to (a) gross fixed capital formation and (b) gross value added in the trade sector.

Many international retailing studies focus on motives and methods for expansion of foreign retailers. As literature on retail internationalisation process suggests, the international expansion of Multinational Enterprises (MNEs) has been motivated by both “push” and “pull” factors, including saturated domestic markets and growth orientated motives (Williams, 1991; Quinn, 1999; Tatoglu, Demirbag and Kaplan, 2003). By entering a less developed market, large competitive companies can take sales and market share away from weaker rivals, build a strong leadership position and earn good profits. Foreign MNEs operating in the host countries may have greater economic power than local competitors because they may be part of a larger international organization. As such, the foreign MNE may be able to draw on funds generated elsewhere to cover its costs in the host market, which could drive indigenous companies out of business and allow the firm to penetrate the market (Hill, 2000). Past research showed that foreign retailers operating in Croatia grew very fast and increased their market share considerably during the period of 1998-2001 (Anic and Jovancevic, 2006). They operate with an internationally appealing and innovative retail concept that helped them to increase their sales significantly. Based on past research, the following hypothesis is proposed:

H 4a, 4b, 4c, 4d, 4e: During the period of 2003-2007 foreign retailers (a) contributed more to employment, (b) achieved greater volume of sales, (c) paid higher salaries, (d) had higher employee productivity, and (e) achieved greater profitability than domestic retailers.

Consumers’ attitudes play an important role in explaining the success of foreign companies that entered the host country. Consumers are essentially decision makers and therefore have a tremendous impact on the selection of retailers and products. The multiattribute model of store choice is often used to predict a customer's evaluation of a retailer based on its performance on relevant attributes and the importance of those attributes to the customer. Although the model doesn’t necessarily reflect customers’ actual decision process, but it does predict their evaluation of alternatives and their choice (Levy and Weitz, 2004), consumer attitudes towards foreign products, and associated marketing efforts, have been considered to be very important influences on purchasing behaviour.

Foreign retailers face both opportunities and challenges on foreign markets and consumers might perceive them as different to domestic retailers on several store attributes (Hyllegard, Eckman, Descalls and Borja, 2005). Some past studies indicate that domestic products and domestic retailers are perceived by consumers more favourably than those of foreign origin (Hyllegard, Eckman, Descalls and Borja, 2005). Other research shows that consumers have an overall more positive attitude toward foreign products and retailers over domestic-produced products and domestic-owned retailers (Wang and Heitmeyer, 2006). Foreign retailers with new retail formats were very popular when they entered the Croatian market. Based on past research, the following hypotheses are proposed:

H 5: Croatian consumers’ attitudes towards foreign and domestic retailers differ significantly, in that way that consumers’ attitudes are significantly higher for foreign than for domestic retailers.

H 6: Shoppers who mostly patronize foreign retailers spend significantly more money in those stores than shoppers who mostly patronize domestic retailers.

METHODOLOGY

This research was based on statistical data collected from the Central Bureau of Statistics, the Croatian National Bank and other sources. Telephone Consumer survey was carried out in March 2009 in order to collect the data on consumer attitudes towards foreign and domestic retailers. Four biggest Croatian cities (Zagreb, Rijeka, Split and Osijek) were selected to participate in the survey. A multistage design was used in developing a sample. In doing this, we first selected four biggest cities in Croatia using disproportional judgemental sampling. Pages in telephone book containing names and addresses of potential respondents were selected using systematic sampling procedure, while simple random sampling technique was employed to choose potential respondents within the selected telephone book pages. A sample included 203 consumers. The questionnaire was composed of the following separate sections: the importance of store attributes in deciding where to shop, consumer beliefs about the performance of domestic and foreign retailers, purchasing outcomes and demographic variables. Summary statistics on sampled shoppers is presented in table 1.

Table 1: The sample profile of shoppers
(N = 203)

Consumer profile	Percentage (%)
1. Residential area (%)	
1.1. Osijek	19.21
1.2. Rijeka	21.67
1.3. Split	22.17
1.4. Zagreb	36.95
2. Gender (%)	
2.1. Male	32.34
2.2. Female	67.66
3. Average age in years (St. Dev)	49.15 (15.94)
4. Average number of people in a household (St. Dev)	3 (1.31)
5. Education	
5.1. Primary School	10.34
5.2. Secondary School	46.80
5.3. University degree or higher	42.86
6. Monthly income (HRK)	
6.1. up to 2500	6.93
6.2. 2501 – 5000	23.27
6.3. 5001- 7500	25.74
6.4. 7501 – 10000	16.83
6.5. 10001 – 12500	11.39
6.6. 12501 and more	15.84
9. Percentage of people who are able to speak at least one foreign language	59.90
10. Percentage of people who visited at least one foreign country in the last 12 months	48.02
11. Average spending of a household on groceries in an average month (St. Dev)	2870.30 (1520.40)

Source: Consumer Survey

Descriptive statistics, percentages and growth rates were employed to analyze the FDI data. The regression model was used to identify the relationships between FDI inflows, gross fixed capital formation and gross value added. Our models are the following:

$$[1] \text{ } GFCF = \beta_0 + \beta_1 * FDI + \varepsilon$$

$$[2] \text{ } GVA = \beta_0 + \beta_1 * FDI + \varepsilon$$

$$[3] \text{ } GFCF = \beta_0 + \beta_1 * FEI + \varepsilon$$

$$[4] \text{ } GVA = \beta_0 + \beta_1 * FEI + \varepsilon$$

$$[5] \text{ } GFCF = \beta_0 + \beta_1 * FGI + \varepsilon$$

$$[6] \text{ } GVA = \beta_0 + \beta_1 * FGI + \varepsilon$$

where the dependent variables are gross fixed capital formation (GFCF) and gross value added (GVA). Independent variables are foreign direct investment (FDI), foreign equity investment (FEI) and foreign greenfield investment (FGI).

The performance of top ten 100-percent foreign-owned companies was compared with that of top ten 100-percent domestic-owned retailers. Top ten domestic and foreign retailers were identified from the database of the Croatian chamber of commerce, according to their revenues in 2008. Performance measures used included number of persons employed, average wages, the volume of sales, employee productivity and return on assets (ROA).

Fishbein's (1967) multi-attribute attitude model was used to measure the consumers' attitudes towards foreign and domestic retailers. This model posits that a person's attitude is a function of consumers' beliefs and the implicit evaluative responses associated with those beliefs (Wang and Heitmeyer, 2006). The estimation of attitude is calculated by the following formula:

$$Ab = \sum_{i=1}^n b_i \times e_i$$

where, Ab = attitudes toward behaviour, bi = belief that performing behaviour (purchasing from a retailers) will lead to certain attributes, ei = Evaluation of the importance of the attribute, i = attributes. For ei respondents indicated how important they considered each of the 13 attributes when buying groceries by using a seven-point Likert scale, from 7 (very important) to 1 (very unimportant). As for beliefs (bi), consumers were asked to indicate how well foreign and domestic retailers provided store attributes by using a seven-point Likert scale, from 7 (excellent) to 1 (poor). Based on the formula for each respondent, the overall attitude toward purchasing from domestic- and foreign-owned retailers was calculated, by multiplying the evaluation score (ei) and the belief score (bi), and by summing the results for all 13 attributes. Selected grocery store attributes are widely used attributes in the research of grocery retailing (Stephenson, 1969; Pan and Zinkhan, 2006). The Paired-Comparison T-test was utilized to examine whether grocery store attributes contribute to a difference among Croatian consumers in their attitude toward domestic- vs. foreign grocery retailers.

RESEARCH RESULTS

The impacts of FDI the Croatian trade sector

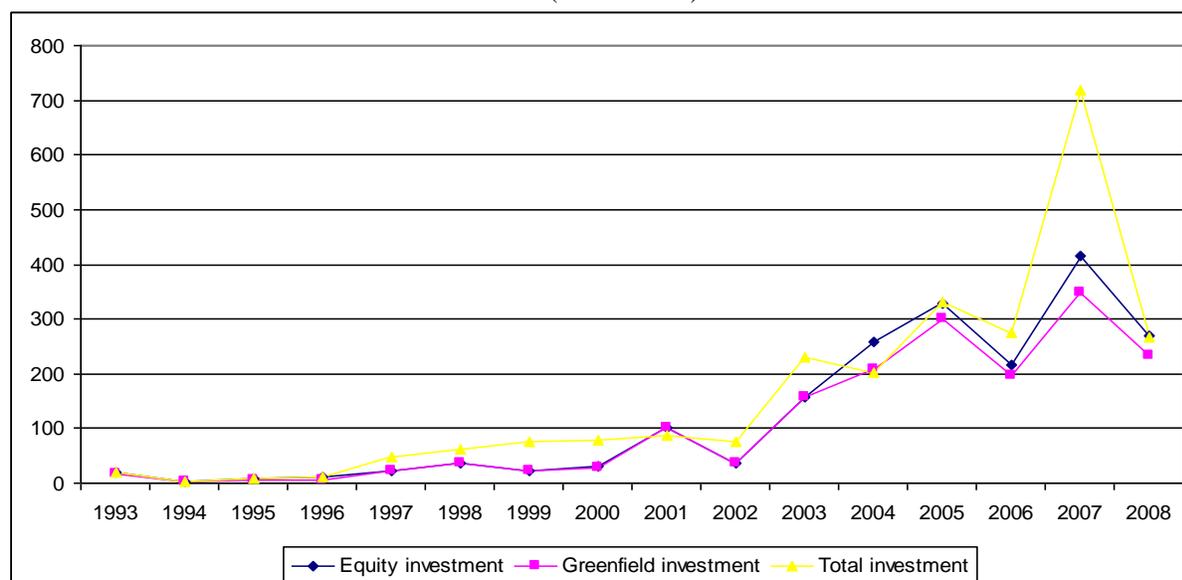
The flow of FDI refers to the amount of FDI undertaken over a given time period, while the stock of FDI refers to the total accumulated value of foreign-owned assets at a given time. Appendix A gives a breakdown of FDI in the Croatian trade sector for the 1993-2007 periods.

As the data indicate there was a marked increase in both the flow and the stock of FDI inflows in the Croatian trade sector. FDI inflows were volatile and fluctuated from year to year, sometimes quite sharply (Graph 1). FDI stock increased from USD 20,6 million in 1993 to USD 2225,7 million by the 2007. The bulk of FDI inflows occurred in the post-transition period of 2001-2007 (USD 1346, 4 million) as compared to transition period of 1993-2000 (USD 138, 6 million). The main entry strategy undertaken by foreign investors was the green-field investments (88.7 percent of total foreign equity investment, and 68.9 % of total investments in trade sector), what is very high share as compared to total green-field investments in a whole economy (29.8 percent).

Foreign investors operating in the Croatian trade sector originate mostly from Europe (see Appendix B). The majority (65.33 percent) of total inward FDI came from Germany, Austria and Slovenia. Past research indicates that major factors attracting FDI in Croatia were its geographical proximity to the home countries of foreign investors, stable macroeconomic policy, a relatively underdeveloped market and ample labour supply. On the other hand, small market, low income and drawn-out bureaucratic procedures for setting up a business, rigid zoning and opening hour's regulations were identified to be major obstacles for FDI (Anic and Jovancevic, 2004, 2006).

In order to test the hypotheses H 1-3 a,b, six regression models were tested. Research results are presented in table 2.

Graph 1: Foreign equity investment in the Croatian trade sector, mil. USD
(1993 – 2007)



Source: Croatian National Bank.

Table 2: Regression analysis of FDI impacts on trade sector

	Unstandardised coefficients (β)	Standard Error	t value	P-value
Model 1: $GFCF = f(FDI)$; Model fit: $R^2 = 0.76$; Adjusted $R^2 = 0.74$; $F = 35.33$; $p < 0.00$				
Intercept	299.18	90.32	3.31	0.01
FDI	2.13	0.36	5.94	0.00
Model 2: $GVA = f(FDI)$; Model fit: $R^2 = 0.82$; Adjusted $R^2 = 0.81$; $F = 51.33$; $p < 0.00$				
Intercept	2353.5	253.0	9.30	0.00
FDI	7.2	1.0	7.16	0.00
Model 3: $GFCF = f(FEI)$; Model fit: $R^2 = 0.84$; Adjusted $R^2 = 0.83$; $F = 57.61$; $p < 0.00$				
Intercept	259.3	76.20	3.40	0.01
FEI	3.2	0.42	7.59	0.00
Model 4: $GVA = f(FEI)$; Model fit: $R^2 = 0.85$; Adjusted $R^2 = 0.83$; $F = 60.14$; $p < 0.00$				
Intercept	2265.28	243.16	9.32	0.00
FEI	10.32	1.33	7.75	0.00
Model 5: $GVA = f(FGI)$; Model fit: $R^2 = 0.83$; Adjusted $R^2 = 0.82$; $F = 54.16$; $p < 0.00$				
Intercept	2228.01	258.65	8.61	0.00
FGI	11.90	1.62	7.36	0.00
Model 6: $GFCF = f(FGI)$; Model fit: $R^2 = 0.85$; Adjusted $R^2 = 0.84$; $F = 62.82$; $p < 0.00$				
Intercept	241.54	74.79	3.23	0.01
FGI	3.71	0.47	7.93	0.00

Source: Authors' calculation.

Appendix C shows summary statistics on GVA, GFCF, and FDI in the Croatian trade sector. Regression coefficients indicate that FDI positively affected gross fixed capital formation (GFCF) and gross value added (GVA) ($\beta = 2.13$, p

= 0.00; $\beta = 7.2$, $p = 0.00$), so the hypotheses H1a, 1b are supported. The regression results further indicate that foreign equity investments (FEI) affected positively both gross fixed capital formation (GFCF) and gross value added (GVA) ($\beta = 3.2$, $p = 0.00$; $\beta = 10.3$, $p = 0.00$), supporting the hypotheses H2 a, H 2b. The hypotheses H 3a, H3b are also supported, since FGI were positively related to gross fixed capital formation (GFCF) and gross value added (GVA) ($\beta = 3.7$, $p = 0.00$; $\beta = 11.9$, $p = 0.00$). The results are consistent with the previous study of Anic and Jovancevic (2006) for the period of 1993-2002, indicating that FDI continued to have a positive effect on gross fixed capital formation (GFCF) and gross value added (GVA).

Along with positive impact of FDI on GFCF and GVA, FDI brought some other benefits to the Croatian trade sector, but also some costs. They were partly identified from the consumer survey. Summary statistics on perceived impact of foreign retailers is presented in table 3.

Table 3: Perceived impact of foreign retailers on the Croatian trade

	Mean	Std. Dev
Imports of products	5.69	1.27
Sales of foreign brands	5.54	1.10
Competition in the trade sector	5.40	1.46
The quality of services	5.05	1.31
The volume of turnover in trade sector	4.99	1.29
Retail prices	4.89	1.46
Employment	4.86	1.51
Opening the stores that become the place where people can meet each other	4.80	1.60
The quality of products	4.69	1.53
Number of stores	4.67	1.46
The quality of standard	4.24	1.50
Sales of products made in Croatia	3.99	1.52
Wages and salaries	3.53	1.55
Exports of products	2.93	1.47

Notes: Ratings were indicated on a seven-point scale ranging from 7 = "high influence" to 1 = "low influence".

Source: Consumer survey.

The highest score of perceived impact of foreign retailers on Croatian trade sector consumers attached to raising imports of products and the increase in sales of foreign brands. However, larger imports have negative effect on the balance of payment. Major benefits of foreign retailers include enhancing competition in the sector and improvements in quality of services. Foreign retailers contributed to the growth in turnover of trade sector. Increased competition positively affected retail prices. Foreign retailers were opening new stores and thus contributed to the employment increase and the increase in the number of store. The majority of consumers (76.9 %) believe that the number of foreign retailers is going to increase in the Croatian trade sector in the near future and that the new arrival of foreign companies is likely to have a positive affect on the Croatian trade sector.

Performance of foreign retailers

In order to get a better picture of the performance of firms that have invested in Croatia, data were collected on the top ten 100 percent foreign-owned companies. The crowding out effect was tested by comparing the performance of top ten foreign retailers with top ten 100-percent domestic retailers. The major performance indicators are presented in table 4.

Table 4: Performance of top ten foreign- and top ten domestic-owned retailers
(2003-2007)

Performance	Domestic retailers	Foreign retailers	T-value
-------------	--------------------	-------------------	---------

indicator	2003	2007	Average value (2003-2007)	Average annual growth rate	2003	2007	Average value (2003-2007)	Average annual growth rate	
Employment	13119	21740	17398	13.5	4324	7162	5941	13.4	7.35*
Average wages (euro)	382	434	407,5	3.2	515	595	550,8	3.7	-6.93*
volume of sales (mil. euro)	1394,2	2638,1	2016,8	17.3	547	1111,5	844,5	19.4	4.86*
Sales/employee (mill. euro)	0,10	0,12	0,11	3.4	0,13	0,16	0,14	5.2	-3.91*
Return on assets (ROA)	0.01	0.05	0.03	44.1	0.01	0.04	0.001	50.7	2.24**

Notes: *p < 0.001**, p < 0.05.

Source: Authors calculations and database "Poslovna Hrvatska";

<http://www.poslovnahrvatska.hr/login.aspx?ReturnUrl=%2fDefault.aspx>

Foreign retailers grew very fast during the period of 2003-2007. On average they increased the volume of sales by 19.4 % and employment by 13.4 % annually, while the growth of salaries and employee productivity experienced slower growth. Despite this impressive growth, domestic retailers were not crowded out by foreign retailers. Top ten domestic retailers also grew very fast. During the period of 2003 – 2007, they employed on average more workers, generated higher volume of sales and had higher profitability than foreign retailers (p < 0.05). Therefore, the hypotheses H 4a, H 4b, H 4e were rejected. Foreign retailers paid higher wages and had higher employee productivity than domestic retailers. Hypotheses H 4c,d are supported.

Customers' attitudes towards foreign and domestic retailers

This study investigates whether or not consumer attitudes toward domestic- vs. foreign retailers differ among consumers in Croatia. The Fishbein attitude model was used to measure consumer attitudes towards foreign- and domestic-owned retailers. Table 5 shows the attitudes of respondents towards buying from foreign and domestic retailers.

Results indicate that overall consumers' attitudes toward domestic vs. foreign retailers do not differ significantly (Mean 1 = 409.9, Mean 2 = 403.1, p=0.71). Therefore, the hypothesis H 5 is rejected. Consumers had more positive attitudes towards domestic retailers compared with foreign retailers with regard to convenient stores' location and the quality of products offered (Mean 1 = 36,4, Mean 2 = 29.2, p < 0.05; Mean 1 = 39.0; Mean 2 = 36.6, p < 0.05). On the other hand, consumers had more positive attitudes towards foreign retailers compared with domestic retailers with regard to free parking space provided and speed of check-out (Mean 1 = 30,4, Mean 2 = 34.5, p < 0.05; Mean 1 = 30.0, Mean 2 = 33.0, p < 0.05). The results indicate that consumers perceive domestic retailers as being similar to foreign retailers on a number of store attributes. Both types of retailers are competitive in the market and have equal chances to be selected by consumers for their store visit. In our sample consumers patronize both types of retailers. The results of our study are not consistent with other research involving consumers' attitudes towards domestic and foreign retailers that suggests that consumers might prefer whether domestic or foreign retailers (Hyllegard, Eckman, Descals and Borja, 2005; Wang and Heitmeyer, 2006).

Table 5: Comparison t-test between Croatian consumer attitudes toward domestic- and foreign-owned retailers on each of the thirteen grocery stores' attributes

Store attributes	Attitude toward domestic retailer Mean 1 (Std. Dev)	Attitude toward foreign retailer Mean 2 (Std. Dev)	Mean differences	t-value
------------------	-----------------------------------------------------------	----------------------------------------------------------	------------------	---------

Convenient stores' location	36.43 (12.45)	29.24 (13.29)	7.20	5.62***
Convenience of shopping	34.46 (10.82)	33.51 (10.95)	0.96	0.88
Free parking space provided	30.43 (19.77)	34.50 (18.18)	-4.07	-2.14*
Speed of check-out	29.97 (12.26)	32.99 (11.27)	-3.01	-2.58*
Store atmosphere	32.26 (11.74)	32.84 (11.73)	-0.58	-0.50
Level of customer service quality	35.30 (10.69)	34.34 (10.15)	0.96	0.92
Friendly personnel	33.63 (12.71)	32.33 (12.17)	1.30	1.05
Buying on credit	15.00 (14.99)	13.44 (14.12)	1.56	1.07
Broad product assortment	36.10 (10.07)	36.44 (9.84)	-0.34	-0.34
Product quality	38.98 (8.41)	36.64 (9.22)	2.33	2.65**
Store brands' quality	31.92 (11.76)	30.91 (11.54)	1.01	0.87
Appeal of sales promotions	24.71 (13.51)	23.92 (13.45)	0.79	0.59
Low prices	30.28 (11.83)	30.72 (11.76)	-0.44	0.38
Overall attitude	409.91 (92.24)	403.14 (95.23)	6.77	0.71

Notes: * $p < 0.05$; ** $p < 0.01$, SD, *** $p < 0.001$, St. Dev. - Standard Deviation; Mean differences were calculated as the difference between Mean 1 and Mean 2.

Source: Consumer survey.

The model doesn't necessarily reflect customers' actual decision process, but it does predict their evaluation of alternatives and their choice (Levy and Weitz, 2004). In order to get better insights into the relationship between consumer attitudes and their purchasing behaviour, we examined the link between purchases of those consumers who shop mostly at foreign retailers and the consumers who mostly patronize domestic retailers. ANOVA results are presented in table 6.

Table 6: ANOVA results: Relationships between company' ownership and consumer purchases

	Consumers who mostly patronize domestic retailers (n=159)	Consumers who mostly patronize foreign retailers (n=44)	p-value
Average monthly amount of money spent (in HRK)	1956.01	1837.50	$p = 0.53$
Percentage of money spent of total household budget for grocery shopping in favourite retailer (%)	67.2	71.9	$p = 0.14$

Source: Consumer survey.

The findings of one-way ANOVA show that no significant differences existed among the two groups of shoppers in the amount of money spent ($p = 0.53$ and $p = 0.14$). Consumers who mostly patronize foreign retailers did not spend more money than shoppers who mostly patronize domestic retailers. Therefore, hypothesis H 6 is rejected. The results indicate that in the Croatian market origin of a retailer does not play an important role when consumers decide where they will shop and how much money they will spend at those stores.

CONCLUSIONS

The results of the analysis have interesting theoretical and managerial implications. From a theoretical perspective, the research adds to prior work involving FDI and consumers' perceptions towards foreign and domestic retailers. The first contribution of this study is the identification of the relationship between FDI inflows, GFCF and GVA for the period of 1995-2007 in the Croatian trade sector. Regression coefficients in our research indicate that FDI, FEI and FGI drive GFCF and GVA in the trade sector. The results are consistent with previous research of Anic and Jovancevic (2006).

Based on consumer survey, we identified some perceived benefits and costs of FDI for the Croatian trade sector. The perceived costs of FDI were growing imports of products and the sales of foreign brands. The perceived benefits of FDI were enhanced competition, improved service quality and increased volume of sales in the trade sector. Enhanced competition had positive impact on retail prices. Foreign retailers were opening new stores and thus contributed to the increase in the number of store and the employment increase.

The paper examined the performance of foreign retailers. As the findings indicate, domestic retailers were not crowded out by foreign retailers. As compared to top ten foreign retailers, top ten domestic retailers employ more workers, generate higher volume of sales and exhibit higher profitability, while foreign retailers have higher employee productivity and pay higher average salaries.

The results of our study are not consistent with other research involving consumers' attitudes towards domestic and foreign retailers (Hyllegard, Eckman, Descals and Borja, 2005; Wang and Heitmeyer, 2006). In the Croatian market origin of a retailer does not play an important role when consumers decide where they will shop and how much money they will spend at those stores. No significant differences existed among the consumers' attitudes towards foreign and domestic retailers, and in the amount of money spent between the consumers who mostly patronize foreign retailers of shoppers and consumers who mostly patronize domestic retailers.

Several managerial implications might be derived from this study. Knowing that FDI positively affect GFCF and GVA, public policy makers should foster the spread of both FDI and domestic-owned investments in the trade sector. However, more attention should be paid to the costs of FDI with respects to improvement of the balance of payment. The initiative of the Croatian chamber of economy aimed at stimulating the purchase of Croatian products has apparently been successful in Croatia, when consumers' attitudes are taken into consideration. Retailers might use this study to develop a program for attracting customers and improving the chances for increasing store traffic. They might improve their performance by changing performance beliefs, changing importance weights and adding new benefits (Levy and Weitz, 2004). Domestic retailers can increase their competitiveness by providing to consumer better parking opportunities and offering better credit terms. On the other hand, foreign retailers might overcome their weakness with respect to location of stores by providing products of higher quality.

The paper has some limitations. As in most marketing research, the analysis of consumers' attitudes towards foreign and domestic retailers "took a snapshot" of a sample of consumers. Thus it failed to capture the dynamic nature of consumer attitudes. Relatively small sample size makes it difficult to generalise the findings. Despite these limitations, the results of this paper offer useful findings and pose some valuable managerial implications and direction for further research.

Future research should examine the relationship between consumers' attitudes, demographic variables and their purchasing behaviour. Several years of data, greater sample of consumers and a complete census of the firms in this industry would have provided further information on changes in consumer attitudes and their impacts on retailers' performance. To conduct a more comprehensive study, future research could compare foreign retailers on a country basis.

APPENDICES:

APPENDIX A: Inward FDI inflows in the Croatian trade sector, transition period

(in mil. USD)

Components of FDI	Transition period								Post-transition period							FDI stock		
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	1993-2000	2001-2000	1993-2007
I. Equity investment	20,63	3,13	7,27	10,23	22,65	37,29	23,79	29,78	100,07	35,73	158,05	258,59	327,76	217,38	415,32	154,77	1512,91	1667,67
I.1. Greenfield investment	15,65	3,02	4,70	4,95	22,63	36,69	23,65	27,30	100,07	35,47	156,57	209,02	300,53	197,84	346,85	138,59	1346,35	1484,94
2. Other investments	0	0	0	0	24,72	24,01	51,02	48,78	-12,42	40,08	73,48	-55,75	3,8	57,66	302,65	148,53	409,5	558,03

3. FDI inflows	20,63	3,13	7,27	10,23	47,37	61,30	74,81	78,56	87,65	75,81	231,53	202,84	331,56	275,04	717,97	303,3	1922,4	2225,7
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Notes: FDI inflows consist of equity investments, reinvested earnings and other investments. The equity investment is the value of the investment made by a multinational corporation in the subsidiary in Croatia. Its main components include green-field investment (which includes 100 percent foreign-owned company) and other equity investments involving mergers and acquisitions, and joint ventures. The sample includes 100 companies that were registered in the CNB database of the trade sector (section G of the National Classification of Economic Activities);

Source: Croatian National Bank.

APPENDIX B: FDI in Croatia by country of origin (1993 – 2008, 3Q)

Country	In percent
1. Germany	24.20
2. Austria	20.98
3. Slovenia	20.15
4. Hungary	8.61
5. Sweden	6.08
6. Italy	3.70
7. Netherlands	3.53
8. France	2.97
9. USA	1.70
10 Luxembourg	1.58
11. Other countries	6.49
10. Total	100.00

Notes: 100 companies included in the trade sector (section G of the National Classification of Economic Activities).

Source: Croatian National Bank.

APPENDIX C: Investments and value added in the Croatian trade sector, mil. USD (1995-2007)

Indicator	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
1. FDI	7,27	10,23	47,37	61,30	74,81	78,56	87,65	75,81	231,53	202,84	331,56	275,04	717,97
2. FEI	7,27	10,23	22,65	37,29	23,79	29,78	100,07	35,73	158,05	258,59	327,76	217,38	415,32
3. FGI	4,70	4,95	22,63	36,69	23,65	27,30	100,07	35,47	156,57	209,02	300,53	197,84	346,85
4. GFCF	65,40	131,23	257,25	306,55	355,48	328,50	491,81	693,48	1074,38	1081,74	1056,65	1224,73	1508,29
5. GVA	2387,50	2643,44	2695,30	2815,88	2016,62	2008,33	2357,18	3206,30	4387,58	4714,93	4692,97	5585,13	6906,37
7. FDI as % of GFCF	11.12	7.80	18.41	20.00	21.04	23.91	17.82	10.93	21.55	18.75	31.38	22.46	47.60
8. FEI as % of GFCF	11.12	7.80	8.80	12.16	6.69	9.07	20.35	5.15	14.71	23.91	31.02	17.75	27.54
9. FGI as % of GFCF	7.19	3.77	8.80	11.97	6.65	8.31	20.35	5.11	14.57	19.32	28.44	16.15	23.00
10. Exchange rate: HRK per 1 USD	5.32	5.54	6.30	6.25	7.65	8.16	8.36	7.15	6.12	5.64	6.23	5.58	4.99

Notes: Data refers to section G of the National Classification of Economic Activities. Gross fixed capital formation is the value of physical materialised construction, i.e. fixed assets produced throughout a year. Gross value added is the difference between GDP and the value of taxes on products less subsidies on products.

Source: Croatian National Bank and authors' calculations.

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SMALL BUSINESS VALUATION: A PILOT STUDY ON TURKISH MANUFACTURING FIRMS

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ABSTRACT

With the aim of contributing the valuation efforts of small businesses in Turkey, we tested the effects of earnings, book value, dividends, leverage and internationalization on the market value of small and medium manufacturing firms in Turkey. In order to realize this we develop an Ohlson variant linear model and effectuated regression analysis. As data source small manufacturing businesses which are publicly traded in Istanbul Stock Exchange was used. The model explained 52% of dependant variable's variance. Among the independent variables book value and dividends had positive and significant effect on dependant variable. On the other hand earnings had a negative effect and leverage and internationalization proved insignificant.

INTRODUCTION

In Turkey especially after 1980s, the improvements in the manufacturing sector constituted the driving force behind the economic growth performance. With the necessary reforms realized, this sector became more compatible to the global and liberal world. On the other hand when evaluated with an international competition perspective, despite the fact that the manufacturing sector in Turkey records important improvements, it still is outperformed by some other emerging countries' manufacturing sectors (KSEP, 2007).

According to Turkish Statistical Institute SMEs constitute 76.7% of country's employment, 26.5% of investment and 38% of added value. They form 95% of the manufacturing sector and 61.1% of the employment and 27.3% of the added value in this sector (KSEP, 2007). These numbers clearly states the importance of SMEs in Turkey's economy and manufacturing sector.

Moreover efficient distribution of limited resources is also crucial for the economies. In order to maintain a sustainable growth, existing resources should be directed to constitutions that can create added value. Countries effectively distribute the capital to the companies and projects that can create value, have efficient markets and strong economic infrastructure. Therefore it is very important to guide idle resources to borrowing instruments and stocks that have growth opportunities instead of speculators.

Investors when face to multiple investment alternatives seek, according to their risk perception, maximum profit. On that point in order to understand the risk and returns it is crucial to be able to value the different investment options in the real sector projects as well as money and capital markets. Therefore, valuation has a significant importance in directing the capital to companies and projects that can create added value.

In this study with the aim of contributing the valuation efforts of small businesses in Turkey, we tested the effects of a number of independent variables on market value of small and medium manufacturing firms in Turkey. Understanding the valuation and the effect of different variables on the value of SMEs is not only important for the local investors but also for the foreign investors, foreign companies that seek acquisitions or merging as well as SME owners and managers in Turkey who look for a more effective value management for their companies. First of

our variables is the degree of internationalization, which shows the international activity of the company, it generally is represented by foreign sales to total sales ratio. Our other variables are leverage (measured by debt to asset ratio), book value and earnings. One of the objectives of this study is to identify whether investors in Turkey recognize internationalization of the company as a hidden asset, moreover it aims to examine the effects of leverage, book value, earnings and internationalization on the value of manufacturing SMEs in Turkey.

The study will start by a detailed literature survey. Once the reader is acknowledged about the early empirical studies, we will define our data selection criteria, methodology and develop our Ohlson variant linear model in order to examine the effect of internationalization, earnings, leverage and book value. At the end the findings and their effects will be discussed.

LITERATURE SURVEY

In the literature, there is no shortage of research and analysis which explore different drivers of value. In this work we will mainly concentrate on the effects of the degree of internationalization, earnings based variables, dividends, cash flows and leverage on the market value of small and medium production firms in Turkey.

Before getting into the literature survey it is necessary to remind the reader that stock return of a company is the sum of holding gain and dividend paid by the firm (In some studies it is not expressed not as the sum but a function of holding gain and dividend). Holding gain is the change in share price of the company. Due to this strong relation between stock prices and stock returns, we include studies that have stock returns as dependant variable, in our literature survey.

First of all in their study on US- international firms, Agmon and Lessard (1977) found that international firms show lower systematic and unsystematic risk compared to securities of purely domestic firms. Moreover they identified a positive relationship between internationalization and stock returns which means that US investors recognize the international composition of the activities of US based firms. The result of Lane's (1985) study supports the fact that US stock market recognizes the multinationality of a firm and its international activities. In addition AlNajjar and Riahi-Belkaoui (1999) examined the effect of the degree of internationalization (which they measured by foreign revenues/total revenues ratio) on profitability and the market value of the firm. They found out that multinationality (degree of internationalization) has a positive and significant effect on the market value of the firm, therefore the degree of internationalization can be taken as an unbooked, hidden asset. Another article of Riahi-Belkaoui (1999) examined the effect of internationalization on market value by using Ohlson model and by taking foreign revenues to total revenues and foreign assets to total assets ratios as indicators of internationalization. The positive relation between internationalization and the market value of firm is confirmed by the results.

Book value is another variable that we include in our study. In 1991 Chan et al. analyzed (in the Japanese market) the relation between stock returns and earnings, cash flows, size of the company and B/MV ratio. As a result they found out that B/MV ratio and cash flows have a significant positive effect on stock returns. Fama and French (1992) studied effects of various independent variables on the stock returns as a result of which they identified that book to market value ratio has a strong explanatory power on stock return variations. Ramakrishnan and Thomas (1992) guided a research to determine the effects of past information about book value, market value and earnings on share prices. Starting from DDM they explained the value of shares as a function of discounted future earnings streams, and then they developed three different models; first based on book value, second on market value and the third on earnings. The findings indicated that there is a superiority of the book value model relative to the other two models when explaining the earnings series. Barber and Lyon (1997) examined the effect of book value and company size on the stock returns. They also included financial firms in their research. Their findings indicated that book to market ratio has a significant effect on stock returns. Pinfold et al. (2001) realized a research in the New Zealand stock exchange and found that the portfolio of higher book to market ratio firms bring higher returns. Canbaş et al. (2007), in their empirical study for Turkish firms, found out that a portfolio of small firms has higher return than a portfolio of large firms. Moreover higher book to market ratio firms brings higher returns.

There is considerable number of studies that examined the relation between financial structure of the company and stock prices/returns. For instance Miller and Modigliani (1966) realized a research on a basis of electric utility firms

and found that debt policies of the firms does not affect the value of their shares. Bhandari (1988) investigated the effect of leverage on stock returns. The results indicate that there is a significant relation between leverage and stock returns. Further, Fama and French (1992) defined two different variables with the aim of testing the relation between leverage and stock returns. First of these variables is total assets to equity ratio and the second is total assets to market value ratio. In conclusion they found that while the second variable has a positive relation with stock returns, the first one has a negative relation. Moreover Lam (2002) in his research covering Hong Kong stock exchange tested the effect of various variables, including leverage, on stock returns. As a result he found that there is a significant relation between leverage and stock returns.

Last independent variables in this study's area of interest are dividends and earnings. Among the numerous empirical researches about the value relevance of dividends, earnings and cash flows; the research of Miller and Modigliani (1966) on electric utility firms asserts that the dividend policy of the firm does not affect the value of its shares. Ten years after Bar-Yosef and Kolodny (1976) examined the relation between Capital Asset Pricing Model and the dividend relevance. Their findings support the fact that investors prefer dividends to capital gains. In addition, in his research, Bernard (1995) compared the value relevance of book value and expected earnings with expected dividends. He found that the variation in share prices across companies is better explained by book value and earnings. Further, Biddle et al. (1997) tested the relationship between share prices and earnings, EVA, abnormal earnings and cash flow from operations. The findings showed that the changes in share prices and absolute levels of share prices are better explained by earnings than by other variables. Moreover when the measures are used in combination with one other, then they had a better explanatory power of share prices. In 2000 Andreau guided a research for Japanese capital market. As a result they found out that earnings have a stronger statistical association with security returns given cash flows. Moreover the importance of cash flows increase when the earnings are transitional. Moreover, Liu et al. (2002) realized a study with the aim of identifying and comparing the value relevance of historical cash flow measures; EBITDA (earnings before interest, taxes, depreciation and amortization), CFO; accrual based measures; sales, earnings, book value; forward looking measures; EPS forecast, long term EPS growth, long term price earnings growth; EBITDA/ enterprise value, sales/enterprise value. As a result they identified that EPS forecasts explain best the stock prices, historical earnings come next, and cash flow and book value measures tied for third and sales perform worst. Furthermore, in his study Şamiloğlu (2004) investigated the relation of EVA (economic value added), earnings and residual income based variables and stock returns on manufacturing firms from ISE. He found that EVA based variables explain 7.9% of stock returns while earnings based variables explain 6.8% and residual income based variables explain 7.8%. In addition when EVA based variables are combined with earnings based variables they explain 12.6% of stock returns; when combined with RI based variables they explain 27.2% of stock return variance. In 2007 Chang used a model based on real options model in order to identify the relation between earnings yield, capital investment, changes in profitability, and changes in growth opportunities, discount rate and stock returns. His findings indicate that earnings yield, capital investment, changes in profitability and changes in growth opportunities have positive effects on stock returns while changes in the discount rate has a negative effect. In another study Liu (2007) tested the value relevance performance of earnings forecasts, dividend forecast and cash flow forecast multiples. They used multiple based valuation to predict the market value of the companies and they found that earnings forecasts are more performed than dividends forecasts and cash flow forecasts in determination of market value.

MODEL DEVELOPMENT AND METHODOLOGY

The aim of this study is to examine the effect of earnings based variables, cash flows, dividends, book values, debt to asset ratio (leverage) and internationalization on the market value of small production firms from Istanbul Stock Exchange (ISE). In order to realize this we develop three linear models based on Ohlson model.

Variables

The first of our independent variables is earnings. We will use net earnings (E) and earnings before interest and taxes (Ebit) to determine the effects earnings. Secondly as a proxy of cash flows we will use cash flow from operations (CFO). In order to test the effect of dividends dividend paid (Div) will be used. Debt to asset ratio (De/A)

will be the proxy for leverage. Lastly foreign sales to total sales ratio (FSTS) will be used so as to reveal the effect of internationalization on the market value of small manufacturing companies.

Data

With the aim of analyzing the value relevance of internationalization earnings, cash flows, book value, dividends and leverage on the market value of the Turkish manufacturing SMEs, data from ISE is used. In order to identify the SMEs in ISE one needs a rigorous definition of SME. Although at first glance it seems easy, the fact that there is no global definition of what an SME is hinders the task. The difficulty of defining the concept of SME globally is coming from the fact that SME concept expresses a relative size (Budak, 1991). There are definitions based on sales, number of workers, capital size (Tutar and Küçük, 2003), number of machines, capacity and balance sheet values (Müftüoğlu, 1998). The European Union identifies the SMEs according to sales, assets and number of workers (Ercan 2005). In this study, we choose manufacturing SMEs from ISE according to SME definition done by EU. As a result, 36 manufacturing SMEs from ISE are identified. For these 36 companies yearly Financial statements from 1997 to 2007 are gathered from the ISE web page. Among the subject companies, we look for the availability of data and existence of an export activity due to the fact that our major aim is to identify the value relevance of internationalization and export to total sales ratio is our proxy for internationalization. As a result, we had 314 observations.

When it comes to the calculation of the dependant variable, market value, we examined the approach used by Fama and French (1992), Lam (2002) and Canbaş et al. (2007). In their works, they interpolate the companies' year t balance sheet data with the market values in June of the year $t+1$. The reason of such an interpolation is the fact that though a balance sheet is prepared for year end (assume balance sheet for 31.12.2006) it is not publicly announced at year end but during the following months. The market has access to the accounting data only when it is published, thus it reacts according to this data only after the publication. Therefore since the subject companies publishes the balance sheets until June they interpolate the accounting data with the market value in the following June. In our study, we used a slightly different approach. First, we identified for each company/year, when the accounting data is published. Then we collected (from www.analiz.com) 20 work days share price data after the publication date. Afterwards harmonic mean of these 20 work days share price data is calculated. The use of harmonic mean mitigates the effect of too low or high prices on the mean, therefore reduces the effect of volatility. A similar approach is used by Liu et al. (2007). Once the mean is calculated we calculated the market value of the company by multiplying the harmonic mean by the number of shares. Finally we interpolate this market price with the accounting data. Lastly in order to mitigate the effect of inflation on our data Turkish Lira (TL) and New Turkish Lira (TRY) values are converted in to US dollars. A similar approach is used by Şamiloğlu (2004). The exchange rate is determined according to each company's announcement of accounting information. For instance if the accounting data of a firm is published in march, we calculated the mean of march rates and used this in order to convert TL/TRY values in to US dollars.

Model

With the intention of testing the value relevance of our independent variables we develop a linear model that express the market value of the company as a linear function of earnings, dividends, book values, leverage and the degree of internationalization of the company. With the aim of doing so we will start by Ohlson model. According to Lundholm (1995), Ohlson (1995) and Feltham and Ohlson (1995) papers are landmark works in financial accounting. This is mostly due to the fact that this model proposes a linear function of share prices which makes it very interesting for empirical studies. For instance Riahi-Belkaoui (1999) used Ohlson model to test the relation between multinationality and stock prices. Huang and Wang (2008) tested the relationship between intellectual capital and the market value with an extension of Ohlson Model. Liu and Liu (2007) in their study where they compared the value relevance of accounting information among different Chinese stock market segments used a modified Ohlson model.

Ohlson suggests the following linear equation as a function of market value:

$$P_t = (1 - k) * B_t + k\phi * E_t - k * D_t + \alpha_2 V_t \quad (1)$$

Where P is the price, k is a coefficient that is a function of risk free rate of return, E is the earnings, D is dividends and V is other relevant information. In this equation the market value is a linear function of book value, earnings, dividends and other relevant information. In order to test the value relevance of the degree of internationalization and the leverage, we replace the other information parameter in the model by FSTS and De/A. To operationalize this equation in the empirical testing we estimate the following cross-sectional regressions for each year:

$$MV_{it} = a_{0t} + a_{1t}B_{it} + a_{2t}E_{it} + a_{3t}D_{it} + a_{4t}FSTS_{it} + a_{5t}De/A_{it} + e_{it} \quad (2)$$

Where MV is the market value of the company i at date t, e is the error term and a (j=1,2,3,4,5) is the regression coefficient vector.

According to the model performances we can identify the relation between the value of small manufacturing firms (in Turkey and publicly traded) and their book value, leverage, degree of internationalization, dividends and earnings.

ANALYSIS

This chapter is consecrated to the investigation of the descriptive statistics and results of our regression analysis. The following table shows the descriptive statistics for the variables of our earnings model.

Table 1: Descriptive statistics

	Mean	Std. Deviation	N
MV	19312490.52	4.081	314
E	600332.02	5137769.74	314
D	723085.63	2324235.88	314
B	13883354.36	2.606	314
DeA	0.538	0.435	314
FSTS	0.226	0.258	314

As a result a result of our d test (Durbin-Watson) for degrees of freedom 5 and 308, at 0.05 significance level, we obtain d value of 1.999, which confirms that there is no evidence of positive first-order serial correlation. The following table indicates R, R square, adjusted R square values as well as standard error of the estimate.

Table 2: Explanatory power of the model

R	R Square	Adjusted R Square	Std. Error of the Estimate
.721	.520	.512	2.850

According to the R square value, our Ohlson variant earnings model explains 52% of the change in dependant variable. Next table show the standardized coefficients, t values and significances of the independent variables.

Table 3: Coefficients, t values and significances of independent variables

	Standardized Coefficients	t	Sig.
(Constant)		.221	.825
E	-.157	-2.490	.013
D	.282	3.674	.000
B	.601	7.793	.000
DeA	.058	1.261	.208
FSTS	-.007	-.182	.856

With the aim of easing comparison between coefficients we are directly giving standardized coefficients.

When we look at the significance of the variables, earnings, dividends and book value has significant effect on the independent variable, on the other hand leverage and foreign sales to total sales ratio has no significant effects. Among the significant variables earnings has a negative coefficient while dividends and book value have positive coefficients.

CONCLUSIONS

With the aim of contributing the valuation efforts of small manufacturing SMEs in Turkey, we tested the effect of earnings, dividends, book value, leverage and the degree of internationalization on the market value of the firm. By using the Ohlson model we developed a linear model which explains market value of the firm as a function of earnings, dividends, book value, leverage and internationalization. As a result of regression analysis we observed that our model explained 52% dependant variables variance. Among our independent variables dividend and book value had positive and significant coefficients, which is inline with the existing valuation literature. Leverage and internationalization proved insignificant. Therefore we can say that investors in ISE don't recognize the internationalization as a hidden asset. The reason of this may be the fact that existing empirical research on value relevance of internationalization was realized by using the data of big scale multinational corporations; on the other hand, in our case internationalization of a Turkish SME is mostly limited by export. Moreover earnings had a negative and significant effect on (not as significant as book value or dividend) market value which contradicts the results of the existing literature. As a developing country Turkey's economy is relatively vulnerable to global and domestic crises, moreover due to their size SMEs are strongly affected by these crises which cause a significant fluctuation of the firms' earnings. On that point such a volatile data may not be value relevant for investors. On the other hand the reason of the negative coefficient of earnings might be a specific sector. One of the limitations of the study is the size of our sample. Though we realized this research for all Turkish manufacturing SMEs it is not possible to reach the data of the firms which are not publicly traded. Another limitation of this study is the usage of panel data in the analysis. We suggest, for the future research inclusion of a dummy variable; sector, so that we can observe the effect of different variables in different sectors.

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THE MEDIATING EFFECTS OF SATISFACTION ON POSITIVE AND NEGATIVE CONSUMPTION EXPERIENCES AND READINESS TO CHANGE BEHAVIOUR

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ABSTRACT

This study applies the disconfirmation of expectations paradigm to explain what makes the consumption of sin products (high risk alcohol consumption) a satisfactory or unsatisfactory experience. It further tests if it affects readiness to change behaviour. It illustrates that disconfirmation of expectations should focus on consumption outcomes as they motivate customers to consume products and services. Furthermore, both positive and negative outcome expectancies should be included. The alcohol expectancy literature offers operational definitions of positive and negative outcome expectancies. However, alcohol expectancy studies do not use the disconfirmation paradigm to explain high risk drinking behaviours, even though disconfirmation of expectations have been shown to be a better predictor of customer satisfaction and behavioural intentions than customer expectations. Data gained via convenience sampling of undergraduate students from all divisions within a large Australian University provided a usable sample size of 462. The results and analysis illustrate a very distinct separation of four positive outcome expectation factors and four negative outcome expectation factors. These findings are discussed with implications highlighted for theorists, marketers and social policy makers.

INTRODUCTION

Past research has shown that high risk drinking (defined by Oei & Morawska (2004) as four or more drinks for women and six or more drinks for men per drinking episode) amongst university students is a serious problem, both within Australia and the world (e.g. Burden & Maisto 2000; McNally & Palfai 2001; Neighbors et al. 2003; Oei & Morawska 2004; Park 2004). Alcohol is part of the culture of university life and a large proportion of students (44%) have been classified as high risk drinkers in the US (Oei & Morawska 2004). Similarly, the Salvation Army announced that 44% of Australian adolescents engage in high risk drinking behaviours (Channel 9 News 16-9-2004).

Within customer satisfaction and service quality research, disconfirmation has been operationalised in terms of meeting product / service attribute expectations (Oliver & Bearden 1985; Swan & Trawick 1981). Subsequently three types of discrepancies are presented; 1) Positive disconfirmation, where performance exceeds expectations, 2) Confirmation, where performance equals expectations, and 3) Negative disconfirmation, where performance falls below expectations. Due to a shift in focus to customer delight, it has been suggested that customer satisfaction surveys need to measure the whole customer experience and other consequences of it (Shaw & Ivens 2002). A need exists to focus on the disconfirmation of consumption consequences, as customers' are motivated by consumption outcomes, rather than product / service attributes. Studies which have investigated emotional responses to consumption experiences highlight that customers may experience positive (e.g. pleased / arousal) and negative (e.g. displeasure / boredom) emotions which are generally presented in the form of a positive to negative continuum (Mano & Oliver 1993). However, social marketing studies have found that positive experience expectations (e.g. feeling relaxed when consuming large quantities of alcohol) differ conceptually from negative experience expectations (e.g. vomiting after a heavy drinking episode). More specifically, positive expectations of high risk drinking include *fun*, *sex*, and *tension reduction*, and negative

expectations include *physical, cognitive* and *school problems* (McNally & Palfai 2001; Park 2004). A number of studies empirically support the difference between positive and negative outcome expectancies (Leigh & Stacy 1993; McNally & Palfai 2001; Park 2004). However, the alcohol expectancy literature fails to investigate the impact of disconfirmation of consumption outcome expectancies on intentions to engage in harmful consumption behaviours. Considering disconfirmation of expectations is a better predictor of customer satisfaction than expectations and behavioural intentions (e.g. Burton et al. 2003; Oliver 1980; Robledo 2001; Ross et al. 1987; White & Schneider 2000), this is a significant shortcoming as addressed by this study. This study proposes a research model which suggests that satisfactory / unsatisfactory drinking experience mediate the disconfirmation of positive / negative outcome expectancy and readiness to change high risk drinking behaviour.

LITERATURE REVIEW AND HYPOTHESES

While several theories have been used to explain the disconfirmation paradigm (e.g. generalized negativity theory, assimilation theory, contrast theory as cited by Ross et al. 1987), none of these appears to incorporate expectations of negative consumption outcomes. Only one qualitative research paper (Fitchett & Smith 2002), which investigated illicit drug consumption, notes the difference between positive and negative outcome expectancies. They found that satisfactory experiences reinforced future consumption, whereas dissatisfactory experiences would not cause cessation of usage. If consumption was dissatisfactory, users would employ several strategies to justify further use, including attributing the outcomes to other factors in the forms of deferment and/or denial. This clearly highlights the need to distinguish between positive and negative consumption outcomes.

Lovelock et al. (2004) claimed that the most dominant model in satisfaction research is the disconfirmation of expectations paradigm. Moreover, Oliver et al. (1994) stated that this paradigm is fairly robust across a broad range of context, including the consumption of illicit drugs (Fitchett & Smith 2002). Their rationale being that recreational drugs are desired, purchased and consumed just like any other mass consumer goods, and the differences relate more to social and moral beliefs rather than the effects or consequences of use (as suggested by Hoffman (1990) and D' Angelo (1994)). Clearly this suggests that the disconfirmation paradigm applies to consumption of alcohol. This study extends the qualitative research conducted by Fitchett and Smith (2002) as it proposes hypotheses and operational measures for conclusive testing.

Past studies have investigated the link between expectancies of alcohol outcomes and readiness to change (e.g. McNally & Palfai 2001) and drinking refusal self efficacy (e.g. Oei & Morawska 2004). Burton et al. (2003) have noted that behavioural intentions and customer satisfaction are positively associated with each other and this was confirmed with their own study that found willingness to reuse a service was strongly associated with satisfaction. Thus if a consumer experiences high satisfaction with their high risk drinking, the likelihood that they will cease drinking, or even change their drinking behaviour is expected to be low. Another study (White & Schneider 2000) found that disconfirmation of service quality expectations had a direct impact on behavioural intentions (in terms of the commitment ladder). Based on the combination of these findings, this study suggests that satisfaction with the high risk drinking experience partially mediates the relationship between disconfirmation of positive and negative outcome expectancies and readiness to change high risk drinking behaviour. These propositions are summarised in the hypotheses below:

H₁ – Satisfaction with high risk drinking partially mediates the negative relationship between positive disconfirmation of positive outcome expectations and readiness to change high risk drinking behaviour.

H₂ – Satisfaction with high risk drinking partially mediates the negative relationship between negative disconfirmation of negative outcome expectations and readiness to change high risk drinking behaviour.

METHODOLOGY

A four page survey instrument was developed in the form of a questionnaire for self administered completion. The questionnaire used a combination of established scales, some with minor modification to gain the data required. This was preceded by a cover letter outlining the purpose of the study, as well as requiring respondents to answer two screening questions. The screening questions are particularly important for this study as it requires the respondent to have engaged in high risk drinking. Therefore screening question one ensures respondents are over 17 years of age, the legal drinking

age within Australia. Questionnaires marked 17 years of age or below were asked not to proceed any further and were discarded. The second screening question asks how many times the respondent has engaged in high risk drinking in the past four weeks. Since this research is based on the memory of the last high risk drinking experience, it requires respondents for which it has been a fairly recent occurrence in order to limit the possible bias that may occur after a longer period. Questionnaires marked 0 times were asked not to proceed any further and were discarded.

The questionnaire was administered to a variety of lectures within a large Australian University. At least one lecture from each of the 5 divisions of the University was targeted in order to gain a relevant cross section of drinking habits and the behaviour of the University as a whole. A focus was given to lectures within the Business division due to the highest proportion of students residing in this division. Divisions where more than one lecture was targeted were divided into different schools as well as different years so as to avoid any repetition of respondents. The final results were gained from seven lectures and yielded a combination of first, second and third year units. Before the questionnaire was started by students, a brief outline of the study and questions was made clear to all students. Further, an overhead projector slide was shown specifying the number of standard alcoholic drinks found in typical serving containers, so as to avoid any misinterpretation.

RESULTS

The data collection yielded a total of 859 returned questionnaires, gained from ten different lectures across five divisions. 257 were discarded due to the respondent groups not being involved in any high risk drinking in the past four weeks or they were not the legal drinking age. A further 140 questionnaires were rejected due to the respondents failing to pass the manipulation checks or fully completing the questionnaire. This leaves a total of 462 usable questionnaires, equalling a 56% response rate of students that engaged in high risk drinking within the past four weeks of the survey.

The sample comprised of 53.7% male, with 95.2% of all respondents being between the ages of 18 and 25, and the oldest student being 48. The data also showed that the highest percentage of students (57.1%) last engaged in high risk drinking less than 1 week ago, and the mean number of times a student had engaged in this behaviour within the past four weeks was 4.5. 96.5% of all respondents were full time students, and the average semester studying at university was 2.7. The majority of students (45%) chose Spirits (mixed or straight) as their most preferred alcoholic beverage, with Beer second (38.5%). The alcoholic beverage that students consumed during their last high risk drinking episode was also primarily Spirits with 67.5% and Beer at 54%. There was a fairly even spread of respondents for the amount of standard drinks consumed during their last high risk drinking episode. The highest number being 34% for 10 drinks and above, showing that those who are involved in high risk drinking generally do so at extreme levels. Only 19% of respondents were international students. This must be taken with caution, as a large proportion of international students do not consume alcohol.

Factor analysis was done on the 38 item alcohol expectancy disconfirmation scale. The scale was analysed through factor analysis using the Oblimin with Kaiser Normalisation rotation method. The factor analysis shows a very clear and distinct separation between positive and negative factors within the scale. The scree plot suggests eight components. The Cronbach Alpha scores ranged from 0.39 to 0.83. Subsequent factor analysis was run including 28 items, rejecting cross-loadings. A total of eight components were still formed, with a clear distinction of four positive and four negative components. This also improved the Cronbach Alpha scores to read from 0.51 to 0.83. (Factor loadings, Eigenvalues, Cronbach's Alpha, KMO Measure of Sampling Adequacy and Bartlett's Test of Sphericity Significance available in appendix). Collectively this explained 61% of variance.

Varimax with Kaiser Normalisation factor analysis was performed on the 16 item Readiness to Change Likert scale. The analysis gave four components, with Cronbach Alphas ranging from 0.42 to 0.79. As was done previously, a second factor analysis was run, not including the items that cross loaded. This resulted in a factor analysis of 11 items. Once run the components remained unchanged, leaving three components, however for the purpose of this study only the strongest component was chosen, namely 'Action' ($\alpha = 0.79$). The 'Action' component refers to making an effort to change the individuals drinking habits, and was thus renamed 'Action to Change'.

Varimax factor analysis was also done on the 6 item Satisfaction scale to confirm the scale is uni-dimensional. The results showed a single component scale, producing a Cronbach Alpha of 0.88 with all 6 items included (KMO = 0.839, Sig. = 0.000). The Eigenvalue of 3.78 explained 63% of variance.

Mediation Analysis Regressions

A series of linear regression analyses were executed in order to test for partial or full mediation using the 4 step analysis proposed by Baron and Kenny (1986). This will conclude which will be the best predictor of a dependent variable from several independent variables.

The analysis specified that Action to Change is the dependent variable and the four positive components as the independent variables within the equation. In order to test this, a regression was run. The four positive components were regressed against Action to Change. The results show that only the 'Sociable' component is significant (Sig = 0.015, Beta = -0.156, t = -2.436).

The next regression was done in order to analyse the effect of the significant positive component as the independent variables (Sociable), with Satisfaction as the dependent variable. The positive component regressed showed that it is significant with Satisfaction (Sig = 0.029, Beta = 0.115, t = 2.187) at the 0.05 level. The next regression was done in order to analyse the effect of Action to Change against Satisfaction. It was found to be significant with the independent variable Satisfaction at the 0.01 level (Sig = 0.007, Beta = -0.128, t = -2.729).

Further regressions were run with Satisfaction and 'Sociable' against Action to Change as a dependent. It was found that Satisfaction was significant with the dependent variable at the 0.05 level (Sig = 0.025, Beta = -0.108, t = -2.244). This is in contrast to 'Sociable' which did not get significant results (Sig = 0.070, Beta = -0.088, t = -1.820), thus proving in this equation that full mediation is taking place.

Sobel test analysis was run in order to re-test and confirm its standing as a full mediator. Preacher and Hayes (2004) clearly outlined the method, whereby a number of regressions are run, and raw regression coefficients and standard errors are entered into an equation ($z\text{-value} = a*b/\text{SQRT}(b^2*s_a^2 + a^2*s_b^2)$) where a = raw (unstandardized) regression coefficient for the association between IV and mediator, s_a = standard error of a , b = raw coefficient for the association between the mediator and the DV (when the IV is also a predictor of the DV), and s_b = standard error of b .

The Sobel test was done on the regressions of the independent 'Sociable' against Satisfaction and the independents 'Sociable' and Satisfaction against Action to Change. The Baron and Kenny (1986) method suggested full mediation, and this test confirms that, with a non-significant p-value of 0.053 and a Test Statistic of -1.935.

If this equation is examined in more detail, it can be seen that 'Sociable' consists of the items 'Talkative', 'Talk to people' and 'Outgoing', all of which could be biased aspects of high risk drinking behaviour to individuals that prefer to express themselves. Therefore, it depends on the satisfaction outcome of 'Sociable' as to whether or not the high risk drinker will take the action to change their drinking habits. This is an important finding, as it shows that for this specific positive component, whether or not the drinker is satisfied with their high risk drinking experience (due to it being of a different nature for different people) will ultimately affect the individual's readiness to change high risk drinking behaviour.

The four step analysis was repeated for the negative components. A multiple regression was done whereby all four negative components were analysed as the independent variables, with the Action to Change component as the dependent variables. The analysis shows that only 'Regret' is significant (Sig = 0.008, Beta = -0.129, t = -2.644).

A regression was run for the single acceptable negative component (Regret), regressed against Satisfaction. Regression of this negative component showed that it was highly significant with Satisfaction at the 0.01 level (Sig = 0.001, Beta = 0.157, t = 3.385).

'Regret' and Satisfaction were regressed against the dependent variable Action to Change. Regression with the dependent showed 'Regret' is not significant (Sig = 0.050, Beta = -0.093, t = -1.963), while Satisfaction is significant

at the 0.05 level (Sig = 0.017, Beta = -0.114, t = -2.393). This result shows that for this equation full mediation is taking place.

A Sobel test was conducted over the negative equation from the model. The test confirmed that the equation was correct, with 'Regret', Satisfaction and Action to Change giving a p-value of 0.052, and a Test Statistic of -1.955, showing an insignificant result, resulting in full mediation.

The 'Regret' component is made from only two items, 'Guilty' and 'Problems', and although each item did not have very high factor loadings nor combined Cronbach Alpha, this component could be called the most remorseful of the four components developed. The fully mediating pathway is substantial as it consists of components implying the high risk drinker will change their behaviour. As 'Regret' is made from items for which most would feel regretful over, with satisfaction as the full mediator between the two, it would show negative satisfaction, or dissatisfaction from 'Regret' if the Action to Change was taking place.

DISCUSSION AND IMPLICATIONS

There exist a number of key conceptual and theoretical contributions from which this study adds to the literature. The inclusion of negative expectations into the disconfirmation model is one of the major contributions. Previous disconfirmation models have been too simplistic, and a need existed to analyse this in a more in-depth way, namely, distinguishing between positive and negative expectations. The results show the ability to distinguish between them, which future research will find very useful. This will also allow for further dissection of the disconfirmation paradigm. The transfer of concepts from outside the marketing literature is an important step to help better understand the concepts and market to customers more effectively.

Distinguishing between positive and negative expectations/experiences has been a contribution of this research. Previous literature examining affect (e.g. Jun et al. 2001) and sin products (e.g. McNally & Palfai 2001, Park 2004) have been the only areas where positive and negative expectations or experiences have been separated and examined individually. With this extended into the expectations/experiences literature, it allows the ability to pursue further research to better comprehend the factors and after effects of these individual positive and negative experience expectations.

This study has made methodological contributions. It has provided measurement of disconfirmation of expectations in terms of consumption experience outcomes rather than product/service performance attributes. This is one of very few studies which has operationalised consumption experience outcomes, therefore should provide a basis for further investigation. It should be noted that outcomes have the potential to become a large research area, with or without the disconfirmation of expectations.

The research differentiates and operationalises positive and negative discrepancies as separate constructs as well as highlights different dimensions for each. No study was found that separated positive and negative discrepancies, let alone developing different dimensions. The alcohol expectancy disconfirmation scale, which gave a total of four positive and four negative factors, shows that a distinction does exist between positive and negative outcome expectations.

A methodological contribution exists in the measurement of multidimensional outcome variables. This study has shown that through the refinement of existing scales usable and significant results were gained. The multidimensional outcome variables were in the form of the 38 item alcohol expectancy disconfirmation scale.

There are several key managerial contributions. The research model presents a more powerful tool to manage customer experiences and expectations. As all marketers are aware, customer experiences and expectations, usually grouped under satisfaction, have a huge effect on marketing related issues such as word-of-mouth, re-purchase intentions, and complaining behaviour, to name but a few (Gilly 1987, Grewal et al. 2003, Lee 2003, Richins 1983). The model shows that by being aware of the different experience expectations available to consumers, a business should always be aiming to increase their performance to meet or exceed those expectations, thus reducing negative disconfirmation.

This study highlights the need to downplay positive experiences and diminish negative experiences, for which social marketing can benefit. Social marketing campaigns, such as drink driving and quit smoking, are always searching for better ways in which to make their campaigns more successful. This study proves that if the positive experiences are made to look less appealing, and the negative experiences are diminished, the effect of the campaign may be increased. This could be further enhanced by focusing on the specific relationships between the dimensions for positive and negative disconfirmation and readiness to change.

This research has practical contributions for social policy, as it will lead to strategies which are more likely to result in a readiness to change socially undesirable consumption behaviours. Through having a better understanding of how consumers form their expectations and the ways in which to exceed these expectations through the experience, will allow policy makers to develop strategies with means to change the future behaviours of these consumers.

LIMITATIONS AND FUTURE RESEARCH

Although this study has extended the disconfirmation paradigm and highlighted the distinction between positive and negative consumption expectations, it is not without a number of limitations that must be noted. Firstly, a small sample size was used. A more robust and descriptive analysis could be made from a larger sample size.

Secondly, the fact that this study relies on the memory of a high risk drinkers past experience could potentially be a limitation. The study is based on student's last high risk drinking experience, which may provide some bias as to the experience. For example, a respondent that partakes in high risk drinking may have their memory of their last experience altered due to their peers providing new information about that experience. Perhaps future research could examine a longitudinal study to determine the before and after effects of high risk drinking (i.e. track behavioral changes).

This study was based on the results of a single University in Australia. Whilst the use of the student sample is justified, future research should examine a multi-University focus, or possibly entire population focus, in order to draw distinctions between groups. Further, other age group cohorts should be considered for future research.

The results are limited to high risk drinking. While this is an epidemic for teenagers (Gill 2002, Kropp et al. 2004), drug taking may be becoming more prevalent with adolescents (D'Angelo 1994, Fitchett & Smith 2002). Future research should validate\extend the findings to other sin products, such as drug taking, gambling etc.

Another limitation may be the measure of disconfirmation used. The technique of disconfirmation was a combination of Fromme, Stroot and Kaplan's (1993) work and Bhattacharya, Rao and Glynn's (1995) work. Further research could examine alternative measures of disconfirmation (expectation minus performance), in order to determine if significant differences occur between different measures of the same concept.

Supplementary studies may also wish to measure other behavioral intentions, such as word of mouth and/or peer pressure, to determine what, and if they have a bearing on the alcohol consumption in the first place. An interesting study would examine whether repurchase intentions have the ability to change behavioural intentions.

Future research should integrate relevant addiction theories to help further explain high risk alcohol consumption. For example, McCutcheon, Lange and Houran (2002) used the absorption-addiction model to explain individual celebrity worship behaviour. This would enhance the definition and broaden the scope of the research area.

It would be of additional interest to investigate the salience placed on the various positive and negative consequences of binge drinking in future research. This could help in devising strategies of ways in which to reduce the widespread mass consumption of alcohol in high risk people.

APPENDIX

Alcohol Expectancy Disconfirmation Factor Analysis

Items		Loading							
		P1	N1	N2	P2	N3	N4	P3	P4
Sociable (Positive)	Talkative	.811							
	Talk to people	.704							
	Outgoing	.650							
Cognition (Negative)	Response speed		.841						
	Difficulty in thinking		.579						
	Clumsy		.569						
Disorderly (Negative)	Loud, boisterous, or noisy			.810					
	Dominant			.756					
	Dizzy			.735					
Sex (Positive)	Enjoyed sex				-.839				
	Lover				-.735				
	Act out my fantasies				-.612				
	Powerful				-.520				
Unsettled (Negative)	Moody					-.833			
	Shaky or jittery the next day					-.744			
Regret (Negative)	Guilty						.753		
	Problems						.568		
Fun (Positive)	Humorous							-.812	
	Sexy							-.803	
	Friendly							-.546	
Relaxed (Positive)	Calm								-.803
	Peaceful								-.621
	Creative								-.553
Eigenvalues		6.67	3.31	1.51	1.37	1.19	1.10	1.05	1.02
Cronbach's Alpha		0.83	0.60	0.65	0.68	0.54	0.51	0.73	0.70
KMO Measure of Sampling Adequacy		0.877							
Bartlett's Test of Sphericity Significance		0.000							

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BRAND RESONANCE: THE CASE OF BRAND EXTENSIONS OF PROTOTYPICAL BRANDS

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ABSTRACT

Brand prototypicality is an area that has had limited research in the past. With brand extensions becoming more and more relevant in the market, it is important to know how prototypical brands can extend their brand. Further, there is a lack of research that examines brand resonance, specifically in regards to prototypicality. This study replicates and expands upon previous research methodologies (Gürhan-Canli & Maheswaran 1998; Matthiesen & Phau 2005). Using an experimental study, a 3 (congruency) x 2 (typicality) x 2 (motivation) x 2 (brand type) factorial design was developed. Preliminary research chose a brand category of watches, with four real brands. The research will create a uni-dimensional prototypicality scale to use as a manipulation device for the current study, and will be the first to provide a measure for prototypical brands.

INTRODUCTION

The concept of prototypicality has been around since the mid 80's (Carpenter & Nakamoto 1989; Nedungadi & Hutchinson 1985), however it has been of little interest to marketers (Aaker & Keller 1990; Boush & Loken 1991; Kalamas et al. 2006). This is surprising given the recent interest and ever growing body of work done in the area of brand extensions (Aaker & Keller 1990; Kalamas et al. 2006; Loken & Roedder John 1993; Swaminathan, Fox & Reddy 2001; Tauber 1988).

A brand extension involves attaching "an existing brand name to a new product introduced in a different product category" (Swaminathan, Fox & Reddy 2001, p.1). According to the literature, an estimated 81-95% of new brands are some form of extension (Kalamas et al. 2006). There are numerous reasons for doing this; a major factor is cost. The cost estimates for developing a new brand have risen from \$150 million in the early nineties (Boush & Loken 1991) to one billion dollars nowadays (Kalamas et al. 2006).

Brand extensions succeed because they leverage brand equity and provide the all important familiarity and security to prospective consumers (Boush & Loken 1991; Kalamas et al. 2006; Loken & Roedder John 1993; Tauber 1988). As such, an extension has a higher chance of success, as it builds upon the parent brand (Aaker & Keller 1990; Kalamas et al. 2006; Swaminathan, Fox & Reddy 2001).

Tauber (1988) identifies seven different types of brand extensions; however, this study will focus on the two general approaches, line extensions and category extensions (Aaker & Keller 1990; Kalamas et al. 2006). When an existing brand name introduces a new product or service into the same product class, it is called a line extension. The line extension merely expands offerings within the same category. Coca Cola is a good example of pursuing line extensions, as along with the traditional Coke beverage, they also make Vanilla Coke, Diet Coke, Coke Zero, etc. Category extensions are when an existing brand name enters a completely different product or service class. It is a larger undertaking to expand the brand. The Virgin group have mastered category extensions. Virgin started in the music industry, and has since expanded to other unrelated fields including airlines, financial services, and mobile phones to name a few.

A prototypical brand is one which is so strong in its core category, that when it introduces a brand extension the “product category attributes may inadvertently be transmitted with the extension” (Kalamas et al. 2006, p.194). Thus the ramifications for prototypical brands pursuing brand extensions become more complicated. Several authors have called for more research on whether prototypical brands can undertake brand extensions (Aaker & Keller 1990; Boush & Loken 1991; Kalamas et al. 2006). It is important to note that within the literature the terms prototypicality and typicality are used interchangeably (and from here in) (Boush & Loken 1991; Carson, Jewell & Joiner 2007; Gürhan-Canli & Maheswaran 1998; Kalamas et al. 2006; Loken & Roedder John 1993; Loken & Ward 1990; Nedungadi & Hutchinson 1985).

The concept of typicality is in some ways similar to the fit construct, which has been examined thoroughly by researchers in this area. However, typicality also has a theoretical basis in psychological research, which may allow marketers to make more accurate predictions regarding the likely success of brand extensions (Loken & Roedder John 1993). Further, often the brand that serves as the prototype of the product category becomes the prototypical brand (Carpenter & Nakamoto 1989; Carson, Jewell & Joiner 2007). A specific measure does not exist to test for prototypical brands (Carpenter & Nakamoto 1989; Carson, Jewell & Joiner 2007; Gürhan-Canli & Maheswaran 1998; Kalamas et al. 2006; Loken & Ward 1990; Nedungadi & Hutchinson 1985).

Previous literature has examined relationships between prototypicality and attitude (Loken & Ward 1990), brand name awareness, usage and liking (Nedungadi & Hutchinson 1985), product design evolutions (Carson, Jewell & Joiner 2007), congruency (Kalamas et al. 2006), and brand extension strategy (Boush & Loken 1991). No literature has looked at prototypicality and brand resonance.

Brand resonance, defined, refers to the “ultimate relationship and level of identification that the customer has with the brand” and thus “the extent to which customers feel that they are ‘in sync’ with the brand” (Keller 2008, p.72). Keller (2003) developed brand resonance to provide a higher understanding of consumer based brand equity, a tool for marketers and brand managers alike to further comprehend the meaning of a brand.

Brand resonance can be measured through four constructs; behavioural loyalty, attitudinal attachment, sense of community, and active engagement (Keller 2008). Each of these measures have been examined individually within the marketing literature, however Keller is the first to combine these four measures, to create the concept of brand resonance.

A brand with a good resonance allows consumers to feel that they are part of the brand itself, and they can identify with the brand (Keller 2003). The literature notes that very few brands actually achieve complete brand resonance (Keller 2003, 2008). Harley Davidson and Apple are the only brands to date that rate very highly on all the four measures. A brand does not have to rate well on all of the four measures to achieve a good resonance though. Even a brand that rates well on only one of the four measures still has the ability to resonate with its consumers.

The brand congruency literature also builds upon the brand extension literature, as brand congruency relates to how well matched the brand extension information is with the parent brand expectations. The majority of studies that have investigated congruency have defined it in two ways, congruent and incongruent. However numerous studies have also itemised congruency as three measures (congruent / moderately congruent / incongruent) (e.g. Kalamas et al. 2006). Kalamas et al. (2006) note that limited research has investigated prototypical brand extensions with varying levels of congruency.

A congruent brand extension will match the parent brand schema, and thus will result in brand name enhancement (Gürhan-Canli & Maheswaran 1998; Swaminathan, Fox & Reddy 2001). Alternatively, an incongruent brand extension has attributes that mismatch the parent brand schema, and thus result in brand name dilution (Gürhan-Canli & Maheswaran 1998; Loken & Roedder John 1993; Roedder John, Loken & Joiner 1998). A need exists to examine the effect of prototypicality and congruency on brand resonance (Gürhan-Canli & Maheswaran 1998; Matthiesen & Phau 2005).

Motivation processing has the ability to enhance or dilute brand name and brand personality, as shown by previous literature (Gürhan-Canli & Maheswaran 1998; Matthiesen & Phau 2005). Motivation processing refers to how much

effort consumers are willing to expend to process new information (Gürhan-Canli & Maheswaran 1998). Under high motivation conditions, it is expected that consumers will process all the information that is available to them. Alternatively, consumers with low motivation would rely more so on peripheral cues (or heuristic processing), and only process a subset of information (Gürhan-Canli & Maheswaran 1998; Matthiesen & Phau 2005).

With theoretical underpinnings from the Elaboration Likelihood Model and the Heuristic-Systematic Model, motivation processing is an important construct when examining new product evaluations. Being able to control for the effect of motivation, we can effectively modify the level of cognitive processing that a consumer will go through.

A brand type can be classified as functional or symbolic. Functional brands usually correspond to product attributes, and satisfy immediate and practical needs, whereas Symbolic brands relate to needs for social approval, personal expression and prestige, and their practical use is only incidental (Bhat & Reddy 1998). There exists a lack of studies showing the differences between extensions for symbolic and functional brands and their effect on prototypicality (Kalamas et al. 2006) and brand resonance (Bhat & Reddy 1998).

“Park et al. (1986) first proposed that a brand concept can either be functional or symbolic, with brands positioned as either, but not both. Bhat and Reddy (1998) further advanced the theory by proposing that functionality and symbolism are separate components, with it being possible for a brand to have both symbolic and functional appeal” (Mowle & Merrilees 2005, p.221). Bhat and Reddy’s (1998) study also further defined symbolic brands into prestige or personality. For the purpose of this research, we will only be examining straight functional or symbolic brands.

HYPOTHESES DEVELOPMENT

Based on the literature review and the gaps outlined above, this study will investigate the following hypotheses:

H_{1a}: The bookkeeping model will be supported in high-motivation conditions. Brand resonance [(a) loyalty, (b) attachment, (c) engagement, (d) community] enhancement (dilution) will occur in response to incongruent and positive (negative) information, and evaluations will be equivalent across the typicality conditions.

H_{1b}: The subtyping model will be supported in low motivation conditions. Brand resonance [(a) loyalty, (b) attachment, (c) engagement, (d) community] enhancement (dilution) will occur in response to incongruent and positive (negative) information. Evaluations will be more extreme for high- (versus low-) typicality conditions.

H_{2a}: For incongruent extensions, more attribute-related thoughts will be generated with high (versus low) motivation. Attribute-related thoughts will not vary as a function of typicality.

H_{2b}: For incongruent extensions, more category-based and simple evaluative thoughts will be generated with low (versus high) motivation.

H_{2c}: More subtyping thoughts will be generated with low (versus high) motivation in the low- (versus high-) typicality condition in response to incongruent information.

H₃: Brand resonance [(a) loyalty, (b) attachment, (c) engagement, (d) community] enhancement (dilution) will occur in response to congruent and positive (negative) information, regardless of typicality in high- (versus low-) motivation conditions.

H_{4a}: For congruent extensions, more attribute-related thoughts will be generated in high- (versus low-) motivation conditions.

H_{4b}: For congruent extensions, more category-based and simple evaluative thoughts will be generated in low- (versus high-) motivation conditions.

RESEARCH METHODS

Sampling Method

The study will be an experimental study, and consists of a 3 (congruency) x 2 (typicality) x 2 (motivation) x 2 (brand type) factorial design, giving 24 groups. Appendix A shows a flow chart of the design of the research. The study will use one product category with four brands (6 groups per brand). The research will be limited to an Australian context only.

Data Collection

Data collection will take place via a convenience sample, using a classroom setting with approx. 15-30 respondents per sitting (One condition per sitting to eliminate possibility of individuals inadvertently exposed to other conditions and guessing intent of study). Responses will be gained via a survey style questionnaire. Gürhan-Canli and Maheswaran (1998) suggest a sample size of 60-75. Aim: 100 per group x 24 = 2400 respondents. The data collection will take place over 2 semesters using the same 1st year class.

Experimental Study Procedure

Classes will be randomly assigned to either high-motivation or low-motivation conditions. The class will be given a short introduction. In particular the class will be told that this survey is part of a consumer research exercise that is investigating a number of brands. The class will be debriefed once the exercise is finished.

Pretest 1

Pretest 1 was conducted in order to determine the appropriate category in which to study. The category had to have easily identifiable symbolic and functional brands, and highly prototypical and not so prototypical brands. Four categories were chosen, namely motorcycles, mineral water, underwear, and watches. Four sets of questionnaires were divided between 225 students. Questions asked were of an unbiased nature asking respondents to list the brands they could recall. The category of watches was chosen, as the figures were the most easily definable out of the four categories.

Pretest 2

Pretest 2 was conducted to identify the most easily definable brands to be used for the study. Where Pretest 1 was a recall based response, Pretest 2 was a recognition based response, confirming the prototypicality level and brand type. A list of watch brands was given, asking the respondent to rate the prototypicality level for each brand (High/Low). On the following page, the same brands were given, asking the respondents to rate the brand type (Functional/Symbolic). Appendix B shows the brands chosen.

Pretest 3

Pretest 3 was conducted to determine appropriate brand extensions. A list of 23 potential brand extensions were chosen and distributed to 45 students to determine appropriateness. All products listed were the same for the four brands. Respondents were asked to rate how congruent each product was to the parent brand (congruent, moderately congruent, incongruent). The categories chosen for extending the brands based on the results were a clock (congruent), pens (moderately congruent), and a dog bowl (incongruent).

Survey Instrument

A combination of established measures will be used. The survey instrument will begin with a brief introductory page. Following this will be an overall prior evaluation of four brands, in order to get the pretest scores. This scale will consist of four items per brand. Each item will be an overall view of the four measures of brand resonance. Next is a filler task, which will be the 5 item status consumption scale (Eastman, Goldsmith & Reinecke Flynn 1999). This is done to clear the respondents mind to prevent any potential bias. The motivation variation will occur next. This will be done according to the cover sheet of the questionnaire. For the high-motivation conditions, students will be told that they are part of a very small sample and their feedback will weigh heavily on the possibility of the brand extension going ahead. They will also be told that there will be a lucky draw for all completed questionnaires. For the low-motivation conditions, students will be told that they are part of an Australia wide study and their individual feedback will not be taken into consideration, but averaged with many other respondents (Gürhan-Canli & Maheswaran 1998; Matthiesen & Phau 2005).

The advert will be shown next. Following the advert, the 21 item brand resonance scale developed by Keller (2003) will be used to determine the posttest scores. Respondents are next asked to list all the thoughts that came to mind, to measure the motivation processing mode. Next will be an 8 item thought elicitation scale representing attribute-related, category-based, subtyping and simple evaluative thoughts. This will work as a manipulation check. The respondents will be asked about the purpose of the research, as a final manipulation check to ensure the respondents do not know the purpose of the study. Lastly, demographic information will be obtained.

Scale Development

A scale will be developed in order to serve as a manipulation checking device for prototypicality. The scale is expected to consist of a number of items being uni-dimensional in nature. The first step of this scale development is to run an Exploratory Factor Analysis (EFA) on the preliminary list of items gathered for the scale through the literature. The relevant literature gave a total of 24 different definitions of the concept of prototypicality, and as such this was tested with 182 respondents on a 7 point Likert scale. The EFA gave 2 factors with 11 items with a KMO Measure of Sampling Adequacy of .901 and a Bartlett's Test of Sphericity Significance of .000.

The second step of scale development is to refine the items using Confirmatory Factor Analysis (CFA). The 11 item scale was tested with 218 respondents again using a 7 point Likert scale. The analysis was run through the AMOS structural equation modelling package. The results suggested taking away 5 items giving a significance level of .364, and an RMSEA of .021. A second CFA was run to confirm using a different data set of 224 respondents and gave similar results suggesting removal of 5 items giving a significance level of .323 and an RMSEA of .026.

Data Analyses

Further confirmatory factor analysis will be undertaken via Structural Equation Modelling to test the scale, and to check the validity of the scale. To test the main study hypotheses, a combination of ANOVA's, MANOVA's, regressions and t-tests will be run. Appendix C shows the categories to be compared.

IMPLICATIONS

The core contribution of this study is to determine the relationship between brand resonance and prototypical brands. With many brands aspiring towards resonance and prototypicality, it is important to understand the relationship these variables have between each other. Methodologically this study will advance the literature by examining each measure of brand resonance simultaneously, also by using real brands to test the research model. A major practical implication will be providing a measurement tool for the concept of prototypicality that will allow brand managers to periodically monitor the progress of their brand. The research will also supply evidence to support level of congruency fit when extending a brand.

LIMITATIONS AND FUTURE DIRECTIONS

This study will only examine one product category, watches, which will limit its generalisability. Therefore future research should look into studying product categories with differing involvement levels, e.g. underwear. Further, future research should differentiate product categories by way of service, durables, consumables etc. The validation of the Prototypical Scale in other product categories will be required for its validity. Potential research should also investigate prototypical brands extensions influence on other branding concepts, such as brand personality and brand identity.

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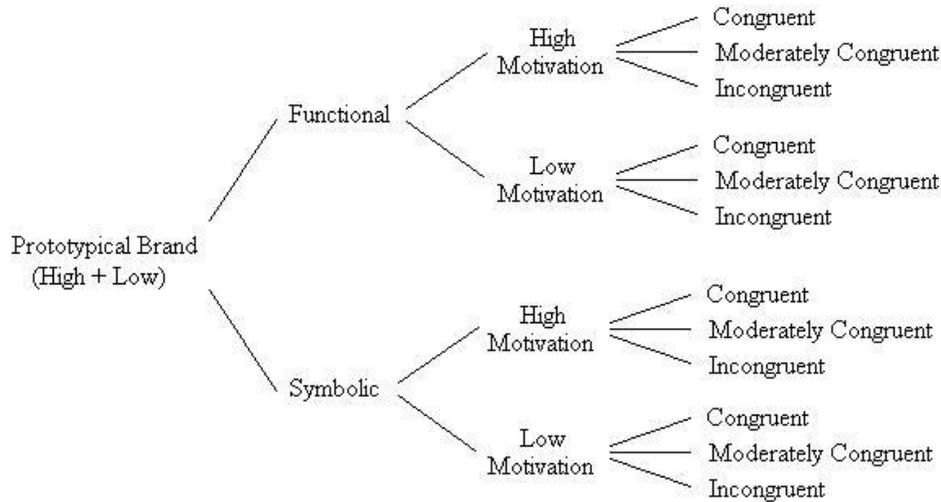
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APPENDICES

Appendix A

Flow chart of factorial design of the research



Appendix B

Brands chosen for study

	SYMBOLIC	FUNCTIONAL
HIGH TYPICALITY	Rolex	Seiko
LOW TYPICALITY	Ferrari	Everlast

Appendix C

Post- and Pretest Parent Brand Evaluations and Thoughts by Experimental Conditions

	<u>Congruent</u>				<u>Moderately Congruent</u>				<u>Incongruent</u>			
	<u>High Motivation</u>		<u>Low Motivation</u>		<u>High Motivation</u>		<u>Low Motivation</u>		<u>High Motivation</u>		<u>Low Motivation</u>	
	<u>Prototypicality</u>		<u>Prototypicality</u>		<u>Prototypicality</u>		<u>Prototypicality</u>		<u>Prototypicality</u>		<u>Prototypicality</u>	
	<u>High</u>	<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>	<u>Low</u>
Enhancement Effects												
<i>Posttest</i>												
<i>Pretest</i>												
Dilution Effects												
<i>Posttest</i>												
<i>Pretest</i>												
Attribute-related												
Category-based												
Subtyping												
Simple evaluative												

DEVELOPMENT OF PENSION FUNDS IN SERBIA AND OTHER COUNTRY IN TRANSITION

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ABSTRACT

This paper focuses on the development of pension funds in Serbia and other countries in the region. Continuous unfavorable demographic and economic changes make this issue very important and topical today on the world scene and Serbia is not an exception. Pension funds are one of the major players on financial markets in EU countries and USA. These funds are powerful institutions, which ensure greater social and material security and higher pension levels in the future. They are part of the pension system that is more effective, efficient and flexible in relation to individual needs and that is less dependent on the state. This paper wants to show what problems the country in transition has to organize and use the pension funds.

INTRODUCTION

Ever since 1981, different countries around the world have been implementing reforms in their pension systems, replacing their pay-as-you-go systems partially or totally with a new system based on individual capitalization and private management of savings leaving the State subsidize. The main reasons for this process are the demographic changes being faced by the world – greater life expectancy due to the advancement in medicine and births –, which have meant in practice that there are increasingly few active workers to finance pensions of those who retire. Among other reasons are the fall in the numbers of employed people and their substitution with new technological developments, which had led to that even the most developed countries had problems to afford a quality pension for their citizens. Because of that many countries are consulting people to turn to additional, voluntary pension funds, in addition to the obligatory ones. This won't solve problems of current pensioners, but will soften struggles of future ones, because it is questionable for how long the old system of financing will be functioning.

Situation in Serbia is even more complicated regarding the number of retired people, because conditions for retirement were very liberal in previous years – age of retirement remained unchanged for a long period of time, it was very easy to retire before the official retirement age, and it was even possible to buy years of service. All this has led to the ratio 1:1, meaning that the state has to finance the pension system for about 40%. Without action, such a shift will slow down economic growth and will raise taxes and social insurance contributions. In the end, the problem can be solved by introduction of the three-pillar system:

- Pillar I (pay-as-you-go system) is the one with centralized government management; there employee contributions finance current pensions.
- Pillar II (private mandatory pension funds) is mandatory pillar of the pension system with decentralized private pension fund management.
- Pillar III (private voluntary pension funds) is also based on the capitalization of assets and would be a form of voluntary saving, where, like in the previous case, the main risk would be borne by the user.

The proof that such three-pillar system is a good solution is Chile that started reform in 1981 as the first country that had introduced pension funds and management companies. Employees were obliged to save 10% of their income on individual accounts with the opportunity to pay additional contributions up to other 10%; both amounts were tax

free, as well as the profit realized from investment. After 15 years, pensions were 50% to 100% higher compared to the pay-as-you-go system. Private pension system had accumulated more than USD 25 million, which was about 40% of GDP; economy had grown from 3% to 6,5%, unemployment rate had decreased to 5% and saving rate reached 27% of GDP.

It is impossible to apply all reform elements to Serbia, but the way that Chile managed to overcome transitions costs is very interesting: moving to the Pillar II leads to the deficit in the Pillar I, because the position of the funds is transferred to individual accounts, and state receives less revenues from the current contributions. In Chile, these costs were funded by wage taxes, revenues from company privatizations, funds from issuing long-term securities, decrease in other budget expenses, etc.

PENSION FUNDS IN SOME SOUTH AND EASTERN EUROPEAN COUNTRY

Most South and Eastern European countries had introduced new mandatory individual pension plans to create a capital-funded retirement pillar to diversify retirement income and develop capital markets. As result, deep structural reforms have fuelled a 19% per annum increase in private pension assets.

One of the most important and successful reforms to have taken place in Bulgaria in the transition to democracy and market economy is related to the pension system. The first supplementary pension funds in Bulgaria were created as public limited companies with shares in 1994 and 1995 on the initiative of financial institutions, banks trade unions an insurance companies. In 1997, the Bulgarian Association of Supplementary Pension Security Companies was set up. This was very important stage in the pension reform, because the country was able to use the full potential of the pension funds. It also gave the government the possibility to take part in the pension reform, which was implemented between 1999 and 2003. Because of that, Bulgaria has a new and working three-pillar pension system, including a mandatory and voluntary supplementary pension, which is already showing its social and economic advantage. The State System ensures the aging, disability and death risks, while the Private System ensures a permanent supplementary pension and covers the risk of death. The State does not grant nor ensure any minimum benefit in the Mandatory Supplementary Pension System.

Table 1 – Number of members of pension funds, as of March 31, 2008

Year	Universal Pension Funds	Professional Pension Funds	Voluntary Pension Funds
2006	2,640,652	207,357	592,805
2007	2,682,956	210,598	598,029
Mar-08	2,724,951	213,929	604,957

Source: www.fsc.bg

From the table it could be seen that, number of members in all types of pension funds was increasing during the last years. Universal pension funds remain first in the number of members, while in professional pension funds membership is the lowest. By the data of Financial supervision commission of Bulgaria, most people in Bulgaria are members of universal pension funds 76,88% of the market, the following are voluntary pension funds and professional pension funds with 17,08% and 6,04% market share respectively. Through the universal and professional pension funds pension insurance companies offer individual pension insurance scheme, as well as individual and corporate schemes at the voluntary pension funds and in that way help people to plan their financial future.

From table we can see that all three groups of pension funds have diversified investment portfolios. They invest most of their assets in foreign securities, different types of bonds, primarily corporate bond and a small portion of assets is invested in property.

Pension system in Bulgaria has certain priorities and is faced with some challenges: strengthening the role of the universal funds, increasing the contribution rate for supplementary funds, daily asset valuation and rationalization of the switching process. The successful activity of the pension funds in Bulgaria is fundamental for the country's economic development.

Table 2 - Investment structure by type of pension funds in 2007

in 000 BGN

Investment	Professional Pension Funds	Universal Pension Funds	Voluntary Pension Funds
Total investment	322,526	1,101,627	478,232
Debt securities issued or guaranteed by EU member -states or by their central banks	79,286	305,791	112,660
Corporate bonds	81,289	276,585	106,260
Mortgage bonds	8,477	31,479	17,166
Municipal bonds	9,921	27,686	6,883
Shares, right and units	115,836	348,551	205,016
Shares, right to the shares of special investment purpose company	13,543	43,257	33,504
Shares and units, issued by collective investment schemes	39,452	107,278	33,504
Bank deposits	79,680	281,853	98,918
Investment property	10,880	27,697	44,121

Source: www.fsc.bg

Hungary is one of the first country in the region and first EU accession country to undertake such a far-reaching pension reform. Hungary is one more country that had introduced three-pillar pension system.

The first pillar consists of two different tiers. The first has the aim of revenue maintenance through benefits consistent with the pay-as-you-go mechanism and defined-benefit logic. Means tested benefits are provided to people in need who do not have a sufficient contribution record. The second tier is then represented by supplementary funded pensions, based on a fully funded method of financing. Pension funds take officially the form of mutual saving associations whose members are co-owners of the fund. They are administered by the board of directors and monitored by the board of supervisors. The mandatory retirement provision within the scope of fully funded private pension funds represents the second pillar. Mandatory pension programs are then supplemented by voluntary schemes already well developed in the late 1990. Contributions to the voluntary and private programs give right to pensions to be paid as lump sum or annuity. Employers can participate to financial resources of voluntary funds. The mandatory and voluntary funded programs cover more than 80% of the labor force.

At the end of March 2008 in Hungary, there were 20 mandatory and 67 voluntary funds. Decrease in the number of voluntary pension funds compared to the end of previous years was due to mergers of the funds. Moreover, there are a number of private pension funds, which shows that this sector has potential for further development.

Fluctuations in the net assets of both private and voluntary pension funds are due to contributions paid by member's payouts to pensioners. The growth in membership is observed in both private and voluntary pension funds which is good. This shows that population is very well educated and informed about the advantages of pension funds and aware of the benefits and importance of investing in their future.

Pension funds in Hungary operate in a competitive environment, as by the end of March 2008 there were 87 both mandatory and voluntary pension funds. This ensures that all groups of the society are covered, because segments of population targeted by these types of funds are quite different. Among the main objectives of Hungarian authorities for the future are to ensure a cheaper and more transparent system that will allow reduction of the operational costs, to emphasize the system of good governance, and to have a pension system that is more independent of political changes.

Table 3 – Membership and assets of pension funds in Hungary

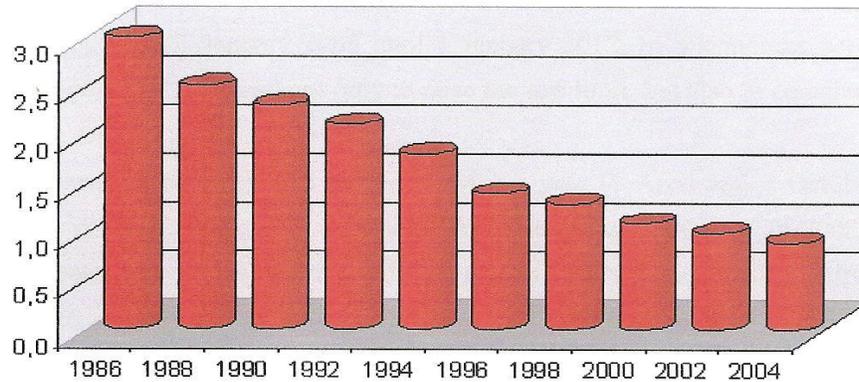
Description	2006	2007	March 2008
PRIVATE PENSIONS FUNDS			
Total assets at market value (HUF million)	1,680,509	1,966,174	1,898,612
Number of members (in thousands)	2,671	2,764	2,818
VOLUNTARY PENSION FUNDS			
Total assets at market value (HUF million)	722,975	786,907	722,159
Number of members (in thousands)	1,373	1,386	1,393

Source: Hungarian Financial Supervisory Authority

PENSION FUNDS IN REPUBLIC OF SERBIA

Before the implementation of the Law on voluntary Pension Funds and Pension Schemes on 1 April 2006, the pension system in Serbia formally functioned as pay-as-you-go system (PAYG). Such pension system is an intergenerational solidarity system (Pillar I), which implies that pension contributions from the currently employed finance current pensions. To function normally, such mandatory state pension assurance requires a ratio of 3.5:1 between employees and pensioners. In Serbia, this ratio was last recorded in 1981, and since then there was a constant downward trend in the number of employees, accompanied by an increase in the number of pensioners.

Number of employees paying contributions for one pensioner 1986-2004



Source: www.mfin.sr.gov

Figure 1 shows that about 20 years ago there were 3,5 times more employees than pensioners. Data from 2004 show that one employee is financing one pension. Like most countries, Serbia has faced demographic changes – longer life span and lower birthrate. Collected contributions are not sufficient for payment of current pensions. The resulting monthly deficit in the Pension and Invalidity Insurance fund is covered from the budget, representing a considerable burden for the state. All of the above resulted in a reform of the pension system in two directions:

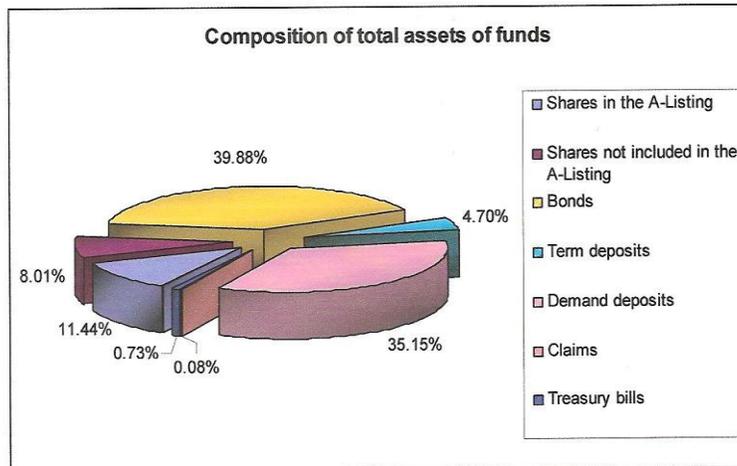
1. Change the Pillar I - Gradual raising of age limit for women)men from the present 58/63 to 60/65 starting from 1 January 2008 until January 2012, by six months per year (in Europe, there is a trend not only to raise the age limit, but also to equalize women and men) Gradual harmonization of pensions twice a year, only with costs of living, and not also with the increase of salaries. In 2008 pension increase is by 12,5% based on salaries and by 87,5% based on costs of living. Change of parameters results in a decrease of an average pension compared to the average salary, amounting to approximately 55%. The reason for this decrease is the impossibility of financing the state pension insurance.
2. Introduction of the Pillar III, therefore it can be said that the best part of the so-called three-pillar system is functioning in the country. Payments to funds belonging to the Pillar III are Voluntary and can be made by employers, trade unions, associations and all natural persons, while payments to funds belonging to Pillar II are mandatory and can be made by employers for their employees.

The Law on Voluntary Pension Funds in Serbia introduced Pillar III of the pension system, which should make the idea of Pillar II closer to citizens prior to its introduction. Pillar III is represented by voluntary pension funds, institutions that collect contributions from their members and then invest these funds in different assets, with the aim of making profit with minimal risk. According to the Law on Voluntary Pension Funds and Pension Schemes in Serbia assets of voluntary pension funds shall be invested, by principles

Pension contribution up to 50 euro deducted and paid from salary of an employee voluntary pension fund member or by the scheme organizer per scheme member are exempt from payment of income tax. It is important to note that each pension fund member can take advantage of both expedients. According to the Income Tax Law tax capital gain is 20%. Account transfer from one-pension funds to another is not considered as capital gain and thus is not taxed.

Only 5% of people in Serbia are using private pension funds and that is the lowest percentage in the region. At the end of March 2008 the number of contracts concluded with management companies came to 181.772. The number of individual accounts to which contributions have been paid since the start of operations of voluntary pension funds to date has been increasing to reach 161.173 at the end of March of the current year. According to the report of the National Bank of Serbia, of total payments, individual payments accounted 21,34%, pension scheme 36,18% while the largest portion, or 42,48% referred to contribution payments by employers.

Composition of total assets of funds of Serbia in 2008



Source: www.nbs.rs

The major share of total assets in the first quarter of 2008 was invested into debt securities, as it was in the previous quarter. Debt securities accounted for the largest share of total fund assets 40.61% followed by transaction 35.15%, shares 19.45% and time deposits 4.70%.

Serbian pension market is just developing it should not be looked upon as discouragement. On the contrary, Serbia can explore the paths these countries went through to their introduction of pension reform and learn from them. Most of them through what Serbia is facing today. Small size of Serbia's capital market – if one considers the capacity and quality of securities listed on the Belgrade Stock Exchange, one becomes aware of the difficulties involved in ensuring not only quantity, but also diversification necessary for the portfolio of pension fund whose accumulation power is growing rapidly. This problem could be solved by investing accumulated assets in foreign capital market, but, on the other hand, that would mean the loss of influence of domestic saving and economic growth.

The number of pension funds in Serbia is still small compared to other countries where the environment is very competitive with a lot of pension funds. However, this can be explained by the fact that the Serbian pension sector is still young. The market of pension funds in Serbia is also characterized by the high degree of market concentration, but there is potential for establishment of new pension funds and growth of the existing ones.

CONCLUSION

Today a growing challenge for many nations is population ageing. Throughout Europe. The average lifetime is increasing, thus increasing the length of time that people depend upon income from pensions. Compare Serbia and Bulgaria and Hungary, because they established pension funds at approximately the same time. These countries are far ahead of Serbia, especially those that are already members of EU. The Hungary and Bulgaria net assets amount up to several billions or even trillions, which are quite large amounts of funds to be invested on the capital market. Portfolio structures of Serbian pension funds are very narrow, while in other countries portfolios are wider, with units of investment funds, foreign shares, property, different types of bonds.

Voluntary pension funds in Serbia operate less than two years, which is quite a short time period considering the long-term character of these financial institutions. There is a huge place for development of the sector, bearing in mind the fact that net assets of funds represent around 0.12% of GDP, which is significantly lower compared to the average EU countries (17%) and the average of countries in the region (5%) and considering also that only 7.4% of employed people have contracts with one of the existing pension funds.

Very high transaction cost – according to calculations transition cost would have to be borne by Serbia for a very long time (almost up to 2050) and would cost a great deal (approximately 25-30 million euro at 2005 prices and assuming

zero interest rate) . In any case, this would be a very substantial additional burden on the budget. Alternative solution – such as increasing pension contributions – would additionally burden the economy, while a further reduction in pensions would be socially unacceptable. Privatization income could possibly be used to meet transition cost, but this should be considered in the context of alternative ways of using these funds.

Finally, it is apparent that funds are indeed useful and effective saving vehicles, with the aim providing supplementary pension after retirement. We can expect that pension funds will continue their growth popularity as the population continues to grow and age. Workers in their early years of employment often find discussions of retirement investing creeping into their conversation. This heightened attention to securing for the future will result in an increasing number of pension funds as well as a greater variety of pension fund option to choose among.

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AIRLINE OWNERSHIP RESTRICTIONS AND CONTROL, AND EFFECTS ON AVIATION

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ABSTRACT

This paper aims to provide an analysis of how aviation markets have been influenced to date around the world by airline ownership rules and how governments and carriers have responded to these influences. It reviews the historical background to the current regulations and assesses the influence that these constraints have had on the airline industry. It analyses the pros and cons of ownership rules, the benefits and risks of foreign investment. This paper reviews the current regulations in the EU and, the motives for foreign investment in the EU. Literature from academic, industry and journals is used to support the analysis. Finally, this analysis leads to a discussion of vehicles for regulatory liberalization and the competitive environment looking beyond ownership structures.

INTRODUCTION

Airlines are not able to conduct their business in the same way as other global transnational industries. They are inhibited by the foreign ownership restrictions in Air Services Agreements (ASA) and national laws. Air carrier regulation, in terms of the amount of foreign ownership permitted, is embodied in national laws. The rapidly changing air transport environment of privatization, liberalization and globalization is forcing airlines to seek structural adjustments in order to survive. Carriers are asking to have more freedom in order to ensure their profitability.

Fifty two nations attended the International Civil Aviation Conference in Chicago in November 1944 and discussed the foundations for the future growth and regulation of the industry after World War II. A consequence of this meeting was that each country's airspace became one of its valuable natural resources. The 'Chicago Convention' was signed on 7 December 1944 and contained definitions of sovereignty, territory and cabotage (in Articles 1, 2 and 7, respectively). Each contracting State reserves the right to withhold or revoke a certificate or permit to an air transport enterprise of another State in any case where it is not satisfied that substantial ownership and effective control are vested in nationals of a contracting State, or a case of failure of such air transport enterprise to comply with the laws of the State over which it operates, or to perform its obligations under this Agreement. (Convention on International Civil Aviation 1944)

Air Services Agreements (ASAs)

There are four key elements in most bilateral air services agreements. The first is market access. Usually, a limited number of points/routes and air freedoms are specified (3rd and 4th and occasionally 5th) for each airline listed in the annex. This element determines the geographical limits of the market for an airline. The second is designation and involves each country nominating one, two or more than two carriers, to operate any agreed international route(s). Designated airlines usually must be under the substantial ownership and effective control of nationals of the designating states. This element decides how many players there are in the market. The third is capacity. This limits the service frequency or number of seats that each airline can provide. This element is influenced by airport slots availability and will determine the market size for airlines. The last element is tariffs. Regimes vary from being very restrictive to very liberal. (Yu-Chun Chang, George Williams 2001)

From the above, it is clear that the degree of constraint in an ASA will decide whether a market is monopolistic, duopolistic, oligopolistic or strongly competitive, and so directly affect airlines and consumers. Not surprisingly, bilateral ASAs invariably take time for countries to negotiate.

National Law Regulation in Selected Countries

The particular aims of national regulation in the field of international air transport varies from state to state and are influenced by national economic policies, territorial size and location, the degree of national development, domestic and international politics, and so on. Table 1 lists the ownership and effective control regulations that apply to air carriers for a selection of countries. As may be seen, the airline ownership rules of the US and Canada are particularly restrictive, with each setting a 25% limit on foreign equity. Chile is an exception among the examples shown, with no limit on the proportion of foreign ownership.

Table 1. Status of Foreign Ownership Restrictions in Select Countries

Country	Maximum % foreign ownership limits in selected countries
Australia	49% for international airlines 100% for domestic airlines
Brazil	20% of the voting equity
Canada	25% of the voting equity The maximum single holding in Air Canada by any investor is limited to 15%
Chile	Designation as a Chilean carrier (domestic or international) has principal place of business as the only requirement
China	35%
Colombia	40%
India	26% for Air India 40% for privately-owned domestic carriers
Indonesia	Requires airlines designated under bilateral agreements to be substantially owned and effectively controlled by the other party
Israel	34%
Japan	One third
Kenya	49%
Korea	50%
Malaysia	45% for Malaysia Airlines, but the maximum holding by any single foreign entity is limited to 20% 30% for other airlines
Mauritius	40%
New Zealand	49% for international airlines 100% for domestic airlines
Peru	49%
Philippines	40%
Singapore	None
Taiwan	One third
Thailand	30%
Turkey*	49%
US	25% of the voting equity

Source: Hsu, C.J., Chang, Y.C 2005 * Attach from author

While foreign ownership rules have protected national airlines, they have also limited the strategies available to governments whose carriers have been in financial difficulties. Governments often state that they find the financing of their airlines' expansion difficult. Without the removal of restrictions on ownership and effective control in bilateral agreements however, foreign investors are prevented from purchasing a majority shareholding in an airline. The right to designate airlines enables a government to safeguard its sovereignty, as designated carriers must be "substantially owned and effectively controlled" by nationals. Most states set up their own airlines in order to exercise the traffic rights exchanged with other countries. Often though, these government-owned airlines have been unprofitable. As a result, their national air transport interests have not been particularly well served. However, states without an international airline of their own have been unable to designate airlines from third countries to exploit their traffic rights (Doganis, 1996).

The Pros and Cons of Ownership Rules

On one side, there are some advantages for governments to keep ownership rules. Firstly, they can protect national interests. All States view aviation as vital to their national economic well-being. Most regard it necessary to support and sustain their own airlines. They also see airlines as useful for security reasons. Often they are keen to ensure that particular routes are served (perhaps to encourage tourism). Secondly, they can enable a government to exercise control over its national airline, enabling it to pursue its aviation policies and other key objectives. Thirdly, they can protect national airlines. One feature of the international regulatory system is that it allows very little scope for trade in airline services. Any routes between two countries are normally dominated by airlines from those countries. As a result, the nationality clauses in ASAs protect national airlines from competing carriers based in third countries. Lastly, they prevent the emergence of flags of convenience. The current regulatory system is built on the concept of airlines having a clear national identity and has been successful in ensuring that flags of convenience have not entered aviation. Changing the ownership rules may lose this protection from flags of convenience, with companies able to escape safety regulations and labor laws. (Yu-Chun Chang, George Williams 2001)

On the other side, there are also some disadvantages for governments retaining ownership rules. Firstly, States without an international airline of their own usually have been unable to designate airlines from third countries to exploit their traffic rights. Secondly, it limits the amount of capital airlines can obtain from other countries. Thirdly, it prevents carriers merging with or taking over other carriers in other countries. US carriers have been able to strengthen their positions through merging with other domestic carriers, leading to huge local networks. Airlines in Europe, Asia and Latin America are unable to grow in this way. Lastly, some routes will lack competition. (Yu-Chun Chang, George Williams 2001)

Benefits and Opportunities of Foreign Investments

Easing the access to much needed capital is one of the significant advantages for a host country. Governments often state that they find financing of their airline's expansion difficult. For the less prosperous countries, or countries faced with economic crises, it may be difficult to get finance from domestic investors. Few individual investors will have sufficient capital to invest and there will be few industrial companies with spare funds to invest in a somewhat risky enterprise, such as an airline. These countries could sell their airlines to foreign investors. This was the policy pursued by Korea, Malaysia and China, when they changed their foreign ownership limits in order to attract capital from new and larger sources. Access to capital has prime importance in those countries that have had a state-owned airline in a loss-making position for a long period. Some of these countries are no longer able to subsidize their inefficient airlines, especially in a liberalized marketplace. This has been the case in several European countries, such as Belgium, Portugal and Spain. The Belgium Government sold a 49.5% shareholding in its national airline Sabena in 1995 to the SAirGroup and the Portuguese Government recently sold a 20% shareholding in its flag carrier TAP Air Portugal also to the SAirGroup. The Spanish national airline, Iberia, is now partially owned by British Airways (9%) and American Airlines (1%). (Yu-Chun Chang, George Williams 2001)

The entry of foreign-owned airlines to a home market will create competitive incentives for both existing airlines and new entrants to diversify services and offer different products. Services developed in foreign countries may be emulated. For example, travelers in Australia are obtaining benefits from the development of low cost airline services by British-owned carrier, Virgin Blue. In June 2000, a price war began in Australia, with a one-way Sydney-Brisbane ticket falling from its typical level of A\$350 (US\$ 202) to as little as A\$33, the promotional fare Impulse has charged on the route (Ionides, 2000).

Foreign investment, apart from providing a financial flow, also brings with it the transfer of technology, knowledge, skills and other sources that represent a foreign airline's intangible assets. Participation of foreign airlines in the management of an inefficient airline may introduce innovative ideas and change management habits. This will stimulate and revitalize existing airline managers, encouraging them to adjust to a more competitive environment and thus, lead to a more efficient distribution of corporate resources and better ways of providing services. This is

likely to prove to be the case with China Airlines, which intends to sell more than 30% of its shareholding to a foreign airline, in order to improve its safety management.

When a national carrier is owned by a mega-carrier, not only will it get benefit from the mega-carrier's strength, but there is also the possibility that the major airport of the host country will become an inter-continental hub or gateway. For example, Oneworld alliance partners are keen to obtain a shareholding in Malaysia Airlines in order to gain a dominant position at Kuala Lumpur Airport, and Star Alliance partners want to get a shareholding in Thai Airways to secure their intercontinental hub at Bangkok Airport.

In addition to the above, there are also some benefits and opportunities for the investing countries. As air freedoms are still heavily regulated by ASAs, acquiring equity in an airline from another country is one of the best ways to access a restricted market. This has been the case for Singapore Airlines, which acquired a 49% shareholding in Virgin Atlantic in order to access the Trans-Atlantic market. Strategic alliances can also benefit. At present, foreign involvement in the Asia-Pacific region is not large, though it is growing. Equity investments may help airlines to develop strategic alliances. A small equity investment in a listed airline is more of a gesture of good faith than a binding commitment. A large investment, such as that of British Airways in Qantas, represents a much stronger commitment, since they are harder to reverse and are usually associated with some say in management. If an overseas airline is able to gain an equity stake in an airline of the region, they become a more attractive partner.

A third benefit may come in the form of slot acquisition. Given the grandfather rights system of allocating airport slots, purchasing an airline is one of the best ways of obtaining these scarce resources. Lufthansa's decision to acquire a 20% shareholding in British Midland may well have been motivated by a desire to gain more slots at Heathrow. Another potential benefit comes in the form of providing feed traffic to a home hub. Some carriers have been keen to acquire airlines in other countries for this purpose. For example, KLM purchased Air UK to connect passengers from a large number of regional airports in the UK with their intercontinental flights. Finally, a policy to ease ownership rules is often accompanied by a liberalizing of other market restrictions. Developed countries with small populations, or countries that are isolated, have tended to have a more liberalized approach to their airline markets, in order to expand the networks of their national airlines. This was the reason why the Netherlands and Singapore Governments signed liberalized ASAs with the US in 1978. The same reasoning has been behind the decisions of Australia and New Zealand to form a single aviation market, which will allow their citizens to invest in each other's airlines. (Yu-Chun Chang, George Williams 2001)

Risks and Dangers of Foreign Investments

There are also some potential risks and dangers associated with foreign investment. By investing abroad, foreign airlines may influence directly macro economic variables, such as capital formation, employment, tax revenues and trade. Indirectly, foreign investment may also influence the structure of the host economy, as well as the conduct and performance of local-owned carriers. Increasing foreign ownership in an existing firm has been the subject of heated debate in both developing and developed countries. Governments are afraid that foreign acquisition of local airlines will not provide benefits in terms of higher employment, investment and productivity. Instead, the foreign owner may lay off staff, cut non-commercial routes and merge local offices. In the US, the major block to changing foreign ownership rules is the Department of Defense (DOD). The DOD relies on US commercial airlines to supplement its own airlift capacity in peacetime and during emergencies, and considers the airlines a vital tool for maintaining national security. The major link between US airlines and military is the Civil Reserve Air Fleet (CRAF) program. DOD officials are concerned about the effect of increasing foreign investment on the willingness of US airlines to continue participating in the CRAF program, especially if foreign control were to be allowed (General Accounting Office, 1992).

Due to cultural, economic and environmental differences, taking-over and integrating a business in difficulty can be both expensive and time consuming. This was the experience that the UK & no frills carrier easyJet had when it took over the failing Swiss charter airline TEA Basle (now renamed easyJet Switzerland). Strong opposition can be expected from labor unions. Some airlines have already suffered strike action by their labor forces, making it more difficult to restructure an acquired airline. The other risk is strong competition from the local carrier. British Airways investments in German carrier DBA and in French carrier Air Liberte provoked aggressive responses from

the respective flag carriers. Both airlines have not performed well since being owned by BA, as a result of the strong competition they faced from Lufthansa and Air France. DBA was forced to review its network and cut some international routes, only achieving its first break-even in 1999. As for Air Liberte, BA sold it in the early part of 2000 to SAirGroup carrier AOM.

From the above, it is clear that foreign investment will benefit some sectors, but will be a risk to others. Therefore, it is important to analyze what will be changed and which parties will be influenced by foreign investment. It is also important to decide what policies host governments and would-be host governments should adopt to capture the benefits, avoid the dangers and maximize the contribution of foreign investment. Table 2 provides a summary of the possible changes that may result from foreign investment.

Table 2 Possible changes resulting from foreign investment

Item	Changes
Market structure Services	Airline services might be increased, if a new carrier sets up or a local carrier is taken over by a foreigner.
Competition	If a new carrier sets up or a local carrier is taken over by a foreigner, a competitive market is inevitable due to the desire to increase market share.
Network	Some uncommercial routes might be closed if a carrier was taken over by a foreign airline.
Airports Slot ownership	If the ownership of a carrier changes, its airport slots will change ownership as well, due to grandfather rights.
Hub	An airport's position might be changed, if it is a hub of a foreign-owned airline.
National airlines Strategies	In order to compete with a foreign-owned airline, a local carrier's strategies should be adjusted.
Finance	If a national carrier was purchased by a foreign airline, its financial situation will improve.
Foreign airlines Airline globalization	As mergers and acquisitions become more prevalent, the mega-carriers will become more powerful.
Alliances	As foreign investment is allowed in more countries, the airline alliances pattern will change.
Governments National economy	As an aviation market grows with the help of foreign capital, it will benefit tourism and business activities.

Source: Y.-C. Chang, G. Williams

Foreign Investment in the EU

In 1992, the liberalization of the internal market of the European Community was finalized with the adoption of three Regulations dealing respectively with licenses, routes and fares. The Third Package of liberalizing measures implemented in the EU in 1993, aside from opening up cross-border and domestic markets, removed national ownership restrictions. Part of the Third Package, Council Regulation 2407/92, requires the granting and maintenance of operating licenses by Member States in relation to air carriers established in the Community. When a company satisfies certain financial and technical fitness criteria, it is entitled to be licensed as an air carrier and as such can operate services wherever it wants within the Union, making its own decisions on capacity and fares. These rights can be exercised by any European Community citizen throughout the whole of EU without discrimination on the grounds of nationality. (Council Regulation 1992)

Given that many governments still view their flag carriers with national pride, it is interesting to analyse the reasons why certain European states have been willing to sell stakes in their airlines to other carriers. Whilst it is undoubtedly true that a key policy objective in the drive to establish a Single Market in Europe has been. Privatisation, it is clear that many smaller states have been reluctant to adopt the strategy with respect to their national airlines. Poor financial performance has been the primary driver in the privatization of most of these state

assets. Table 3 lists the other possible motives. The motives for the major EU flag carriers purchasing shareholdings in other European airlines are summarized in Table 4.

Table 3 Main reasons for the sale of stakes in EU national airlines

Airlines	Limited home market	Access to capital	Incentives to management	Strengthen the position of airports
Sabena	✓	✓	✓	
TAP Air Portugal	✓	✓	✓	✓
Iberia		✓	✓	✓
Austrian	✓	✓		

Source: Y.-C. Chang, G. Williams

Table 4 Motives for European national airlines' acquisitions in neighboring countries_

Airline stakeholder	Partner	Purpose of ownership
British Airways	Deutsche BA (100%)	To access the German domestic market
	Air Liberte (70% in 1999, 0% in 2000)	To access the French domestic market
	Iberia (9%)	To strengthen the Oneworld alliance
KLM	KLM uk (100%)	To feed KLM in Amsterdam
	Braathens (30%)	To serve the Scandinavian regional market
Lufthansa	Luxair (13%)	To feed Lufthansa services from Luxembourg
	Lauda Air (20%)	To feed Lufthansa services from Vienna, Salzburg and Milan
	Air Dolomiti (26%)	To serve northern Italy and neighboring countries
	British Midland (20%)	To acquire Heathrow Slots
		To feed Lufthansa services from Manchester and London
SAirGroup	Austrian Airlines (10%)	To access slots at Vienna
	Sabena (49.5%)	To obtain Sabena's network from Brussels
	Air Europe (49.9%)	To access Italy's charter market and acquire some scheduled services
	Air Littoral (49%)	To access the French domestic market
	LTU (49.9%)	To access the German charter market
	Volare (34%)	To serve the regional market in Italy
	AOM (49%)	To access the French domestic and overseas territories markets in the West Indies, Indian Ocean and Pacific, Australia and Central America
TAP (20%)	To access the Portuguese domestic market and international flights to South America	
SAS	Spanair (49%)	To link over 100 cities to Spanish destinations
	Air Botnia (100%)	To serve the Finnish market
	British Midland (20%)	To acquire Heathrow Slots To feed SAS services to the UK

Source: Y.-C. Chang, G. Williams

Possibilities for Reform of National Ownership and Control

By bilateral reform in this context is meant not so much the development of a new ownership and control for bilateral air service agreements, but rather the possibility that various governments, responsible for the negotiation of bilateral for one and the same multinational airline, co-ordinate their bilateral negotiations with third countries this is an ad hoc solution, either temporary or permanent, to suit the needs of a particular multinational airline. The best example, currently available, is seen in Scandinavia in the context of SAS (Denmark, Norway and Sweden). (Haanappel, P.P.C., 2001)

Reforms of national laws pertaining to ownership and control of airlines may be necessary where countries wish to allow cabotage in their territory or the right of establishment for foreign airlines/investors, or where they wish to allow/increase foreign equity participation in their airlines. Regional reform refers to common aviation areas, where, as indicate above, there may be dual system of airline ownership and control provisions for airlines. One solution might be the extension of ICAO recommended community of interest designation from economic groupings of LDCs (Less Developed Country) to also economic groupings of developed countries.

It is likely that worldwide multilateral organizations like WTO (World Trade Organization) in frame work of the periodical revisions of the Air Transport Annex to the GATS (The General Agreement on Trade in Services), UNCTAD (The United Nations Conference on Trade and Development) and/or ICAO will put the reform of airline ownership and control on their formal agendas. The first concrete evidence thereof is a preliminary agenda for an ICAO Conference on the Liberalization of International air Transport, tentatively scheduled for March 2003.

European Civil Aviation Conference (ECAC) is developing an ownership and control clause that would be helpful in the cases of airline privatization, foreign equity participation, multinational airlines and foreign owned domestic airlines having, according to national laws, received permission to fly international route also. Actually, a Task Force on Ownership and Control of ECAC recommended developing a model bilateral clause requiring a designated airline to be incorporated in and to have its principal place of business in the country of designation. A footnote to the ECAC text suggests to assess a carrier's principal place of business according to whether a carrier has a substantial amount of its operations and capital investment in physical facilities in the designating country, whether it pays income tax and registers its aircraft there, and whether it employs a significant number of nationals in managerial, technical and operational positions. (Haanappel, P.P.C., 2001)

CONCLUSIONS

While foreign ownership rules have protected national airlines, they have limited the strategies of governments whose flag carriers have been in trouble. Governments often state that they find the financing of their airlines' expansion difficult. They may also believe that their carriers will perform more efficiently under private ownership. Without the removal of restrictions on ownership and effective control in bilateral agreements, however, foreign investors are prevented from purchasing a majority shareholding in an airline.

Easing of ownership rules is often accompanied by a loosening of other market restrictions. The recent increase in foreign investment in airlines reflects the growing globalization of the industry. Restrictive foreign ownership rules clearly no longer satisfy the demands of today's marketplace and removing the nationality clauses in bilateral air service agreements (ASA's) is a vital step towards achieving a truly competitive global airline industry. The ICAO 'suggestion that the substantial ownership and effective control' clause common in bilateral, be replaced by 'the principal place of business' is one that should increasingly find favour with governments.

Although nationality clauses were removed in the EU Third Package, non-member states in Europe are not subject to this change. Therefore, the potential for a European carrier to build up a large local market base, through merger and acquisition, comparable in size to that of their US competitors, is limited. The TCAA would harmonize the present bilateral agreements between the US and EU countries. While the broader concept exists in the EU and in some of the recent intra-regional agreements, it seems to be anathema to US carriers, as well as to labour unions and Congress, due to concerns over sovereignty and defense. Therefore, one solution may be for the EU to find an alternative way to establish a Common Aviation Area, for example, by linking up with like-minded countries first, such as Australia, Canada, New Zealand and Singapore. On March 30th 2008, the U.S.-EU markets opened up to increased competition. As a result of previous protections, U.S. carriers must quickly adapt to face healthier competition from the EU. This is no longer a domestic business. The networks are global and regulations must adapt to reflect that. The markets are much better equipped than the regulatory regime in dictating how service industries should adapt to change. After all, the regulatory policies of one nation will not stop globalization. (Cosmas, A., Belobaba, P., Swelbar, W., White Paper)

It is evident that the present ownership and control restrictions in aviation treaties impede the long-term restructuring of the sector, restrict adequate financing, and thereby adversely affect the efficiency of airline services.

A complete abolition of the nationality requirement, however, is impossible since that requirement is the core of the present system of bilateral treaties established in the 1940s. States are thus locked up in a system created by them. In order to overcome this stalemate, a two-track strategy should be pursued. Firstly, the EC Council should give the Commission as soon as possible a mandate to start negotiations with the United States on a Transatlantic Common Aviation Area. Then the countries of the European Community will be regarded by the US as one entity, which would enable European airlines to attract foreign capital or even merge into multinational airlines. Once the US has accepted this, it is unlikely that other countries with smaller aviation markets will be obstructive to such European consolidation. Such an agreement between the EC and US could function as a trend-setter or even be enlarged itself. The agreement should ultimately have no geographical limitation, but initially the EU and the US, as the largest aviation markets in the world, should lead the development. Progressively the agreement would get a broader coverage and ultimately it could be the basis for moving to a new multilateral worldwide regime. Secondly, as long as there is no worldwide liberalization of air services, some link between the airline and the country or countries involved is required in order to prevent the phenomenon of 'free riders', *i.e.* airlines benefiting from free market access to a foreign country while being protected through limited market access in their home country. Therefore, a criterion based on the principle place of business and/or permanent residence of the airline should be substituted for the present ownership and control clause. The European Commission should pursue such a broadening of the nationality concept both in bilateral negotiations and within ICAO.

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THE CONCEPT OF INTELLECTUAL VALUE: EVIDENCE FROM RUSSIAN LISTED COMPANIES

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ABSTRACT

The value based management (VBM) principles seem to be very popular in Russia recently. The main aim of the VBM concept is to create the shareholders' value, according to the strategic goals of the company. To achieve this aim top-management that is pressed by the shareholders' plans has to divide the whole value creation process into stages and set some key performance indicators (KPI) for each involved stage. Thereby the "principal – agency" problem probably seems to be solved. Those who have managed to achieve the desired KPIs, have an opportunity to create additional value or value added (VA) in comparison with their competitors. Strategic changes models of large listed companies tend to be the context items, i.e. depending upon various key components. The value as the result of the constant strategic changes becomes the complicated intellectual parameter, which is managed and defined by the multi-level combination of interactions of different groups of stakeholders. Therefore the authors of the article make an attempt to consider the specified Intellectual Value Based concept. The obtained results could be used to evaluate the potential of the particular company future development.

INTRODUCTION

Various groups of the stakeholders of a listed company over more than five years can use the information about these components to solve the problem of information asymmetry. Internal stakeholders (primarily, managers) can use such information to manage the value of the company in the long-term period; and the external stakeholders (investors) can evaluate the potential for future growth of a particular company by means of analysing the information about its IC (along with the information about the fundamental factors of the company's performance); and in this article the authors assume that the major part of the information of the public and listed company over five years is public and available to every individual who has an intention to use it.

At the beginning of 2000 large companies either Russian, or foreign ones, began to initiate more complex information disclosure to reduce the information asymmetry between the company and its stakeholders (of course first of all - investors). The authors can consider the so-called "Enron case" as a borderline, when the window dressing caused a crash of the large and quite prospective company. A more complex information disclosure is the main possibility to reduce the information risks. Such information disclosure about qualitative characteristics of the company's performance goes as the addition to financial reports of the managers. The authors cautiously admit that the main problem of the basic financial reporting is the inability of external parties to get information about the real value and opportunities of the company (Yanenko, 2008). Generally the additional reports published by the company or some other public information may provide details about intangibles of the company (these reports can for example contain rules of various groups of intangible assets accounting principles, their amortization period, etc.) Nevertheless, the so-called *Intellectual capital* reports to some extent can reduce investors' risk, due to the fact that such reports disclose more relevant information in comparison towards standard companies' reports.

The research described in this article focuses on the assessment of *Intellectual capital components and subcomponents'* contribution to the process of the company value creation over the long-term period. The notion *Intellectual capital* in general is more broad and complex than *Intangible Assets* (*Intellectual capital* includes *Intangible assets* and other qualitative, non-financial key characteristics reflecting the current status of the company, by taking into consideration its potential for the future growth). Consequently, in terms of this article *Intellectual*

capital of the company is a range of key qualitative non-financial characteristics of the company, which can be even measured, but their main purpose is *qualitative and the long-run* influence on the company's development. It includes a range of company's employees accrued Knowledge, Competence and Abilities, - a range of characteristics which help to distinguish a particular company from other competitors in the same industry. Such characteristics represent the competitive advantage originated inside and within the company. The authors of this article emphasize that *Intellectual capital* is the aggregate evaluation of competencies, which generates competitive advantage and formulates the unique value proposition of the company.

Intellectual value of the company is a part of the total value, created through the process of the *Intellectual components'* integration. And moreover this value can be "traced" by the external stakeholders of the company. In addition, the authors of this article can underline that the delta (the difference) between the Market value of the equity and its Book value can also be "traced". As a proxy variable for intellectual value of the company in this research the authors consider a calculated parameter of *Intellectual enterprise value* (IEV). The value of this proxy variable is calculated as the delta (the difference) between the Market value of the equity and its Book value (the delta between the Market capitalization of the ordinary shares and the Book value of the equity). The calculated delta reflects the excess of the Market capitalization over the Book value, which on the panel data of over 5 years help to eliminate short-term speculative reactions; this delta also reflects how "the market" (stakeholders and mainly investors) measures the level of the company's internal efficiency.

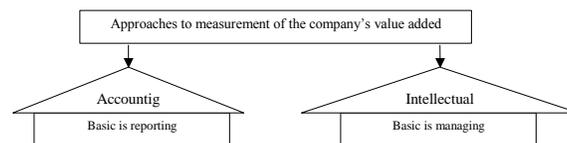
It is necessary to determine the reason for taking into account only the characteristics of the Equity. The authors of this article may assume (Bayburina, Ivashkovskaya, 2007) that managers when targeting the capital structure of the company do not always consider future growth and sustainable development as the long-term goal especially with the emerging markets sample of companies. That is why the choice of the company's capital structure depends on a range of factors, which cannot be considered in this article and are left for the future distinguished research from the conceptual point of view. Therefore the authors of this article can define two aggregate approaches to the measurement of the company's activity with the purpose of evaluating its potential for future long-term growth (and thereafter). So, according to this logic, the authors of this article can determine two approaches to measurement of the company's value added:

- ✓ the analysis of the company is based on the accounting reports and,
- ✓ actually the analysis is based on VBM principles (Ivashkovskaya, 2004).

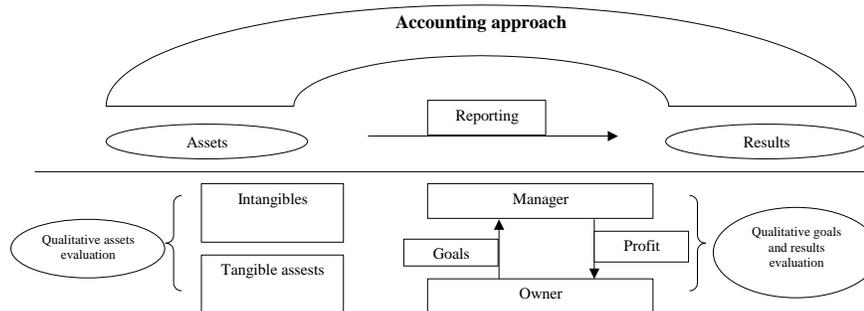
IMPLEMENTING THE INTELLECTUAL VALUE BASED MANAGEMENT APPROACH

The *Intellectual Value Based Management* approach is regarded as the modification of the basic Value Based Management approach in terms of the current dynamic economic changes (see Picture 1,2,3).

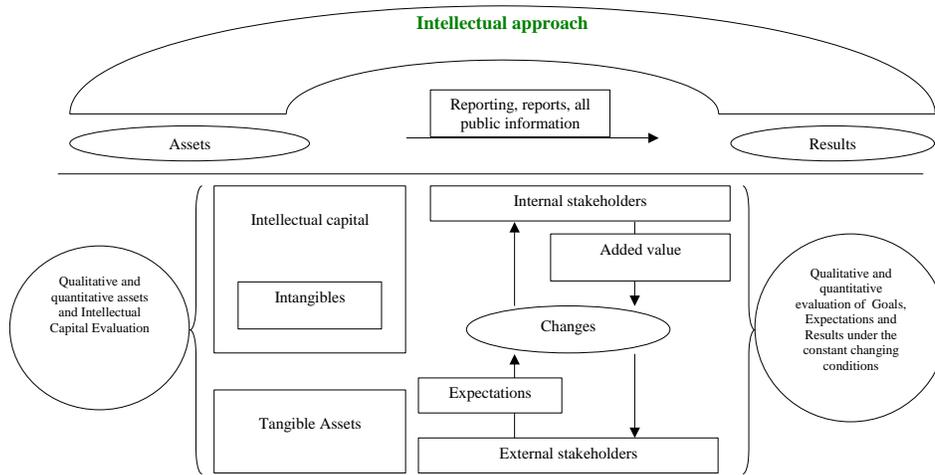
Picture 1. Approaches to measurement of the company's value added.



Picture 2. Accounting approach towards the performance evaluation.

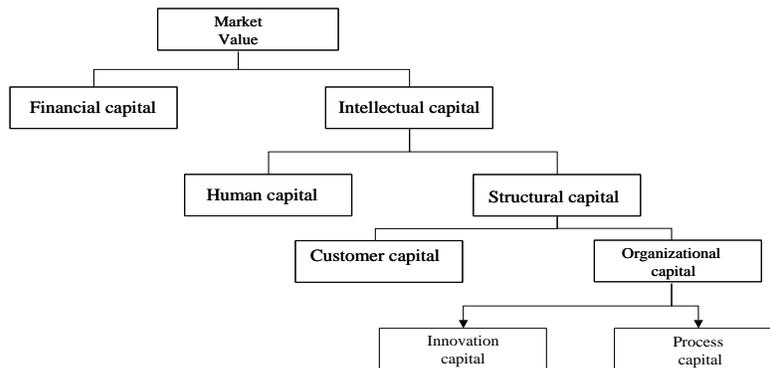


Picture 3. Intellectual approach towards the performance evaluation.



Consequently the analysis of the *Intellectual value* of the company should be systematic (i.e. should be observed across a number of consecutive time periods) and should include either the assessment of fundamental characteristics of the company, or the assessment of its *Intellectual capital* components. The analysis of the company's accrued *Intellectual capital* should serve as the measure of the company's attendant risk, the risk of the deviation of the actual performance results from the predicted ones, including financial performance of the company (Bayburina, 2007). The classification of the factors, which influence the Value of the company created by Edvinsson and Malone (the founders of the *Intellectual capital theory*), is presented in the picture below.

Picture 4. Edvinsson & Malone Classification, 1997.



Since there is a lack of academic research which consider the analysis of *Intellectual capital* components in the large listed Russian companies and which are aimed at revealing the factors of the long-term growth of its value, the results of this research might add to the existing Knowledge Management Concepts, and offer a new instrument for this kind of analysis.

INTELLECTUAL VALUE RESEARCH DESIGN

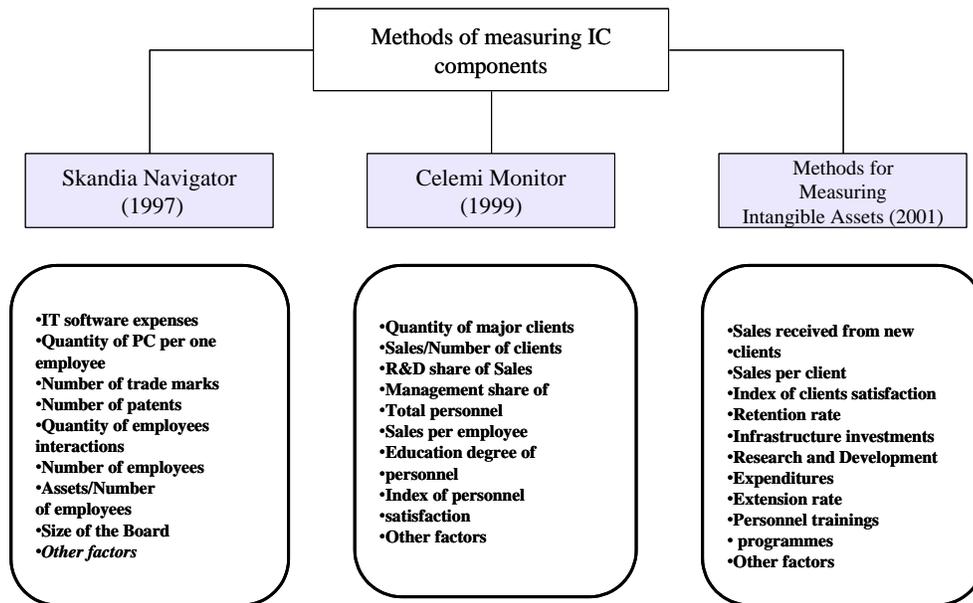
Research Objectives

The main aim of the research is to determine the impact of the following factors (independent variables, IC components and sub-components) on the dependent variables (the indicator of the intellectual value):

- *Fundamental factors* (a group of explanatory variables representing the fundamental factors of the Value's growth of the company);
- *Intellectual capital components* (a group of factors representing the components of the *Intellectual capital*).

The research model is based on the methodologies used by the large consulting companies focused on the Intellectual capital valuation (Skandia Navigator, Celemi Monitor) and methods of measuring intangible assets used by Karl-Eric Sveiby. The examples of *Intellectual capital components* used within the above mentioned methods for evaluating various companies are shown in the picture below.

Picture 5. Methods of measuring Intellectual capital components: some examples of proxy variables.



The results of the empirical research may be used either by internal stakeholders (managers), or by external stakeholders (investors). The former can use it in addition to the basic Value Management principles; however investors can use it in the process of investment portfolio diversification (in terms of buying shares).

Methodology and model specification

To determine the main factors of the company's long-term development the authors tracked the relation between the delta (difference) of the Market value of the company's equity and the dynamics of various groups of factors (fundamental factors and the components of the *Intellectual capital*).

The authors of this article consider *Intellectual enterprise value* (IEV) as the dependent variable. This variable is calculated as the delta (difference) between the Market and the Book value of the equity (the difference between the Market capitalization of ordinary shares and the Book value of the equity).

The research model includes the following fundamental factors:

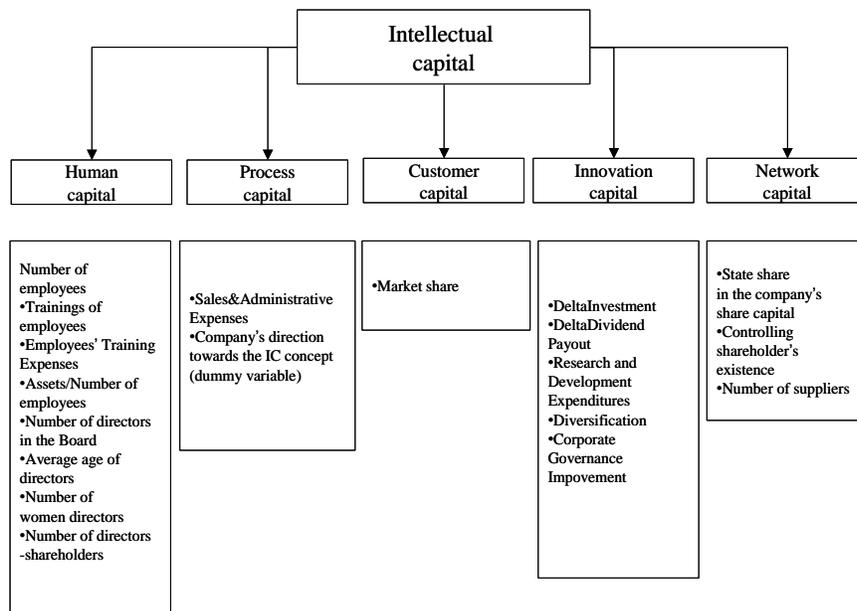
- Book value Assets;
- Net Profit;
- Return on Assets;
- Oil prices;
- Debt-to-Equity ratio;

- LN (Total Assets).

According to the Intellectual capital components' classification, developed by Bayburina, Ivashkovskaya, (2007), the following IC components are used: human capital, process capital, client capital, innovation capital, and network capital.

In order to reach the objectives of the current research the structure of IC, developed in the above-mentioned research, was transformed to the following hierarchy of components (human capital, process capital, client capital, innovation capital, network capital) and the second – level sub-components of IC- the dependent variables of the model. (*trainings of employees, corporate governance specific, etc.*) (see Picture 6).

Picture 6. Structure of IC. Dependent variables of the model.



The simple linear multiple regression tools were used in the empirical part of the research. Due to the fact that the accumulation of IC is the sustained, continuous and recurrent process and the performance results should be evaluated in the long-term horizon the authors of this article can make the following assumptions to the model:

- The authors of this article analyze the information about large Russian companies, which shares are listed on the stock exchanges (including Russian exchanges Russian Trading Systems (RTS) and Moscow Interbank Currency Exchange (MICEX)).

The basic assumption of this article is that the information used in this research is public (is legible to disclosure) and can be considered by potential investors and all other external interested parties and stakeholders.

- The period of listing has a constraint history of not less than 5 years (since 2002 till 2006).

The research sample includes at least a five year listing history of 19 Russian companies working in the following industries: power industry (2), oil & gas (4), petro chemistry and mineral fertilizer production (3), telecommunications (4), transport services (2), consumer goods (2), automobile production (2).

Statistical information for the research sample of 2002-2006 financial years was collected from the source of statistical Bureau Van Dijk (Ruslana Data Base). Ruslana Data Base provides information about company financials in a standardized global format or detailed “as reported” format for Russian and Ukrainian companies.

RESULTS OF THE STUDY

Specific Findings

In order to evaluate the influence of each independent factor a series of linear regression tests has been held. The authors use the panel data, which contains information about the large listed Russian companies. The results obtained are presented in the table 1 below. The following IC sub-components make the main contribution to the model (according to the results): *trainings of employees, the existence of controlling shareholder, total assets/number of employees, delta investment and delta dividend payout*. As the final model of the research the authors of this article have chosen the model in which all the factors are significant (at no less than 5% level of significance).

The authors have carried out some econometrics tests: the Wald Test, Breusch-Pagan Test, Hausman Test.

- 1) Wald Test showed that the Fixed Effect Model provides a better explanation than the Pooled-up Model.
- 2) Breusch-Pagan Test showed that the Random Effect Model provides a better explanation than the Pooled-up Model.
- 3) Hausman Test showed that the Fixed Effect Model is rejected compared to the Random Effect Model.

According to the results the Random effect model of the regression has been chosen. So the basic criterion was the highest value of the Wald statistics (380,95).

Table 1. Model specification.

Test	Statistics
Wald Test	F test that all $u_i=0$: $F(6, 9) = 24,86$ Prob > $F = 0.0000$
Breusch-Pagan Test	$\chi^2(1)=12,28$ Prob > $\chi^2= 0.0005$
Hausman Test	$\chi^2(5)=12,22$ Prob > $\chi^2= 0.0319$

The multi-colinearity was not found. The average VIF meaning is 1,47, which is admitted. The final model with the maximum factors (the authors of this article consider a model with 7 factors):

$$IEV_{it} = -1,52*10^{10} + 5,58*SalesAdmin_{it} + 6,01*DeltaInvst_{it} + 817,38*TA/N_{emp_{it}} + 1672,67*Tran_Expens_{it} + 6*10^{10}*Control_Shrhdr_dum_{it} + 5,65*10^{10}*DeltaDivPayout_dummy_{it} + 1,36 * 1010 * ROA_{it}$$

CONCLUSINS AND IMPLICATIONS

The research described in this article focuses on the assessment of *Intellectual capital components and subcomponents*' contribution to the process of the company Intellectual value creation. *Intellectual value* of the company is a part of the total value, created through the process of the *Intellectual components*' integration. And moreover this value can be "traced" by the external stakeholders of the company. In addition, the authors of this article can underline that the delta (the difference) between the Market value of the equity and its Book value can also be "traced". As a proxy variable for intellectual value of the company in this research the authors consider a calculated parameter of *Intellectual enterprise value* (IEV). The authors of this article have constrained the research to at least a five-year period, which can be considered to some extent a long-term period. This assumption let the authors assume that the rest of variables (which were included in the final model) reflect the sustainable long-term trends of the companies' development and leave out the consideration of speculative fluctuations.

According to the results *ROA* (return on assets, significant at 7,5% level) is one of the fundamental indicators of the performance of the company, which investors consider first of all. The impact of which on the dependent variable is comparably lower than the impact of other factors: *the existence of controlling shareholder* (significant at 1% level), *delta dividend payout, dummy* (significant at 0,4% level). It is important to mention that the final model does not include the oil –price (because of its insignificance with respect to the dependent variable).

The negative constant value in the model is conditioned by the fact that the dynamics of most independent factors was positive during 2002-2006. The dynamics of the independent variable was rather ambiguous, i.e. at some points of time there were seen negative IEV value (the difference between market and balance value of the Equity of

the company). The statistic analysis has shown the positive impact of the IC sub-component on the creation of Intellectual value, yet the Intellectual value itself was lost during some periods of time. To some extent it may be connected with the fact that companies partially tended to construct the debt-based Value (Bayburina, Ivashkovskaya, 2007).

Human capital. The majority of companies in the research sample tend to invest into their employees' development by incurring expenses for their education. The IC sub-component or the factor of the model '*trainings of employees*' has the strongest impact on the dependent variable (significant at 1% level). The IC sub-component or the factor of the model "*total assets/number of employees*" reflects the efficiency of the assets usage; this factor reflects the ability of employees to apply their professional skills. That might give the company an opportunity to generate cash flows in future. The contribution of this factor is positive and it is greater than the contribution of the factor "*sales & administrative costs*" (significant at 1% level).

Innovation capital. The IC sub-component or the factor of the model "*delta investment*" (significant at 2,5% level) reflects the system of measures taken by the management of the company and focused on: intensifying the assets by means of expanding investments in fixed assets; the potential ability of the company to hold innovative programs, the orientation of the company towards its assets structure optimization, the equipment refurbishment, etc. Due to the fact that the research sample mainly consists of the so-called capital-intensive productions, the growth of investments in fixed assets naturally has a significant impact on the dependent variable. According to the results of the empirical research the connection between the growth of "*dividend payout*" and the growth of the *Intellectual enterprise value* (IEV) is positive.

Process capital. The extent of the "*sales & administrative costs*" influence is less than the influence of "*dividend payout*". The sum of "*sales & administrative costs*" can indirectly indicate efforts of the company aimed at boosting of its sales. A few years ago the largest Russian companies began to bind the amount of their top-managers' salaries to their actual work performance. In most cases these results are connected with the dynamics of the *Intellectual enterprise value* through the *Market value*. And consequently the connection between the top managers' compensation and the *Intellectual enterprise value* of the growth of the company is strong and positive.

Network capital. The IC sub-component or the factor of the model "*existence of the controlling shareholder*" has positive influence. This pattern reveals the fact that the policy held by the controlling shareholder of the company is generally persistent and stable; such a shareholder has a personal incentive to the stability and prosperity of the company and, ceteris paribus, he has an aim to create a group of talented managers to run the business and such an owner tracks the company's development strategy.

The results of the empirical research may be used either by internal stakeholders (managers), or by external stakeholders (investors). The former can use it in addition to the basic Value Management principles; however investors can use it in the process of investment portfolio diversification (in terms of buying shares).

Consequently, the inclusion of new factors to the model and the panel data enlargement provide new possibilities for the next stage of the research of the process of *Intellectual capital* accumulation and its impact on the sustainable development of the listed Russian companies and their value creation in the long-term period.

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EFFECTS OF EXCHANGE RATES, INTEREST RATES AND OIL PRICES ON STOCK MARKET INDICES: EVIDENCES FROM ISTANBUL STOCK EXCHANGE

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ABSTRACT

In this paper, we investigate the relationship between stock market index and the following macroeconomic indicators: exchange rates, interest rates and oil prices. We estimate and test a regression model using monthly observations on the variables for Turkey, during August 2002 – February 2009. The empirical evidence suggests that the natural log of monthly price relative of ISE National 100 Index is explained by its first lag, the first difference of the nominal interest rate (TRLIBOR) and the natural log of the relative USD/TL parities' monthly mean levels. The impacts of these three independent variables on ISE National 100 Index are negative.

INTRODUCTION

Capital asset pricing is one of the most studied issues in the financial economics literature. The identification of major factors influencing returns on capital assets can be considered as the main focus of the studies. The first important asset pricing theory, the capital asset pricing model (CAPM), is developed by Sharpe (1963, 1964) and Treynor (1961) and improved by Mossin (1966), Lintner (1965) and Black (1972). According to CAPM, the equilibrium rates of return on all risky assets are a function of their covariance with the market portfolio (Copeland, Weston, 1992, p:193). CAPM, which is a single-factor model, is theoretically challenged by the arbitrage pricing theory (APT) developed by Ross (1976). The APT states that the expected risk premium on a stock should depend on stock's exposure to several macroeconomic factors (Brealey and Myers, 1996, p:195). However, APT does not say what these factors are. Based on this theoretical foundation, a significant literature has emerged in the area of financial economics over the past several years, that focuses on the investigation of the relationship between stock returns and various macroeconomic variables. Existing financial economic theory provides different econometric methodologies for studying this relationship (e.g. Granger causality, cointegration). Since the literature on this subject is extensive, we focus mainly on recent studies, especially on emerging markets, in reviewing the literature (e. g. Maysami, Howe, Hamzah, 2004, Erdem, Arslan, Erdem, 2005, Kandır, 2008, Gay, 2008, Aydemir and Demirhan, 2009).

Our belief is that the relationship between the “macroeconomic variables” and the “stock prices” has to be tested in different settings and in different periods in order to provide further evidences to investors. The present paper makes a contribution in that direction. More precisely, the aim of this study is to investigate the time-series relationship between stock market indices and the following macroeconomic variables: exchange rates, interest rates and oil prices. The research question of this study is the following: “Can time-series analysis of stock market indices be explained significantly by the exchange rates, the interest rates and the oil prices and what is the significance level of the relationships?”.

This study is organized as follows: The section following the introduction briefly reviews the related literature. The methodological design of the empirical study and the composition of data take place in the next section. Then the empirical results are presented. The paper closes with some concluding comments.

LITERATURE REVIEW

In the finance literature, the relationship between exchange rates and stock prices has been extensively investigated in different settings and these empirical studies have come out with mixed results. In fact, it can be stated that the direction of the relationship between exchange rates and stock prices will depend on the net “exchange rate exposure” position of the quoted firms. Bris and Koskinen (2002) divide the companies, within a country, into two groups using individual companies’ stock market returns: “negative exposure companies” and “positive exposure companies”. While the first group consists of the companies, whose stock returns decrease when the domestic currency appreciates with respect to the foreign currency, the second group represents those companies whose stock returns increase. The first group includes exporting firms, while the second group includes both importing firms and firms financed with large amounts of foreign debt. In other words, the prospective cash flows of these different types of firms will be affected in different ways from the changes in exchange rates. In a recent study investigating the causal relationship between stock prices and exchange rates, Aydemir and Demirhan (2009) found a negative causal relationship between exchange rates and all stock market indices in Turkey, for the period 23/02/2001-11/08/2008. In another study, Gay (2008) investigated the time-series relationship between stock market indices and the macroeconomic variables for Brazil, Russia, India, and China (BRIC), for the period 1999 - 2006, by using the Box-Jenkins ARIMA model and found that there was no significant relationship between exchange rates and the stock market indices.

Concerning the relationship between stock market indices and interest rates, it is generally expected a negative relationship between these two variables. The argument is that people may prefer to invest in banks rather than stock markets when interest rates tend to increase. Therefore, higher interest rates may affect stock markets negatively (Omran, 2003). Another explanation for this negative relationship may be that, as the interest rates rise, the required rates of return from the investments increase and the stock prices, which are calculated by discounting the prospective cash flows, tend to fall. In another study on two developed countries, US and Japan, Humpe and Macmillan (2007) found that in US, stock prices are negatively related to long-term interest rates, over the period January 1965 until June 2005.

Logically, a negative relationship is expected between stock market indices and oil prices. The main reason behind this expectation is the assumption that as energy prices increase, the production costs increase and the prospective cash flows turn out to be reduced. However, the following statement also can be questionable: “Where does the excessive income of oil exporters go, in times of oil price increase?”. Since one of the answers is certainly “stock markets”, why don’t we expect a positive relationship between stock market indices and oil prices? Kandır (2008) investigated the role of macroeconomic factors on stock returns in Turkey, for the period July 1997 - June 2005 and observed that oil prices do not appear to have any significant impact on stock returns. In another study on Brazil, Russia, India, and China (BRIC), for the period 1999 - 2006, Gay (2008) observed that there was no significant relationship between oil prices and the stock market indices.

METHODOLOGY AND DATA

As it is stated previously, the research question of this study is the following: “Can time-series analysis of stock market indices be explained significantly by the exchange rates, the interest rates and the oil prices and what is the significance level of the relationships?”. In order to answer the stated research question, least squares estimation is used. Before running the estimation, we have conducted unit root tests, in order to examine the stationarity of the variables used in the study.

The dependent variable and the independent variables used in the estimation process are presented in Table 1:

Table 1: Variables used in the study

	Variable’s Name	Measurement
Dependent Variable	STOCKINDEX	$\ln(\text{ISE100}_t / \text{ISE100}_{t-1})$
Independent Variables	OIL	$\ln(\text{oilprice}_t / \text{oilprice}_{t-1})$
	EXRATE	$\ln[(\text{USD/TLparity}_t) / (\text{USD/TLparity}_{t-1})]$
	<i>NOMIR</i>	<i>TRLIBOR_t</i>
	<i>REALIR</i>	<i>real interest rate_t</i>

	<i>CPI</i>	$(CPI_t - CPI_{t-1}) / (CPI_{t-1})$
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The dependent variable, denoted as STOCKINDEX, is computed by using the closing value of the ISE National 100 Index, for each month. ISE National 100 Index is the main indicator of the National Market of Istanbul Stock Exchange (ISE), which is the only securities exchange in Turkey. ISE is inaugurated in 1986 and can be considered as an emerging stock market, which is allowed to provide trading in equities, bonds and bills, revenue-sharing certificates, private sector bonds, foreign securities and real estate certificates as well as international securities. ISE National 100 Index, has been calculated since the inauguration of the ISE and it is composed of equities of 100 companies of National Market, except investment trusts.

The first independent variable, symbolized as OIL, is calculated by taking the natural log of price relative of oil prices' monthly mean levels. The exchange rate, EXRATE, is measured by the natural log of the relative USD/TL parities' monthly mean levels. Another independent variable, NOMIR, is the monthly mean level of the Turkish Lira Reference Interest Rate (TRLIBOR). This reference rate for the pricing of lira-denominated financial instruments became operational on August 1, 2002. The fourth independent variable, denoted as CPI, refers to the monthly change of consumer price index and it is considered as the proxy of monthly inflation. Finally, real interest rate, REALIR, is calculated by using the Fisher equation:

$$(1+i)=(1+r)(1+inf) \quad [1]$$

where,

i :denote the nominal interest rate,

r : denote the real interest rate,

inf : denote the inflation rate.

NOMIR, REALIR and CPI are used in the estimation one by one, not altogether, in order to determine the best estimator of the STOCKINDEX. They are not used altogether in the same equation in order to avoid multicollinearity.

The dataset consisting of 79 monthly observations (from August 2002 to February 2009) for each variable, are extracted from different sources (Table 2). Initially, we have determined February 2001 as the beginning date, since in Turkey, the exchange rate regime is determined as floating at 22 February 2001. However, the availability of TRLIBOR as of August 2002, forced us to change the beginning date of the observation period.

Table 2: Sources of data

Variable	Source
ISE National 100 Index (<i>STOCKINDEX</i>)	website of Istanbul Stock Exchange
<i>Oil Price (OIL)</i>	website of Energy Information Administration (official energy statistics from the U.S. government)
<i>USD/TL parity (EXRATE)</i>	website of Central Bank of the Republic of Turkey
<i>TRLIBOR (NOMIR)</i>	website of The Banks Association of Turkey
Consumer Price Index (CPI)	website of Turkish Statistical Institute

EViews 4.0 is used as a statistical software package for all tests carried in this study.

RESULTS

As it is mentioned in the “methodology and data” section of the study, least squares estimation is used for finding the macroeconomic determinants of stock market indice in ISE. Before running the estimation, we have checked the existence of unit root. The procedure that we have followed and the obtained results are summarized in the following paragraphs.

Firstly, we have studied the basic time-series behavior of each variable visually, by examining the plots of autocorrelation function (ACF) and partial autocorrelation function (PACF). The ACF and PACF plots are not reported here due to space considerations.

Then, we have tested the presence of unit root of each variable used in the study. In order to do this, the standard Augmented Dickey-Fuller (ADF) test is performed. The results of the Augmented Dickey-Fuller tests for all the variables included in the empirical study are displayed in table 3.

Table 3: Results of Augmented Dickey-Fuller Unit Root Tests

	STOCKINDEX	OIL	EXRATE	NOMIR	REALIR	CPI
Test for Unit Root in	Level	level	level	first difference	level	level
Trend / Intercept	None	none	none	none	none	trend & intercept
Lagged Difference	1	1	1	1	1	1
ADF Test Statistic	-5.982422	-4.315511	-6.813732	-3.678253	-3.321654	-5.141890
1% Critical Value*	-2.5933	-2.5937	-2.5933	-2.5933	-2.5929	-4.0819
5% Critical Value*	-1.9445	-1.9446	-1.9445	-1.9445	-1.9445	-3.4688
10% Critical Value*	-1.6180	-1.6180	-1.6180	-1.6180	-1.6180	-3.1610

(*): MacKinnon critical values for rejection of hypothesis of a unit root

According to ADF tests, stationarity exists at levels for all of the variables, except NOMIR. For the variable NOMIR, the first difference is proved to be stationary. Since the trend is observed in the variable CPI, trend and intercept are included in conducting ADF unit root test.

Table 4 summarizes the results of regression analysis.

The natural log of monthly price relative of ISE National 100 Index is explained by the following variables: its first lag, the EXRATE and the first difference of the NOMIR. All of these three variables have a negative impact on the STOCKINDEX. Though the explanatory power of the regression can be considered as low (25.22%), the observed relationships are in line with theory and many other empirical studies' findings, as we have explained in the literature review section of this paper.

Table 4: Results of regression analysis

Dependent Variable: STOCKINDEX				
Method: Least Squares				
Included observations: 77 after adjusting points				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
STOCKINDEX(-1)	-0.407894	0.112131	-3.637673	0.0005
EXRATE	-1.179947	0.288675	-4.087458	0.0001
D(NOMIR)	-26.40863	10.40079	-2.539098	0.0132
R-squared	0.271906	Mean dependent var		0.012982
Adjusted R-squared	0.252228	S.D. dependent var		0.106162
S.E. of regression	0.091802	Akaike info criterion		-1.900182
Sum squared resid	0.623644	Schwarz criterion		-1.808865
Log likelihood	76.15700	Durbin-Watson stat		1.668093

The negative relationship, which is found between STOCKINDEX and the first difference of NOMIR, can be explained by the following rationale: The increase (decrease) in interest rates may give rise to a decrease (increase) in the demand for stock market securities, which, in turn, decreases (increases) stock prices. As we have previously stated, this finding is in line with our expectation. *It is known theoretically that a decrease (rise) in interest rates may create, among the investors, the expectation of economic expansion (downturn).*

Another finding of the analysis is the negative relationship between STOCKINDEX and EXRATE. This finding proves the argument that the depreciation of domestic currency against the foreign currency may create a negative impact on stock market returns. This result may imply also that ISE is composed largely of “positive exposure companies”, in other words, from the importing firms or the firms having large amounts of foreign debt. Although it is assumed that the direction of the relationship between exchange rates and stock prices would depend on the net “exchange rate exposure” position of the quoted firms, it will not be wrong to claim that the depreciation of local currency may trigger the investors’ pessimism, which, in turn, create negative impact on macro economy and stock market performance.

Regression results revealed a significantly negative relationship with STOCKINDEX and its first lag. The regression coefficient of STOCKINDEX(-1) is $-0,4079$ and it means that a positive or negative change in stock index will be followed next month, by an opposite move of approximately 40% of this change.

Finally, we have not observed any relationship between STOCKINDEX and OIL. This result, also, is in line with the results of many previous studies.

CONCLUSION

As we have already stated in this paper, in the finance literature, there exists a large body of research examining the relationship between macroeconomic variables and stock market returns. The review of the previous studies has shown that the findings may be different depending on the factors such as the proxies of selected macroeconomic variables, the research methodology employed and the country examined.

This study makes a contribution to the finance research field by examining the impact of some macroeconomic variables on the main indicator of Istanbul Stock Exchange, namely, the ISE National 100 Index, for the period August 2002 – February 2009. Macroeconomic variables used in this study are, the exchange rates (USD/TL parity), the interest rates (nominal & real), the consumer price index and the oil prices.

The major finding of this study is that the monthly return of ISE National 100 Index is not fully predictable since an important portion (73%) of the variation in the dependent variable remains unexplained. However, a significantly negative relationship is observed between the natural log of monthly price relative of ISE National 100 Index and the following variables: its first lag, the natural log of the relative USD/TL parities’ monthly mean levels and the first difference of the monthly mean level of the Turkish Lira Reference Interest Rate.

The results of this study may have several implications to both policy makers and investors. Policy makers have to be careful when trying to influence the economic system by intervening to the determination of interest rates and exchange rates. Thus, in a highly indebted country, like Turkey, the decisions of policy makers, who are responsible from economic affairs, are extremely important in terms of their impacts on the stock market. On the other hand, different types of investors (individual or institutional), such as money managers and portfolio managers may alter their investment strategies according to the changes in the nominal interest rates and the exchange rates.

Finally, we are thinking that further study would be necessary in order to obtain a better insight about the stock market return generation process in ISE. Overall, this paper is expected to be useful for both existing and prospective investors of ISE and finance literature by adding new evidence from an emerging market.

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CALENDAR EFFECTS ON STOCK RETURNS: EVIDENCES FROM ISTANBUL STOCK EXCHANGE

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ABSTRACT

Literature review reveals that the calendar anomalies have been observed in many developed and emerging stock markets. This study investigates the january effect, the day-of-the-week effect and the turn-of-the-month effect for the returns of ISE National 100 Index, which is the main indicator of the National Market of Istanbul Stock Exchange, for the period 1986–2009. Our results indicate that stock returns on Mondays (Fridays) are on average lower (higher) than returns on other days, for the period of analysis, as expected. Moreover, stock returns seem to be higher during the first five trading days of each month.

INTRODUCTION

The efficient market hypothesis (EMH) can be considered as one of the most crucial paradigms in finance literature. As stated by Fama (1970), a market, in which prices always fully reflect available information, is called efficient. “Security returns should be random” reflects the main idea of the EMH (Campbell, Lo, MacKinlay, 1997, p:22). Therefore, any predictable pattern in security returns may be exploitable and judged as evidence against market efficiency (Copeland, Weston, 1992, p:390). Nevertheless, some anomalies, which refer to unexplained results deviating from those expected, are observed in several empirical studies carried out in different settings. One of the well-known stock market anomalies is the *calendar anomaly*. Calendar anomalies can be explained as the calendar effects on stock returns that relate to the calendar, such as the day-of-the-week, the month-of-the-year or holidays (Hansen, Lunde, Nason, 2005). The main calendar anomalies are the January effect, the Monday effect, the day-of-the-week effect, the holiday effect and the turn-of-the-month effect. The brief explanations of these anomalies are as follows:

- *January effect*: Stock returns, particularly returns on small stocks, are on average higher in January than in other months.
- *Monday effect*: Stock returns on Mondays are on average lower than returns on other days.
- *Day-of-the-week effect*: Stock returns are, on average, higher or lower on some trading days than others.
- *Holiday effect*: Stock returns are on average higher on trading days prior to public holidays.
- *Turn-of-the month-effect*: Stock returns are generally higher during the first few trading days of each month.

A vast amount of empirical evidence on calendar anomalies in stock returns has accumulated in the finance literature over the years. As it is stated by Van Der Sar (2003), understanding the sources of calendar effects is important for rationalizing observed patterns and for making predictions about market outcomes. By departing from this approach, we believe that the calendar anomalies have to be tested in different settings and in different periods in order to provide further evidences to investors. The present paper makes a contribution in that direction. This paper investigates calendar anomalies, on stock market index, in the Istanbul Stock Exchange (ISE) during 1986–2008 period.

The remainder of the paper is organized as follows: The section following the introduction briefly reviews the related theoretical literature and the previous empirical findings. Next section presents the methodological design of

the empirical study. Then the empirical results are presented. *The paper concludes with* some general conclusions about the calendar anomalies in ISE.

LITERATURE REVIEW

As we have stated previously, there is an extensive empirical literature on the calendar effects on the stock returns. Some examples from relatively recent studies, especially on developing countries, and their main findings are summarized in the following paragraphs.

In a relatively early study, Boudreaux (1995) investigated the monthly effect in markets in Denmark, France, Germany, Norway, Singapore/Malaysia, Spain and Switzerland from 4 March 1978 to 30 December 1992. The author provided evidence for the turn-of-the-month effect. His findings about Danish, Norwegian and German markets support the argument that stock returns are generally higher during the first few trading days of each month (at the .05 significance level). In contrast, he found a significant negative effect in the Singapore/Malaysia market (at the .01 significance level). McGuinness (2006) analyzed the intra-month returns for a liquid pool of small-cap stocks in another Asian country, Hong Kong, over the period January 2000 - June 2005 and observed a strong and persistent turn-of-the-month effect. His analysis points also to differential day-of-the-week effects with Tuesday and Friday returns in particular at noticeably lower levels during the final week of a month as compared to earlier weeks. For daily data on a value-weighted index of all shares in Netherlands for the period 1981-1998, Van Der Sar (2003) found abnormally high returns in the pre-Christmas period of the second half of December and around the turn of the month. In the same study, the results reveal that the returns are negative and volatility is relatively high on the Mondays, as expected.

Day-of-the-week effect refers to the higher (or lower) stock returns on some trading days than others. For instance, according to several empirical studies' results, stock returns on Mondays are on average lower than returns on other days. A recent study (Agathe, 2008) on the Stock Exchange of Mauritius, for the period 1998-2006, indicates no significant presence of the day-of-the-week effect across the years and for the whole period. However, Friday returns seemed overall to be very high compared to the other days for the whole period. In another study, Choudhry (2000) investigated the day-of-the-week effect on seven emerging Asian stock markets returns and conditional variance (volatility). He conducted a research for the period January 1990 – June 1995 by the use of the GARCH model. His findings indicate a significant presence of Monday effect on both stock returns and conditional variance.

Another calendar anomaly that held the attention of practitioners, as well as the academicians, is the holiday effect, which refers to the higher stock returns on the trading days prior to holidays. Fazal (1998) attempted to explore the Ramadhan (holy month) effect in the Pakistani equity market (Karachi Stock Exchange) for the period from 1 January 1989 to 30 December 1993. He examined Ramadhan effect on mean returns and stock returns volatility by including a dummy variable in regressions and GARCH models respectively. The analysis provided evidence for a significant decline in stock returns volatility in this month, as expected.

Tonchev and Kim (2004) investigated the calendar effects by using a data set from three developing countries' financial markets, namely, Czech Republic, Slovakia and Slovenia. They examined five calendar effects in both mean by OLS regression and variance by GARCH; the day-of-the-week effect, the January effect, the half-month effect, the turn-of-the-month effect and the holiday effect and they found very weak evidence for the calendar effects in these countries.

METHODOLOGY AND DATA

The dataset used in this study contains daily closing values for ISE National 100 Index during 04 January 1988 – 27 February 2009 and monthly closing values during January 1986 – February 2009. This difference stems from the public unavailability of the first two years' daily data.

Istanbul Stock Exchange (ISE) is the only securities exchange in Turkey and is inaugurated in 1986. ISE can be considered as an emerging stock market, which is allowed to provide trading in equities. ISE National 100 Index is the main indicator of the National Market of ISE and is composed of equities of 100 companies of National Market, except investment trusts.

In this study, the january effect, the day-of-the-week effect and the turn-of-the-month effect are investigated for the returns of ISE National 100 Index. *The methodology adopted for the empirical investigation can be summarized as follows:*

- (1) *Firstly, the means of daily and monthly index returns are calculated.* For each day (month), we have computed a return as the percentage change in the value of the index from the previous day (month).
- (2) *Then, t-tests or the analysis of variance are used in order to test for differences among the different time periods' means, depending on the studied anomaly.*

The dataset is obtained from the head office of ISE. SPSS 16.0 is used as a statistical software package for all tests carried in this study.

RESULTS

Table 1 presents the summary statistics for daily returns of ISE National 100 Index for the period 04 January 1988 – 27 February 2009. As it can be seen in this table, in terms of mean daily returns of ISE National 100 Index (from the highest to the lowest), *the days of the week can be ranked as, friday, thursday, wednesday, tuesday and monday.* Although this finding is in line with our hypothesis, it is necessary to test the significance of the daily returns' differences by statistical methods. As it can be seen in table 2, the ANOVA test has shown statistically significant difference among five days at $\alpha=0,001$. However, it is necessary to examine the differences between the average returns of each pair of days, in order to determine whether some days' average returns are more significantly different than other days' average returns. *With the aim of analyzing this issue, firstly, the differences between the average returns of each pair of days are examined (table 3).* Then, *the differences between the average returns of each day and those of all other days of the week are analyzed (table 4).* As it can be seen in table 3, average daily returns do not differ significantly for each examined pair of days. *The mean differences between daily returns of ISE National 100 Index, for the period examined, seem to be significant only for the following pairs of days: monday-friday and tuesday-friday.*

Table 1: Summary statistics for daily returns of ISE National 100 Index for the period 04 January 1988 – 27 February 2009

Day	Mean	Standard deviation	Observation
Monday	-0,000261	0,034004	1046
Tuesday	0,000011	0,028050	1056
Wednesday	0,002435	0,028746	1057
Thursday	0,003133	0,029270	1062
Friday	0,004539	0,026038	1051
TOTAL	0,001974	0,029380	5272

Table 2: ANOVA results for daily returns of ISE National 100 Index for the period 04 January 1988 – 27 February 2009

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,018	4	,004	5,190	,000
Within Groups	4,532	5267	,001		
Total	4,550	5271			

Table 3: Mean difference between daily returns of ISE National 100 Index for the period 04 January 1988 – 27 February 2009

Comparison between		Mean difference (1-2)	Significance
(1)	(2)		
Monday	Tuesday	-,000272	1,000
	Wednesday	-,002696	,400
	Thursday	-,003394	,133
	Friday	-,004800	,003*
Tuesday	Wednesday	-,002424	,401
	Thursday	-,003122	,116
	Friday	-,004528	,001*
Wednesday	Thursday	-,000698	1,000
	Friday	-,002105	,557
Thursday	Friday	-,001406	,938

*: The mean difference is significant at the 0.05 level

Table 4: T-test results for each day and all of the other days
(ISE National 100 Index for the period 04 January 1988 – 27 February 2009)

		Monday	Tuesday	Wednesday	Thursday	Friday
t-test for Equality of Means	t	-2,751	-2,430	,570	1,438	3,166
	df	5270	5270	5270	5270	5270
	Sig. (2-tailed)	,006	,015	,569	,150	,002
	Mean Difference	-,002789	-,0024561	,000576	,001451	,003203
	Std. Error Difference	,001014	,001011	,001011	,001009	,001012
Levene's Test for Equality of Variances	F	40,088	2,194	,706	,081	21,777
	Sig.	,000	,139	,401	,776	,000
95% Confidence Interval of the Difference	Upper	-,000801	-,000474	,002557	,003428	,005187
	Lower	-,004777	-,004437	-,001406	-,000527	,001220

In order to examine whether there is a significant difference among the monthly returns, we have made use of data about monthly closing values of ISE National 100 Index for the period January 1986 – February 2009. The monthly mean returns and the monthly volatilities (standard deviations) of the returns are displayed in table 5. As it is expected, the average return of ISE National 100 Index seems to be significantly higher in January than in other months. The other months in which the average return of ISE National 100 Index is higher relative to others' can be ranked (from highest to the lowest) as follows: december, july and april. The higher returns in December can be explained by the desire of investors to benefit, in advance, from the anticipated increased return in January. Consequently, it can be deduced that an investor may obtain considerably better returns in december and in january, in overall. As it can be seen in table 5, not only in december but also in the months of april and july, relatively high returns are observed. This can occur due to the positive expectations of investors about the financial statements published by the firms in first and second quarters (april and july, respectively). Table 5 displays also that march appears to be the only month where the mean return is negative. This can be related to liquidity considerations. In other words, the stock investors, who are also taxpayers, may need to liquidate their stocks in order to meet their tax payments until end of march and such a behavior of the major part of investors may have a negative impact on index returns. Although these differences are observed among monthly mean returns, according to ANOVA and t-test results (tables 6 & 7), there is no evidence about statistically significant difference among both all of the months and between each pair of months. Such a result can be attributed to high standard deviations of monthly returns. These latter may have a decreasing impact on the effect of the differences among monthly mean returns. Finally, the mean return of each month is compared with the mean of all other months and no statistically significant differences are found, except the month of January (table 8).

Table 5: Summary statistics for monthly returns of ISE National 100 Index for the period January 1986 – February 2009

Month	Mean	Standard deviation	Observation
January	0,117242	0,208167	23
February	0,049719	0,192859	24
March	-0,006734	0,119555	23
April	0,069091	0,175627	23
May	0,010131	0,138663	23
June	0,055811	0,143214	23
July	0,077585	0,303726	23
August	0,046002	0,279008	23
September	0,047487	0,191341	23
October	0,027764	0,134890	23
November	0,054371	0,195675	23
December	0,089660	0,211877	23
TOTAL	0,053165	0,197272	277

Table 6: ANOVA results for monthly returns of ISE National 100 Index for the period January 1986 – February 2009

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	,287	11	,026	,661	,774
Within Groups	10,454	265	,039		
Total	10,741	276			

Table 7: Mean difference between monthly returns of ISE National 100 Index for the period January 1986 – February 2009

Comparison between		Mean difference (1-2)	Significance	Comparison between		Mean difference (1-2)	Significance
(1)	(2)			(1)	(2)		
January	February	,067523	1,000	February	March	,056452	1,000
	March	,123976	,703		April	-,019373	1,000
	April	,048150	1,000		May	,039588	1,000
	May	,107111	,958		June	-,006093	1,000
	June	,061431	1,000		July	-,027866	1,000
	July	,039657	1,000		August	,003717	1,000
	August	,071240	1,000		September	,002231	1,000
	September	,069755	1,000		October	,021954	1,000
	October	,089478	,998		November	-,004652	1,000
	November	,062871	1,000		December	-,039942	1,000
	December	,027582	1,000				
March	April	-,075825	,999	April	May	,058960	1,000
	May	-,016865	1,000		June	,013280	1,000
	June	-,062545	1,000		July	-,008494	1,000
	July	-,084319	1,000		August	,023089	1,000
	August	-,052736	1,000		September	,021604	1,000
	September	-,054221	1,000		October	,041327	1,000
	October	-,034498	1,000		November	,014721	1,000
	November	-,061104	1,000		December	-,020569	1,000

	December	-.096394	,989				
May	June	-.045680	1,000	June	July	-.021774	1,000
	July	-.067454	1,000		August	,009809	1,000
	August	-.035871	1,000		September	,008324	1,000
	September	-.037356	1,000		October	,028047	1,000
	October	-.017633	1,000		November	,001441	1,000
	November	-.044240	1,000		December	-.033849	1,000
	December	-.079529	1,000				
July	August	,031583	1,000	August	September	-.001485	1,000
	September	,030098	1,000		October	,01823 8	1,000
	October	,049821	1,000		November	-.008369	1,000
	November	,023214	1,000		December	-.043658	1,000
	December	-.012075	1,000				
September	October	,019723	1,000	October	November	-.026606	1,000
	November	-.006883	1,000		December	-.061896	1,000
	December	-.042173	1,000				
November	December	-.035290	1,000				

Table 8: T-test results for each month and all of the other months
(ISE National 100 Index for the period January 1986 – February 2009)

		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
t-test for Equality of Means	t	1,632	-.089	-1,524	,404	-1,093	,067	,619	-.182	-.144	-.644	,031	,926
	df	275	275	275	275	275	275	275	275	275	275	275	275
	Sig. 2-tailed	,104	,929	,129	,687	,275	,947	,536	,856	,886	,520	,976	,355
	Mean Diff.	,0699	,0038	-.0653	,0174	-.0469	,0029	,0267	-.0078	-.0062	-.0277	,0013	,0398
	Std. Error Diff.	,0428	,0422	,0429	,0430	,0429	,0430	,0430	,0430	,0430	,0430	,0430	,0430
Levene's Test for Equality of Variances	F	,239	,339	2,367	,041	1,396	,418	,735	,299	,000	,598	,538	,009
	Sig.	,625	,561	,125	,840	,238	,518	,392	,585	,991	,440	,464	,925
95% Confidence Interval of the Difference	Upper	,1542	,0793	,0190	,1021	,0376	,0876	,1113	,0769	,0785	,0570	,0860	,1244
	Lower	-.0144	-.0869	-.1497	-.0673	-.1315	-.0818	-.0580	-.0925	-.0909	-.1124	-.0834	-.0448

The last calendar anomaly, which is investigated in this study, is the turn-of-the-month effect and the findings are displayed in tables 9 & 10. The analysis is conducted by comparing the first trading day's mean return of a month with the mean return of all other days of the same month. Similar comparisons have been repeated five more times between, the first two/three/four/five/six trading day's mean return of a month and the mean return of all other days of the same month. The reported results, in table 10, show that the mean return of the first (from one to five) trading days is significantly higher than the mean return of all other days of the month. This finding is valid also for the difference between the mean return of the first six trading days and the mean return of all other days of the same month, but in this case, the significance level is lower than 90%. *The most significant difference is found for the mean return of the first four trading and the mean return of all other days of the month.* So, it can be deduced that *there may be opportunities to earn abnormal returns by investing on stocks at the end of the months and by selling them on the fourth trading day of the following month.*

Table 9: Summary statistics for the returns of 1st, 2nd, 3rd, 4th, 5th, 6th trading days' mean returns (ISE National 100 Index for the period January 1986 – February 2009)

	1 st day	Other days	2 nd day	Other days	3 rd day	Other days	4 th day	Other days	5 th day	Other days	6 th day	Other days
Mean	0,0057	0,0018	0,0053	0,0016	0,0048	0,0015	0,0044	0,0014	0,0034	0,0015	0,0030	0,0016
Std. Dev.	0,0335	0,0291	0,0305	0,0292	0,0318	0,0289	0,0319	0,0287	0,0310	0,0288	0,0304	0,0289
Obs.	254	5020	508	4766	762	4512	1016	4258	1270	4004	1524	3750

Table 10: T-test results for turn-of-the-month effect (ISE National 100 Index for the period January 1986 – February 2009)

		1st day	1st two days	1st three days	1st four days	1st five days	1st six days
t-test for Equality of Means	t	2,084	2,685	2,840	2,890	2,008	1,593
	df	5272	5272	5272	5272	5272	5272
	Sig. (2-tailed)	0,037	0,007	0,005	0,004	0,045	,111
	Mean Difference	0,0039	0,0037	0,0033	0,0030	0,0019	0,0014
	Std. Error Diff.	0,0019	0,0014	0,0012	0,0010	0,0010	0,0009
Levene's Test for Equality of Variances	F	6,532	2,912	6,974	8,886	4,166	2,271
	Sig.	0,011	0,088	0,008	0,003	0,041	0,132
95% Confidence Interval of the Difference	Upper	0,0076	0,0064	0,0055	0,00497	0,0038	0,0032
	Lower	0,0002	0,0010	0,0010	0,0010	0,0000	0,0003

CONCLUSION

This study examines the return behavior of ISE National 100 Index, which is the main indicator of the National Market of Istanbul Stock Exchange over the period 1986 to 2008. Our goal is to examine three specific types of calendar effects, namely; the january effect, the day-of-the-week effect (including Mondays) and the turn-of-the-month effect. The results, on overall, indicate no significant presence of the january effect for the whole period of 1986-2008. Moreover, the findings from our study confirm the absence of month-of-the-year effect Istanbul Stock Exchange. On the other hand, the turn-of-the-month anomaly appears to exist in ISE, in the studied period. Regarding the day-of-the week effect, our study shows that monday (friday) returns appears to be significantly low (high) compared to the other days for the whole period. Thus, we can conclude that ISE is not efficient in weak form in respect of day-of-the-week anomalies. In other words, investors can take advantage of information about the day-of-the-week when investing in ISE. Though these results are consistent with the existing

literature, we believe that further research is necessary on the presence of the day-of-the week effect based on individual securities, which are traded in ISE. The findings of the day-of-the-week effect on ISE National 100 Index may have important implications for investors and academicians. The investors may benefit from these results in making decisions about the asset allocation, hedging and the timing of stock purchases and sales. Academicians may benefit from the results of this study in designing their empirical studies on related subjects.

Finally, it is important to state that more research on calendar anomalies in different time periods, in different capital markets and in different countries (particularly emerging countries) is needed, for providing further evidences to the “behavioral finance” area, which challenges “efficient market hypothesis”

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CORPORATE CODES OF ETHICS: AN ANALYSIS OF THE FACTORS THAT INFLUENCE THEIR EFFECTIVENESS IN BRAZIL

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ABSTRACT

The existence of corporate codes of ethics, although not mandatory for all companies in Brazil, is a source of concern for almost all executives. This study aims at investigating which factors are perceived by managers and professionals as significant for the effectiveness of the codes of ethics. A survey was made in five large Brazilian companies, using a structured questionnaire, with questions about 16 variables identified as significant for the effectiveness of codes of ethics. A factor analysis was made, whose solution unveiled two factors, Compliance and Involvement. Compliance addresses to how the code of ethics ought to be managed, whereas Involvement represents the need of seeking adhesion of employees to the corporate ethics program.

INTRODUCTION

The importance of corporate ethics programs has been widely acknowledged in the latest years. Recent scandals involving large corporations have contributed to put light on the relevance of ethics in the business world. Some response was predictable: more legislation, expanded research on antecedents of ethical attitudes and behavior (Giacalone, Jurkiewicz, & Deckop, 2008), development of better corporate governance rules and practice (La Porta et al., 2000), and enhancement of corporate governance structures (Denn, 2004).

Since the enactment of the Sarbanes-Oxley Act in July 2002, companies in the USA have to disclose whether they have a code of ethics for orienting the behavior of their CEO and of other senior managers, mainly in the financial function. These legal precepts apply to every company tradable in the New York Stock Exchange (NYSE), even the foreign-based ones, as a form of shareholders protection and for maintaining stock exchange public credibility.

On the other hand, besides the legal and regulatory environment, stakeholders recognize that individual values play a core role in predicting ethical decision-making (Lefkowitz, 2003) and are placing increasing pressure on business organizations (Treviño, Weather, & Reynolds, 2006). Thus, many organizations have adopted 'ethical infrastructures', such as codes of ethics (Harris, 2004) and policies, aimed at fostering ethical behavior in organization members (Tenbrusel, Smith-Crowe, & Umphress, 2003).

Ethics is being viewed as a critical aspect of organizational life; so, unethical behavior threatens the reputation (Van Riel & Fombrun, 2007), the financial performance (Orlitzky, Schmidt, & Rynes, 2003) and even the continuity (Grant & Visconti, 2006) of companies. Accordingly, ethics in the workplace has evolved from leadership by example to formalization and institutionalization (Carroll & Buchholz, 2006) through codes of conduct, whistle-blowing mechanisms and compliance-based accountability measures (Foote & Ruona, 2008).

In Brazil, ethical issues involving large companies have been commonplace. According to Arruda (2002), most Brazilian corporate codes of ethics were published in the nineties, but the importance of the codes of ethics have received scant attention even in academia, which has turned its focus to the philosophical foundations of business ethics.

Notwithstanding, Brazilian moral patterns have been increasingly challenged in the latest twenty years, due to the exposure to international competition and to the strengthening of civil society and its ability to answer to

improper business behaviors. That reinforced power of society has allowed a wider use of several channels of pressure, such as the courts, the media, consumer defense agencies and even boycott to dishonest companies.

Therefore, concerns about corporate social responsibility (CSR) have proliferated, encompassing newer and larger definitions, hand in hand with worldwide discussions on the theme in academia and business arena. CSR is seen as a key focus of corporate identity and operations, and can be summarized as treating the stakeholders of the firm ethically or in a responsible manner (Clarkson, 1995, Fenwick & Bierema, 2008). Of course, levels of genuine commitment to the ideals of CSR range widely within companies, depending upon managers' personal values (Hemingway & MacLagan, 2004) and affecting corporate strategies (McWilliams, Siegel, & Wright, 2006). Although there is a widespread interest in CSR, expanding its core concerns to intersect with such concepts as corporate social performance (CSP), stakeholder theory, and business ethics theory (Carroll, 1999), it is worth noting that some authors, as Joyner & Payne (2002), consider it as a new language for expressing old ideas such as business philanthropy and organizational citizenship.

In this article, instead of discussing the jungle of these conflicting concepts, the focus aims at the effectiveness of one corporate tool: the code of ethics.

CORPORATE ETHICS AND CODES OF ETHICS

The code of ethics is the foundation of every program of corporate ethics in medium and large companies. Schwartz (2004) states that a code of ethics is a specific formal document that contains moral standards used for orienting corporate and employees behaviors.

Of course, a code of ethics is a necessary, although insufficient, condition to the effective implementation of a business ethics program (Ferrell et al., 2007). In some cases, the code of ethics may not be truly answering to the main organizational issues, existing only for promoting a positive corporate image or even as a legal safeguard in case of judicial litigation (Zylbersztajn, 2002). For instance, Velthouse and Kandogan (2007) point out that ethics is considered one of the least important skills necessary in managerial daily life, although managers use more codified ethics than other categories of employees. In other cases, however, the company really wants to foster an ethical climate and to support its corporate behaviors and activities with principles and values inscribed in its code of ethics, but it faces hurdles in trying to embed these values in corporate and individual behavior.

The main concern of this article refers to the necessary mechanisms to put the code of ethics in real practice. Data were collected in the primary sources, that is, among managers and professionals, the real users of corporate codes of ethics. This study aims at identifying the main variables linked to the format and the managing process of the codes, for both aspects influence their adoption and use, and, therefore, need to be considered when planning and managing corporate ethics programs. Briefly, the core question to be addressed is: Which are the factors that users perceive as significant for the effectiveness of a corporate code of ethics?

This survey does not consider either the content of the codes of ethics or the rules prescribed or the moral principles in which they are founded, assuming that it intends to verify how much a corporate ethics program can influence real users' behaviors.

There is a wide area of convergence where ethical behavior coincides with legal rules. On the other hand, there are many controversial moral issues not covered by legal rules, as well as there are legal rules disconnected from ethical aspects. So, business ethics begins where legal rules end (Crane & Matten, 2004). Business ethics turns its attention to issues not covered by legal rules or to where there is no agreed consensus about right or wrong.

A normative ethics prevails in the business environment, aiming at prescribing rules and establishing moral rules. These contents used to be gathered and formalized in codes of ethics, documents that clarify what the organization considers as ethical behavior, orienting the expected behavior of its workers and laying out a framework of guidelines in such topics as: respect to the national legal system; dealing with conflicts of interest; protection of organizational assets; employee loyalty; superior-subordinate relationships; transparency in communications and relationships with employees and other stakeholders; grievances; intellectual property; government contracts; sexual and moral harassment; alcohol and drug abuse; anti-bribery and anti-corruption measures, etc. (Arruda, 2002).

Codes of ethics need to be dynamic, updated tools that are sensible to environmental changes and fit to a changing business context. For instance, the ever increasing use of internet has brought a radical transformation in business deals, with unforeseeable situations for codes of ethics issued in the nineties.

Adams et al. (2001) state that the mere existence of a code of ethics seems to have a positive impact on the perception of ethical behavior in organizations, even when people cannot recall specific content of the code. Cleek

and Leonard (1998) point out that, besides having a code of ethics, it is worth observing how this code is communicated, enforced, and used, in order to embed it into the organizational culture.

Knights and O'Leary (2005) stress that some ethical failures are essentially due to business leaders' behavior. These authors argue that if leaders create a culture which emphasizes financial performance, and business and individual success; are directly involved in anti-ethical practices; disregard violations by employees; or are neglectful of providing training in abiding by ethical norms; then, these leaders are answerable for the ethical misdeeds of the company.

By the way, it is worth citing the model for elaborating ethical programs in American companies, set up in the Federal Sentencing Guidelines for Organizations, enacted by the American Congress in the nineties, with its seven basic guidelines: a) use of standards and procedures, such as codes of ethics, that could detect and prevent misdeeds; b) appointment of top executives as answerable for compliance of the corporate ethics program; c) caution in delegating authority to people with propensity to misbehavior; d) communication of the ethical standards by means of training programs in ethics; e) implementation of monitoring, auditing, and reporting procedures in case of deviances and violations; f) enforcement of compliance rules and application of sanctions; g) continuous updating of compliance procedures of ethical norms.

ETHICAL PLURALISM AND EFFECTIVENESS OF CODES OF ETHICS

Ethical pluralism is in between ethical absolutism and ethical relativism, that is, accepts different moral convictions, but, at the same time, suggests that it is possible to reach a consensus about basic principles and rules in a specific social context (Crane & Matten, 2004).

Therein, both academia and the business world strive for a global code of ethics, because multinational corporations are aware of moral prescriptions which are valid in their home countries but do not fit in other countries where they operate. These global codes would aim at defining ethical standards based on core human values shared by countries, religions, and cultures, respecting human dignity and fundamental human rights, instituting universal prescriptions concerning, for instance, justice, honesty, mutual respect, and responsibility. On the other hand, these global codes would consider differences in context and culture for setting up specific moral prescriptions.

Bringing theory back to the business environment, it could be said that those classifications do not function as a portfolio of options. Dealing with ethical issues is not so simple. It is an unstructured process, where problems cannot be previously depicted, but they emerge as one tries to solve them. Thus, these issues do not have a single solution, but an array of more or less acceptable alternatives.

In brief, the decision process on ethical issues in business comprises: a) an inductive reasoning, subject to evaluations, conjectures, and hypotheses, with a significant degree of uncertainty; and b) an analysis of the issue under several perspectives, allowing the exploration of many alternatives before defining the action to be taken.

The existence of a code of ethics is not sufficient for orienting the behavior of the company and its employees. The mere formalization of a code of ethics, without other specific actions, could lead it to oblivion in a short span of time. In the same manner, a code that was imposed upon the employees without adequate communication could be useless, besides the risk of converting it into a source of resentments. Yet, an implemented code of ethics which undergoes violations by top management or other senior officials, without reactions within the company, loses its credibility, making its application impracticable. Therefore, it is essential to examine how a code of ethics is developed, implemented and managed so that it is really practiced. One of the most effective tools is compliance, seeking employees' behavior conformity to it through prevention, detection, and punishment in case of violation of its rules.

Effectiveness of a code of ethics can be seen as its ability to influence the real behavior of people that are supposed to be oriented by it. In this article, variables were identified and used to develop a questionnaire mostly based on a Schwartz's (2004) study, in order to get preliminary data on aspects linked to the content and managing process that influence a code's effectiveness in the Brazilian context. Schwartz's exploratory study used a qualitative approach, based on interviews with code users, as most studies on business ethics. With this aim, Schwartz made 57 semi-structured in-depth interviews with managers, professionals and clerical employees of four large Canadian companies in telecom, manufacturing, high-technology and banking industries, all four involved in intensive programs of corporate ethics.

Although the use of statistical techniques in ethics literature is still rare (Dean, 1997), recently issued articles in the international setting use those techniques, as can be seen in an assessment of Australian firms which possess written codes of ethics (Batten, Hettihewa, & Mellor, 2008); or an examination of business ethics codes in the USA and in the Netherlands, attempting to measure unethical behavior in the workplace (Kaptein, 2008).

Schwartz's study was the source of 14 variables to be tested in this research. Two other variables – ethics committees and ethics auditing – were added from early studies by Arruda (2002) in the Brazilian context. All 16 variables and their descriptions are shown in the Methodology section.

METHODOLOGY

The chosen methodology was a survey, using a Likert-type scale of five alternatives. Variables 1 to 14 were extracted from Schwartz's (2004) study and variables 15 and 16 from Arruda's (2002).

Table 1: Description of variables

Variable	Description	Main Question
1- Justification	The code includes justification for behavioral rules.	Can employees' acceptance of the contents of the code be important for compliance?
2- Explanation	It presents examples of practical application of code rules.	Are examples an important part of the code or could they be set aside for use in training and reinforcement activities?
3- Language	A code of ethics must be written in a proper language.	Must an imperative negative language be used, emphasizing forbidden behaviors; or must an inspiring positive language be used, seeking inducing appropriate behaviors?
4- Size	Size, in number of pages or in number of characters.	Does code's size matter?
5- Participation in code's conception	Employees' participation in code's conception.	Does the participative process in code's elaboration contribute to its later applicability?
6- Signature	Employees have to sign the code of ethics, as a way of being accountable for knowing its content.	Do employees consider themselves more accountable to top management for abiding by the code because they have signed the document or do they see this as a senseless bureaucratic formality?
7- Training	Pedagogical activities involving all employees on code's rules, at company's initiative.	In what extent does training at company's initiative could contribute to increase the probability of effective employees' compliance?
8- Reinforcement	Permanent activities of internal communication of the code, through folders, banners, videos, e-mails, and meetings.	Are reinforcement activities seen by employees as effective for increasing the propensity to compliance?
9- Effective practice within the company	Company executives and managers' compliance, giving good example to company's personnel.	Are employees tuned in the company's ethical behavior and do they take it into account for guiding their behavior or do they act unattached?
10- Obligatoriness of communicating deviances	Each employee that knows a violation of the code has to communicate this fact to the company, in order not to be considered neglectful.	Do employees consider that this rule contribute to increase the chance of the code being adequately complied with?

Variable	Description	Main Question
11- Divuligation of violations	Employee communication about internal violations of the code of ethics, and consequent disciplinary measures.	Is the divulgation of violations seen as positive, explaining application of rules or is it seen as negative, focusing on possible dysfunctions and/or inhibiting communication of deviances?
12- Sanctions and rewards system	Rewarding or sanctioning employees' behavior according to compliance with the code.	Are rewards and sanctions considered relevant by employees or is the ethical behavior seen as an obligation and only punishment makes sense?
13- Exigency of compliance	The company permanently requires compliance with the code, neither being neglectful nor tolerating deviances, independently of hierarchical level.	Do employees perceive the level of exigency made by the company concerning compliance with the code or do they consider it irrelevant for their decision on adopting the behavior prescribed in the code?
14- Anonymous phone line	Existence of an anonymous phone line at employees' disposal for orientation and communication of deviances.	Can this tool, under the employees' viewpoint, contribute to more effectiveness of the code or does it not matter, due to low use or misuse under protection of anonymity?
15- Ethics committee	A formal unit in the company's hierarchical structure, aimed at monitoring ethical issues.	Does the existence of the ethics committee signs to personnel company's commitment to deal with these issues or is it considered only as one more unit in the structure, not adding value to expected behavior?
16- Ethics auditing	Activity aimed at verifying if code rules are being complied with and areas of major risk are being adequately monitored.	Do employees consider that this kind of activity could have real impact on the chances of the code be complied with or do they consider this role has already been played by company auditors?

Source: Based on Arruda (2002) and Schwartz (2004)

Thus, the basic idea is to give quantitative treatment to variables previously identified in a qualitative research undertaken in Canada and try to test them in the Brazilian business context. The sample is formed by five large Brazilian companies with headquarters in Rio de Janeiro, with a formal code of ethics already in force, three companies in the energy industry and two in the telecom industry. Due to the nature and complexity of the theme, subjects have been drawn on two levels: managers and professionals. Twenty questionnaires were sent in October-November 2007 to each of the five selected companies. The final sample was composed of 95 questionnaires, which is compatible with the intended statistical treatment. Furthermore, empirical research in this kind of subject is always difficult due to obstacles in gaining permission to collect data on ethically and legally sensitive matters in organizations (Treviño & Weaver, 2003).

As a starting point, the 16 variables to be studied were gathered in two previously set constructs. The first construct comprises four variables and considers how the code is written. The second one, gathering 12 variables, refers to the way the company implements and manages its code of ethics:

- Construct FORMAT: Justification, Explanation, Language, and Size.
- Construct MANAGEMENT: Participation, Signature, Training, Reinforcement, Effective Practice, Communication of Deviances, Divulgation of Violations, Sanctions and Rewards, Exigency of Compliance, Phone Line, Ethics Committee, and Ethics Auditing.

Data collected from the questionnaires were submitted to factor analysis, using SPSS 13.0 software, aiming at determining factors that, in the users' views, influence the effectiveness of corporate ethics programs.

It is worth pointing at some limitations of the methodology used: results refer only to large companies located in Rio de Janeiro, Brazil; therefore, company size and local culture could interfere and prevent any extrapolation of results to other contexts. Another caveat is the fact of data were only collected among managers and professionals within the companies, what could lead to some skewed homogeneity of responses. Other surveys, using larger probabilistic samples, involving companies of all sizes and from several industries, with different locations and

encompassing all levels of the workforce, probably could allow some degree of generalization of results to Brazilian companies in general.

ANALYSIS OF RESULTS

Below are some comments about the findings after data treatment with aid of SPSS 13.0, as well as the most significant tables. At first, Cronbach's Alpha – the most frequently used internal reliability coefficient - was calculated. Table 2, below, shows the overall results and results for each of the two constructs (FORMAT, with 4 variables; and MANAGEMENT, with 12 variables):

Table 2: Reliability Statistics

	Cronbach's Alpha	Number of Items
All variables	0.943	16
Construct 'Format'	0.846	4
Construct 'Management'	0.924	12

Cronbach's Alpha greater than 0.7 is accepted as an adequate reliability measure (Hair et al., 2009). The data correlation matrix identified a large number of correlations greater than 0.3, justifying the use of the factor analysis technique.

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin - Measure of Sample Adequacy (MSA)	.844
Bartlett's Sphericity Test	1286.735
Approx. Chi-Square	120
G1	.000
Significance	

Table 3 shows that the Measure of Sample Adequacy (MSA) had its value above 0.8, indicating the existence of significant correlations between some variables in the correlation matrix. Besides that, Bartlett's sphericity test confirmed the existence of significant correlations. Anti-image matrix correlation also showed MAS values, for each of the variables, always higher than 0.5, thus signifying that the set of variables was fit for factor analysis and this analysis could go further. In the same way, the "commonalities" table showed all its values higher than 0.5, indicating acceptable levels of variance for each variable explained by the factor solution.

Table 4: Explained Variance

Factors	Explained self-values		
	Total	Variance %	Accum. %
1	8.888	55.548	55.548
2	1.747	10.921	66.469
3	.996	6.225	72.695
4	.841	5.256	77.951
5	.760	4.752	82.703
6	.454	2.840	85.543
7	.418	2.612	88.155
8	.373	2.333	90.488
9	.298	1.861	92.348
10	.289	1.809	94.157
11	.250	1.563	95.720

12	.231	1.445	97.166
13	.175	1.094	98.259
14	.125	.781	99.040
15	.091	.572	99.611
16	.062	.389	100.000

Main components analysis was employed as extraction method and varimax was used as rotation method. Table 4 shows the result of two factors with self-value higher than 1 and, therefore, significant ones, explaining 66.469% of variance. In social sciences, a solution that reaches an explanatory level of 60% of total variance can be considered satisfactory. The evaluation of factor charges, which measure correlation between the original variable and its factor, could be carried out better by use of the Rotated Factor Matrix, in order to distinguish factors more clearly.

Table 5: Rotated Factor Matrix

Variables		Factors	
		1	2
Exigency	V13	.846	.321
Practice	V09	.830	.293
Commun	V10	.800	.110
Audit	V16	.797	.172
Train	V07	.797	.248
Sanction	V12	.797	.152
Sign	V06	.720	.327
Reinforce	V08	.683	.484
Language	V03	.605	.443
Explan	V02	.597	.552
Size	V04	.590	.434
Partic	V05	.071	.893
Phone	V14	.326	.772
Justif	V01	.344	.763
Divulg	V11	.132	.723
Commit	V15	.403	.614

Extraction method: main component analysis

Rotation method: varimax, with Kaiser Normalization

Obs.: rotation converged in 3 interactions

Analysis of the rotated factor matrix showed the existence of variables with high factor charge in both factors. So, successive adjustments were made in the specification of the factor model, gradually removing variables that showed relevant factor charge in both factors. At each new processing, resulting parameters were reevaluated and the specification of the factor model was refit, removing variables and leading to new successive processing, and at the end of this iteration seven variables were eliminated: V1, V2, V3, V4, V8, V14, and V15.

Next, results of the final processing are shown, with the nine remaining variables specified in the factor analysis:

Table 6: Reliability Statistics

Cronbach's Alpha	Number of items
.896	9

Table 7: KMO and Bartlett's Test

Kaiser-Meyer-Olkin – Measure of Sample Adequacy (MAS)		.833
Bartlett's sphericity Test	Approx. Chi-Square	568.946
	GI	36
	Significance	.000

Table 8: Explained Variance

Factors	Explained self-values		
	Total	Variance %	Accumulated %
1	5.238	58.198	58.198
2	1.251	13.895	72.093
3	.714	7.939	80.032
4	.504	5.602	85.634
5	.377	4.183	89.818
6	.358	3.976	93.794
7	.232	2.573	96.367
8	.209	2.317	98.684
9	.118	1.316	100.000

Extraction method: Main Components Analysis

Table 9 Rotated Factor Matrix

Variables		Factors	
		1	2
Exigency	V13	.868	.249
Commun	V10	.833	.084
Audit	V16	.829	.085
Practice	V09	.826	.210
Train	V07	.812	.182
Sanction	V12	.805	.132
Sign	V06	.773	.266
Partic	V05	.148	.885
Divulg	V11	.183	.828

Extraction method: main component analysis

Rotation method: varimax, with Kaiser Normalization

Obs.: rotation converged in 3 interactions

Final data resulting from this processing can be considered satisfactory, since they showed compatible values in all tables. Cronbach's Alpha kept up a high score, indicating data reliability and the correlation matrix showed adequate values. In the same way, Bartlett's sphericity test and MSA also showed results compatible with factor analysis.

Regarding commonalities, the lowest score was 0.666, revealing that data treatment through factor analysis was a good choice. The two factors extracted during processing showed levels of variance explanation of 58.198% and 13.895%, totaling 72.093%, better than the previous score of 66.469%, obtained in the initial processing. Finally, the factor matrix showed charges with practical significance for all nine variables, each one displaying high scores in only one factor.

According to Hair et al. (2009), after reaching a factor solution where all variables have significant charge in one factor and irrelevant in the others, one must look for giving a meaning to the factor charge pattern. As factor charges with high scores are seen as the most important ones, they must prevail on the name chosen for representing the factor. Thus, all variables were examined, aiming at giving a name that could reflect, as accurately as possible, variables with charge in that factor. Accordingly, the following table summarizes, for each factor, the meaning of each remaining variable, ranked by its factor charge:

Table 10: Factors and Variables

FACTOR 1		
1	V13	The company needs to permanently enforce compliance of the code of ethics by all employees, independently of rank.
2	V10	Every employee ought to communicate any violation of the code of ethics.
3	V16	The company must periodically audit compliance with code of ethics rules.
4	V09	Employees must see their managers as a good example of compliance with the code of ethics.
5	V07	Company sponsored training on the code of ethics is essential.
6	V12	There are sanctions for employees who violate the code of ethics.
7	V06	Employees must sign a document, formally testifying they know the contents of the code of ethics
FACTOR 2		
1	V05	Employees must participate in the elaboration of the code of ethics.
2	V11	The company must divulge violations of the code of ethics and the resultant measures taken.

The concepts embedded in the variables that belong to the first factor were: exigency of code compliance; employees are obligated to communicate any violation; auditing; managers have to give a good example to employees; training; sanction of deviance; and employees' signature collection. All those concepts are linked to management tasks, aimed at exerting or asking for responsibility towards the code of ethics. This is consistent with the findings that authenticity (i.e, the consistency between leaders' true ethical intention and behavior) moderates the relationship between leaders' ethical behaviors and employee outcomes (Zhu, May, & Avolio, 2004)

In this context, training can be seen as a useful tool for putting all other concepts into action. Without proper knowledge and understanding of the rules prescribed by the code (Hargie & Dickson, 2007), compliance, auditing, and sanctions would be useless. Likewise, the exigency of the employee's signature, testifying knowledge of the code, is a natural consequence of the idea of punishment in case of code violation. It follows from this kind of analysis the choice of the name and definition of the first factor:

Compliance - company's actions aimed at exerting and asking for responsibility of every employee, independently of rank, regarding compliance with corporate code of ethics.

The second factor comprised employees' participation in the process of conceiving the code, a measure that could be important for a more realistic code, improving the quality of its content, and also for creating higher employee commitment to its further practice. Divulcation of violations by the company and the resultant measures taken can further better employees' awareness regarding behavior rules, by virtue of acknowledging real situations in their context and, at the same time, serving as an indicator that the company is effectively engaged in complying with its code of ethics. Thus, the second factor has got the following name and definition:

Involvement - company actions towards increasing employees' participation in the ethics program, giving them opportunity to contribute to the conception of the code and keeping open a channel of information about its application within the company.

Both factors confirm Cleek and Leonard's (1998) view, when they state the relevance of the company carefully monitoring how its code is communicated, enforced and used, in order to be incorporated to its organizational culture.

The Compliance factor could be considered consistent with the guidelines for elaborating corporate ethical programs issued by the Federal Sentencing Guidelines for Organizations, because, among its basic rules, they include compliance, application of sanctions, training, auditing, and communication of violations.

Conclusions

Although this subject is in an initial phase in Brazil, one can see many publications and academic researches, educational programs on ethics and consulting firms specialized in corporate ethical programs. In the Brazilian context, one can also see an increasing growth of specific units for monitoring and evaluating the ethics program within the organizations (generally designated as compliance departments), namely in organizations which have some structure of corporate governance.

The findings of this research can be in aid of Brazilian companies and even of other organizations in emerging countries involved in the implementation and/or improvement of their corporate ethics programs, arousing their interest in compliance and involvement, and hence, trying to warn them about the dangers of more emphasis on the formal aspects of the code elaboration than on the actions that lead to its greater effectiveness.

According to this survey, companies need to develop the aspects linked to compliance, setting up consistent actions in all aspects unveiled by the seven variables which showed better power of influencing employees' behavior. Therefore, to call for permanent compliance with the code of ethics, managers giving good example, to train, to audit, to collect employees' signature, to punish deviances, and to inform any violation; are managerial actions, turned to the exercise and accountability regarding the corporate ethical behavior of the employees. In addition, companies must seek involvement of their employees, allowing opportunities for them to participate in the elaboration and/or review of the code and properly divulging eventual violations and consequent measures taken.

One could conclude that, in the Brazilian business context, education in corporate ethics ought to receive more attention, it is imperative to increase research in this theme, and legislation needs to be improved.

Thus, there is a promising field for further research on corporate ethics in the Brazilian business scenery. If considered the psychic distance construct of the Uppsala internationalization model, some national cultural similarities could point to some useful lessons that can be profited from the Latin American and the Portuguese-speaking countries.

Furthermore, by the very nature of the theme, there could be some hurdles in getting the acceptance of some companies for this kind of survey. They could offer some degree of resistance to give information on the subject. However, on the other hand, in order to overcome these difficulties, there could be a fruitful opportunity to bring together academia and business leaders around the table to discuss ways to increase the effectiveness of the codes of ethics.

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MANAGING IT: DOES 'AGILE' SOFTWARE DEVELOPMENT SOLVE BUYER NEEDS?

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ABSTRACT

A variety of innovations in software development practices, referred to by the collective term 'agile', have arisen in recent years partly as an attempt to deal with the considerable amount of complexity inherent in many software development projects. These agile approaches to software development are increasingly gaining acceptance with suppliers of software development services. Agile, in its various forms, appears to be a range of supplier responses to a set of problems traditionally incurred in contracted software development projects. Yet the extent to which the needs of the public sector (as one category of procurer) are faced is more questionable. Are the needs of a public sector procurer really satisfied with agile methods and practices as the framework for software development? Is agile really the solution to the original problem set?

INTRODUCTION

Core motivations incurred within the public sector often differ fundamentally from those experienced by the private sector (Sykes & Callender, 2009). For the latter, wealth-maximisation for shareholders, often through pursuit of maximisation of profits, is a strong driver for decision-making. This pursuit and motivation can give rise to a wide range of risk-taking thresholds by both the owners and managers of private sector entities as they seek opportunities to render higher profits and higher returns on investment.

For the public sector, however, the profit motive is usually less significant. In its place, a greater responsibility to government and to the wider society is present, bringing with it diverse and competing goals both public and functional in nature. The need for a greater level of accountability within the public sector means that increased transparency in decision-making is required, with standard and often rigorous procedures developed and instituted to accord with such transparency and accountability requirements. A general aversion to risk consequently arises in the public sector, which influences public sector procurement decision-making. In recent years the rise of 'value for money' as an increasingly dominant determinant of financial decisions reinforces a predilection for as much up-front certainty as possible concerning the various criteria which may influence a procurement decision. Knowledge (and, likewise, certainty) is power – the power to make effective procurement decisions.

Procurement of software development services is no exception in this quest for greater certainty, witnessed, for example, through the extent of general procurement guidelines issued by the Australian Commonwealth Government (COA, 2008). The often large value of expenditure involved in software development procurement by public sector entities makes the overall 'success' of software development projects much more vital. On the other

hand, perceptions of public sector project ‘failure’ (whether accurate or not), if played out publicly in the mass media, can have considerable undesired repercussions (Callender, Twomey, Chong & Huang, 2008).

If uncertainties associated with a project, particularly a large-scale project, are reduced at the beginning, then higher quality decisions can theoretically be made at the early procurement stage of the project, thus reducing the chance of ultimate project failure. The quest for up-front certainty is both a contributor to improved procurement decision-making as well as mitigation against the potential for project failure later, with its resultant potential for political and public repercussions.

Recent moves within the software development industry to adopt what have become known as ‘agile’ practices are an attempt to improve upon software development practices and to deal with certain types of failure recurrent in software development projects. Indeed, the incurrence of these failures has been sufficiently frequent that they have often seemed almost endemic to the provision of software development services.

THE COMMON PROBLEMS OF PROJECT ‘FAILURE’

Awareness of the relatively high frequency of specific software development failures stretches back several decades. Naur and Randell (1969) reported that the Conference Sponsored by the NATO Science Committee had recognised that software development projects often suffered a specific set of recurrent problems: they frequently and significantly exceeded their original budget; they frequently and significantly exceeded their originally envisaged period for development; and they frequently fell considerably short on initially envisaged functionality. Such was the perceived extent of these problems that the term ‘software crisis’ was coined and has frequently been used since then to describe the common recurrence of these problems. However, some academics and practitioners, such as Glass (2005, 2006), question the extent of the problems and whether there has ever actually been such a ‘crisis’ in software development, referring to the amount of well-functioning software on which we currently rely. Nevertheless, whether a project meets or exceeds its original budget, meets or exceeds the originally allocated development schedule, or fulfils or otherwise falls short on planned functionality have often been perceived as core criteria for determining whether a software project can be categorised as a ‘success’ or a ‘failure’.

The most commonly referenced source of information for software project failure rates has, over the last one-and-a-half decades, been a series of Chaos Reports issued by the Standish Group. Most references are to the initial 1994 report which suggests that from a survey of 365 executive managers covering 8,380 applications (presumably meaning IT projects) only 16.2 percent of IT projects are ‘successful’ while 31.1 percent of projects are cancelled at some point prior to completion. The remaining 52.7 percent are categorised as ‘challenged’, which is defined as: “The project is completed and operational but over-budget, over the time estimate, and offers fewer features and functions than originally specified”. These are the same three aspects of project failure which were referred to by Naur and Randell in 1969 as bringing about a software crisis.

By the 2006 Chaos Report, the Standish Group had found a trend towards greater success in IT projects since their 1994 report and that successful projects by 2006 constituted approximately 35 percent of projects, cancelled projects totalled 19 percent, and challenged projects had fallen to 46 percent of the total number of IT projects. The reported figure of challenged projects is still a very significant percentage of the total, even if approximately correct as an indication of over budget, over time, and functionally short projects in the software development industry. Any such extent of failure would probably be thoroughly unacceptable in other industries.

However, and despite the frequency of references to the Standish reports, deficiencies in the conclusions reached in these reports, as well as doubts about the research methodologies employed, have been highlighted by Jørgensen and Moløkken-Østvold (2006) and Glass (2005). Indeed, it is not at all clear if Standish classifies a project as challenged if only one or two of the three aspects of failure of challenged projects apply to that project: the Standish definition of challenged seems to require all three aspects of failure to co-exist in the one project. Clearly there are deficiencies in the Standish conclusions which need to be interpreted and applied with caution. Further, although one or more of these aspects of failure may have been incurred within a particular project, the final implemented product may actually meet with considerable success due to sizable gains arising from functionality, productivity, or financial improvements (Callender, Twomey, Chong & Huang, 2008). Is such a project a failure or

success, or does each aspect of failure or success, however defined, need to be considered on its own merits? Perhaps there is a need for more rigorous, comprehensive, and up-to-date research to be conducted in this area.

A partial-corollary of the problem of projects falling short on functionality in order to meet the time or cost constraints is the alternative problem of 'scope creep'. Scope creep is the repeated pressure to extend the scope of a project to include ever-increasing levels of newly-desired functionality. If the time and cost constraints are allowed to loosen, scope creep often replaces the functionality-deficiency problem. As the scope continues to widen, the project takes even longer and costs even more, and thus scope creep fuels these two other problems. Consequently, the existence of scope creep is often viewed as a warning sign that a project may ultimately fail (Thorp, 2008).

With a lack of currently available information providing a more comprehensive and precise assessment of how much projects do not actually meet their time, budget, and functionality targets, or incur scope creep, it is commonly agreed that these types of failure in software projects remain a sufficient problem to be an ongoing concern, even if their extent may not currently be considered sufficient to constitute a software crisis as originally described by Naur & Randell (1969).

THE PUBLIC SECTOR AND PROJECT FAILURE

Any occurrence of these types of failures of software development projects can be significant when the project is in-house within the private sector. Such failures are particularly critical when a software development project is the subject of an outsourcing agreement as the contractual relationship brings legal responsibilities as well as legal and financial risks associated with agreed outcomes not being met.

The vital aspect of the project outcomes may assume even greater significance when the buyer of the software development services is from the public sector. This is because a public sector procurer usually has heightened accountability for outcomes, is often constrained by considerably fixed financial budgeting, and often has rigorous and complex procedures to follow in an atmosphere which pressures for transparency in relation to, for example, procurement of goods and services. Software development success (in terms of not incurring excessive scope creep, meeting the agreed budget, meeting the allocated period for development, and meeting the functionality agreed up front) is therefore often a critical requirement for a public sector procurer of software development services.

Bellamy and Taylor (1998) suggest that public sector IT development proceeds through three stages. 'Automation', as the first stage, represents the replacement of manual, mainly paper-based, work with much the same work being conducted by machines. 'Informatization', as the second stage, focuses on making information more accessible through integration of data sources, improved use of organisational and external data, and flexibility of communication of, and access to, data. 'Transformation', as the third stage, involves business process re-engineering, including across organisational boundaries, to reorientate delivery of services around the composite needs of specific types of customers. Progress of IT development through each of these stages accords with a continual increase in inherent complexity and associated uncertainty. This is particularly true in the third stage of transformation which may often require the satisfaction of seemingly conflicting or competing needs from multiple public sector entities each with their own political and economic agenda.

In recent years there has been an increasing acceptance and adoption by the software development community of what have become known as agile practices and methods of software development. These practices and methods have been specifically aimed at dealing with the problems associated with projects containing considerable uncertainty and complexity.

TRADITIONAL SOFTWARE DEVELOPMENT: WATERFALL AND ITS VARIATIONS

In describing his own experience with large software developments, Royce (1970) illustrated a basic flow of seven successive steps involved in developing software where each step is completed prior to the commencement of the next (see Figure 1). The basic form of his model has since become widely known as the waterfall software development lifecycle. Contrary to many references to the waterfall lifecycle since, Royce did not propose that software developers follow his basic process model. Rather, he considered that its “*implementation ... is risky and invites failure*” (Royce, 1970, p. 329). In addition, he viewed iterations of the steps within the entire process, together with elements of re-design, as being essential to successful project completion, and he also recommended prototyping of the final software product envisaged. However, Royce’s suggested embellishments were ignored in the mainstream and the strict sequential form of the waterfall process has been treated since as the standard conceptual base framework for software development, albeit with some naming and interpretive alterations of the steps involved (see Figure 2).

The waterfall software development lifecycle provides a considerably fixed structure for the sequence of the types of activities that need to be performed in software development. A traditional belief is that there should be an emphasis on sound documentation being developed as comprehensively as possible throughout every stage of the development process and “that no phase is complete until the documentation for that phase has been completed” (Schach, 2007, p. 51). Comprehensive documentation theoretically provides all parties associated with the project with the information they need to make decisions and to progress the project further, and theoretically provides confidence that the project is on track. For example, by thoroughly specifying the project requirements by the end of the requirements and analysis stage and incorporating a budget for the entire project, financial decision-makers have sufficient information to decide whether to proceed with the project and can then budget and allocate funds accordingly. This information is crucial in the public sector, for example, where there are strong capital budgeting constraints and budgets are most often set at least a year in advance.

It is widely believed that the strict sequential flow of the waterfall lifecycle is never actually followed in practice. Rather, as was recognised by Royce (1970), software projects always undergo some degree of iteration of the phases involved. This is the result of a variety of factors. For example, the complexity of many large software development projects means that, no matter how detailed the development of requirements in the beginning, some level of detail will inevitably be omitted in that phase and only noticed at a later stage, perhaps not until after the project has been implemented. Refinement of the quality of the product may also be recognised and require further work or re-work. The near inevitability of human error also contributes to the need to revise and improve upon the work of an earlier phase. Consequently, a range of variations to waterfall have been proposed over the years (see Figure 3, for example) which attempt to portray the iterative nature of software development projects within a waterfall lifecycle context. With each iteration or additional level of work resulting from unforeseen complexity, the project incurs the risks of scope creep, and of running over budget and over time. The common method of dealing with this is to build additional time and cost allowances into the project from the beginning. But what constitutes a sufficient allowance in an environment of indeterminate levels of uncertainty and complexity? Clearly, with project failure still so prevalent, this level of management of uncertainty and complexity seems to frequently be proven inadequate.

THE RISE OF AGILE

In recent years various alternatives collectively referred to as agile processes have become more popular as mechanisms used by software developers to attempt to deal with project uncertainty and complexity. In early 2001, 17 software development practitioners gathered, over a series of days, for the purpose of identifying commonly-held ideas which could collectively form the core of an alternative to standard software development practices. The outcome of their gathering included what became known as *The Manifesto for Agile Software Development* (2001), which states that:

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

- ***Individuals and interactions*** over processes and tools
- ***Working software*** over comprehensive documentation
- ***Customer collaboration*** over contract negotiation

- **Responding to change** over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

The participants backed their Agile Manifesto with a set of twelve associated principles which, in combination with the manifesto, have spurred an agile software development movement. It should be noted that the term 'agile software development', often simply referred to as agile, is not a reference to one strict agile methodology. In fact the original proponents of the Agile Manifesto themselves had between them a variety of approaches to software development. They continue to pursue these approaches under various terminologies such as Scrum, Extreme Programming, Crystal Development, Lean Development, Feature-Driven Development, Dynamic Systems Development Method, Adaptive Software Development, and (Agile/Rational) Unified Process. Each approach has its own methodologies and/or processes but they all endeavour to comply both with the values of the Agile Manifesto and the twelve principles.

Figure 1: Royce's Model That Became the Basis for the Waterfall Software Development Lifecycle.

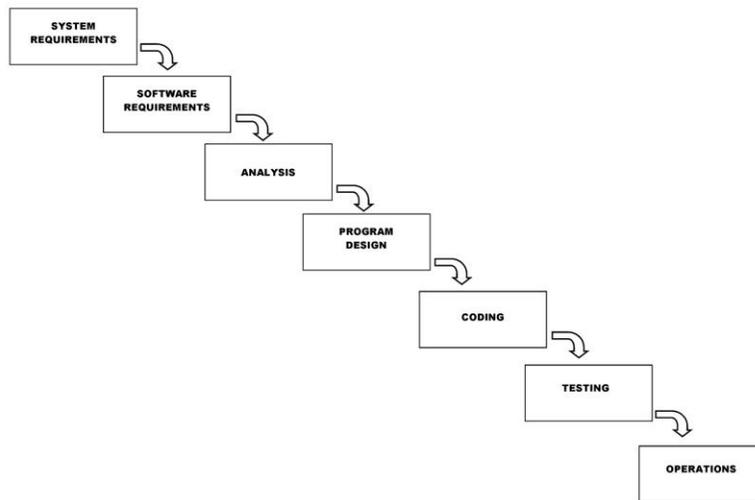


Figure 2: A Common Version of the 'Standard' Waterfall Software Development Lifecycle.

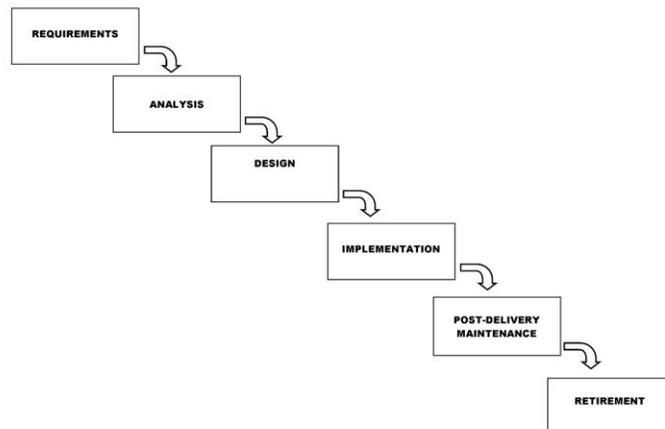
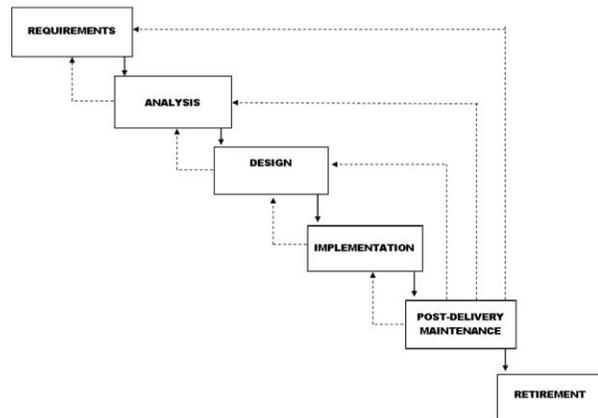


Figure 3: A Variant of the Waterfall Software Development Lifecycle showing iterations to Development.



Regardless of the specific approach adopted, there are various typical characteristics of projects developed through agile processes, as explored at length by Highsmith (2002), and Sliger and Broderick (2008). For example, there is an emphasis on first delivering to the customer those aspects of functionality that are considered most important. A requirement of strong customer involvement throughout each iteration is seen as being amenable to the generation of immediate feedback regarding the appropriateness or otherwise of a product delivered. Practices such as pair-programming (two programmers working together with one checking the work of the other) are frequently promoted for rapid, focussed development turnaround.

There is also a strong emphasis on frequent delivery to the procurer of progressive iterations of ‘workable’ software, with the development team often seeking to deliver some additional functionality as frequently as every month, every fortnight, or even every week. At this rate of iterative and incremental development, there is automatically far less emphasis on developing comprehensive documentation—a fact agile proponents readily admit. This rate of iterative delivery also fundamentally alters the software development lifecycle so that, for each iteration delivered, the developers by necessity work on every phase inherent in the waterfall software development lifecycle but with specific emphasis on the short-term work relating to that specific iteration.

Clearly, agile software development is oriented towards attempting to manage development projects in an adaptable manner (by both the development team and the customer) with less comprehensive planning (especially at the beginning of the project) and a shorter-term focus throughout. Proponents of agile view their processes as an attempt to deal with relentless speed and change through an ability to act quickly to deliver fast results. Highsmith (2002, p. xxii) suggests that “problems characterized by change, speed, and turbulence are best solved by agility”, with XP, Crystal, and Scrum being “particularly relevant to extreme or complex projects – those that have an accelerated time schedule combined with significant risk and uncertainty that generate constant change during the project”.

Agile software development processes are a clear recognition by the proponents of agile of the existence of inherent complexity and uncertainty in software development and a response by developers seeking improvements in the way they conduct their development work. Agile attempts to deal with the complexity and uncertainty of projects by ensuring a shorter-term focus and more frequent delivery of smaller units of product in order of the most-needed functionality. Thereby, they perceive that they provide their customer—the purchaser of their services—with the elements of a product most needed by that customer. In fact, their customer’s needs might

critically be the totality of product, not some prioritised portion of the totality. Agile processes are therefore a developer's perspective in seeking to resolve the perceived problems inherent in software development.

THE COST OF AGILE

Proponents of agile software development processes, however, have had little to offer a public sector procurer in terms of the reliability of the pricing of agile projects, and because most proponents publicly remain totally silent on this issue. Sliger and Broderick (2008) see a difference in how the costing of agile projects must occur compared with how costing of traditional (waterfall and related) projects are usually conducted. For traditional projects, Sliger and Broderick believe, the entire project work is broken down into specific tasks, cost estimates of the likely resources required for each task are ascertained, and the total cost of the project is the total of all the task cost estimates. This approach, referred to as 'bottom up estimating', is possible because the project has been analysed in considerable detail up-front.

However, with agile projects no such detail of project break-down is performed up-front. Such a level of detail of the project is developed, if at all, progressively during the various iterations of the project's development and a total cost of the project may not be known until the final iterations of the entire project. The focus of the development team at any time is only on the shortest time horizon—the work immediately at hand (Sliger & Broderick, 2008, p. 42):

A team should only plan one release at a time: this release. Likewise, a team should only task out one iteration plan at a time: this iteration. Estimating top-down and relative to the horizon lowers the upfront planning costs as well as the cost of change later in the project.

Consequently, there is no firm basis at the beginning of undertaking a project for an agile developer to reach any reliable measure of the total project cost. Sliger and Broderick seek to diffuse the responsibility of the software developer (as supplier) to accurately place a cost on their services by stating that "it's very difficult, if not impossible, to predict costs for a complex situation" (Sliger & Broderick, 2008, p. 113). Yet estimating costs and providing the public sector purchaser with a price up-front is exactly what is required of a supplier of software development services seeking to bid for the project, no matter how difficult or seemingly impossible it appears to be to do so. And the same responsibility exists regardless of whether the supplier chooses agile development processes. If the chosen process of the supplier does not allow the supplier to meet the essential requirement of the public sector procurer (that is, an accurate estimate of price for a given scope and declared project duration), then that is a limitation of the development process chosen.

Sliger and Broderick further attempt to diffuse this fundamental issue by declaring that: "Agile projects have the ability to always be on time, and within budget, if the scope is flexible" (Sliger & Broderick, 2008, p. 117). The problem with this is that scope is rarely flexible on the downside. With an outsourced IT project, this is akin to the supplier suggesting to the buyer: *If we don't get all the work completed that we committed to finish within the time period we committed to, we won't charge you more than we committed to charge you. But if you really want the project completed in its originally foreseen entirety, it may take longer and cost more than we previously identified.* With this lack of full commitment from the agile supplier in relation to the supplier's own tender, the fundamental problem of outsourced software development projects is not addressed, let alone resolved, by engaging in agile processes.

If the price of commitment to project duration and project cost by an agile developer, as supplier, is the project scope (and scope could also quite validly in this context incorporate product functionality), then it is quite reasonable from the public sector procurer's perspective for the credibility of an agile supplier's tender to be called into question from the outset. The procurer is seeking a commitment from the supplier in relation to cost, scope, and duration and the agile supplier readily admits that the procurer can, at most, have a commitment to only two of these three project fundamentals.

If this is the case, the tender and agile development processes appear to be fundamentally in conflict from the procurer's perspective regarding requirements of and constraints upon the software development project. The

price of agile software development may well then be more than just the total financial cost to the buyer. There may also be ultimate pressure on the procurer to forego one of the procurer's fundamentals of the project—to either forgo the limit on time, or forgo the limit to cost, or (even more likely) forgo the scope and functionality of the product produced.

CONCLUSION

Several core problems continue to arise in software development projects. These are the problems of functionality being eliminated from the end product as originally envisaged, software projects taking longer than forecast, original budgets being exceeded, and/or the continual issue of scope creep. These are of particular concern for the public sector with its strong accountability requirements which necessitate considerable certainty associated with procurement decision-making. These problems, from the procurer's perspective, are actually issues of uncertainty: where what was considered to be certain or true at the beginning of the project becomes less and less certain, or less and less true, as the project progresses.

To this extent, agile software development contributes no advancement to the solution of the core problems faced by the public sector procurer. Rather, it has the potential to contribute further uncertainty up-front in terms of the scope and the functionality to be incorporated in the final product, the time to develop the product, and the total cost of the product to the procurer. The extent to which agile software development contributes to this uncertainty constitutes a backward step for the public sector procurer and extends the problems incurred.

Agile software development is the software development supplier's response to the problems the developer faces in the course of his/her own contributions to software development projects but it is not a solution to the repetitive occurrence of the specific software development problems faced by the public sector procurer. The public sector incurs specific constraints and needs simply because of the very nature of the public sector. These constraints and needs do not change to accommodate an agile software development supplier. Proponents of agile software development need to recognise this and then deal with the problems that arise from the public sector procurer's point of view rather than to potentially add to those problems.

If proponents of agile software development fail to deal with these issues, then perhaps it is appropriate to view agile processes and practices as falling short of the needs of the public sector procurer. Developers applying agile software processes are seeking improvements to how software is developed from their own perspective. That is commendable, yet their improvements are not solutions to the core problems faced by the public sector procurer. They have yet to deal with the core, long-standing problems of their public sector customer from their public sector customer's perspective.

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FORECASTING THE PRICES OF ALUMINUM, COPPER, AND ZINC WITH GARCH MODELS

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ABSTRACT

In this paper we investigate the forecasting performance of GARCH and EGARCH models for world aluminum, copper, and zinc prices. We discover that although there is an ARCH effect in the prices of these non-ferrous metals, our results do not indicate a significant leverage effect. The forecasting performance of both models seems to be similar with respect to several criteria. However, slightly better forecasts are obtained with the GARCH model. Since it is a simpler model, we recommend the use of the GARCH model for forecasting the price of the three non-ferrous metals traded in LME.

INTRODUCTION

The ability of a mining company to generate profits and the decisions related to the mineral investments are significantly affected by volatility of metal prices. Furthermore, from an investors point of view the fluctuations in commodity market prices may contain important information. Chou (1988), for example, states the importance of commodity volatility forecasts in valuation, portfolio formation, managing risk, and determining optimum options and futures trading strategies for hedging purposes. From this point of view, metal price forecasting will play a role in reduction in price instability and unpredictability. As a result of this reduction, the mining companies can be easily assisted for their forward plans and investors can take this new information into account in their investment decisions. Economic time series, particularly financial time series, exhibit periods of high volatility followed by periods of low volatility, which means the constant variance assumption is violated. The most appropriate method to deal with this violation is the use of ARCH models. The non-linear models have been the most commonly used tools in volatility modeling and forecasting.

The primary aim of this paper is investigating two generalized autoregressive conditional heteroskedasticity (GARCH) models in terms of their forecasting ability of selected nonferrous metal prices. London Metal Exchange(LME) 3-month forward prices for aluminum, copper and zinc are used to analyze the performances of the models. Time period covered is 12/12/2003 – 15/12/2008, which consists of 1305 observations for each metal.

This paper is organized as follows. The next section gives a brief review of the literature, which briefly describes the previous GARCH applications and literature related to metal price forecasting. Section 3 presents the data and methodology used. Section 4 provides the empirical results of the study and concluding remarks are presented in the last section.

LITERATURE REVIEW

We divide the relevant research into two major areas, which are mainly volatility modeling and metal price forecasting. In a recent study, Engle (2004) provides historical details related to the development of conditional heteroscedasticity models and their evolution into more generalized models. According to Engle (2004), the GARCH(1,1) model has become “the workhorse of financial applications” when describing volatility dynamics.

Comparing the Models

Engle (1982) introduced the ARCH models; which were then generalized by Bollerslev (1986). Another important article on ARCH is the review paper of Bollerslev, Chou and Kroner (1992) which gives the overview of the developments in the formulation of ARCH family and a survey of the numerous empirical applications using financial data. Nelson (1991) presented a more interesting class of ARCH models that are the "asymmetric" or "leverage" volatility models, in which future volatility can be affected differently by good news and bad news. These models do not suffer from some of the drawbacks of GARCH models like the negative correlation that exist between current returns and future returns volatility. GARCH models rule this out by assumption. Additionally, interpreting whether shocks to conditional variance "persist" or not is difficult in GARCH models. The empirical work of French, Schwert and Stambaugh (1987) inspired a motivation for these models by finding the evidence that stock market returns are negatively correlated to the change in the volatility of stock returns. Engle and Ng (1993) made a systematic comparison of volatility models while focusing on the asymmetric effect of news on volatility. They proposed volatility models and fitted these to daily Japanese stock returns from 1980 to 1988. All the models pointed out that negative shocks show more volatility than positive shocks but the diagnostic tests indicated that the modelled asymmetry is not sufficient. The exponential GARCH model, the model proposed by Glosten, Jagannathan, and Runkle and the partially nonparametric (PNP) ARCH model gave similar volatility forecasts for reasonable shock. However, these forecasts differ dramatically for more extreme shocks. In Morana's (2001) article, the GARCH properties of oil price changes are used to forecast the oil price distribution over short-term horizons. The semi parametric forecasting methodology is based on the bootstrap approach. Morana (2001) suggests the use of the semi-parametric approach to construct a performance measure of the forward oil price using Brent oil prices. The semi-parametric methodology is suggested for the oil price forecasts as well. Radha and Thenmozhi (2002) develop a univariate model for forecasting the short-term interest rates. The models under study are Random Walk, ARIMA, ARMA-GARCH and ARMA-EGARCH. According to the results of this study, volatility clustering effect is dominant in interest rates time series. As a result of this GARCH based models are more appropriate to forecast than the other models. The moment structure of the general ARMA-EGARCH model is considered by Karanasos and Kim (2003). They show the differences in the moment structure between the EGARCH model with the standard GARCH model or the APARCH model and use these differences for comparison. They find that the autocorrelations of the squared observations can be applied so that the properties of the observed data can be compared with the theoretical properties of the models. Allen and Morzuch (2006) summarized the past twenty five years of econometric forecasting in their paper published in International Journal of Forecasting. "A whole alphabet soup of generalizations of the original ARCH model has been proposed, and this work dominates the financial forecasting literature. ARCH has made much less headway in other applications of econometric forecasting." (Allen & Morzuch, 2006). Bowden and Payne (2008) utilize three time series models, ARIMA, ARIMA-EGARCH, and ARIMA-EGARCH-M models to examine the day-ahead forecasting performance for hourly electricity prices for the five hubs of the Midwest Independent System Operator (MISO). The models did not differ significantly regarding their insample forecasting performances. However, with respect to the model performance in out-of sample forecasting, they find that the ARIMA-EGARCH-M model is superior to the other models. Agnolucci (2009) compares the predictive ability of GARCH-type models and implied volatility models. The aim of this study is to select the best model which produced the best forecast of volatility for the WTI future contract, evaluation criteria was based on statistics and regression results. However, they also investigated two another topics: whether the asymmetric effects have an influence on volatility of the oil futures and whether the distribution of the errors effects the parameters of the GARCH models. According to the results of predictive ability tests, GARCH-type models seem to outperform the implied volatility (IV) model.

Forecasting Metal Prices

McKenzie, et. al (2001) investigate a range of commodity futures prices traded on the London Metals Exchange. They consider the ability of the Power GARCH models to capture the some features of volatility in these prices. The results of this study show that the LME futures data generally do not contain asymmetric effects. This paper suggests that the Taylor GARCH model outperforms other models included in the study. Dooley and Lenihan (2005) analyzed the ability of two time series forecasting techniques to predict global future lead and zinc prices. The time series methods used in the study are ARIMA and lagged forward price models. They argue that price forecasting is difficult. The results from their analysis suggest that ARIMA modeling provide better forecasts than lagged forward price modeling. They also claim that the models discussed in the study are widely used for base metal forecasting by the metal companies. Hammoudeh and Yuan (2008) utilize three "two factor" volatility models

of the GARCH family to examine the volatility behavior of three strategic commodities: gold, silver and copper, in the presence of crude oil and interest rate shocks. The results of the standard GARCH models suggest that gold and silver have almost the same volatility persistence which is greater than that of copper. The results of CGARCH and EGARCH procedures suggested that metals can have different volatilities because of their own special factors and uses, but not only driven by crises and common macroeconomic factors. Figuerola-Ferretti and Gilbert (2008) apply the bivariate FIGARCH model to aluminum and copper prices, which are the two most important metals traded in the London Metal Exchange. This model allows parsimonious representation of long memory volatility processes. The results show that spot and three-month aluminum and copper volatilities can be represented as long memory processes, in which the processes are symmetric and a common degree of fractional integration is exhibited by both of the metals. The review of literature shows that ARCH modeling is widely used in several time series for forecasting and GARCH and EGARCH models are extensively used in volatility forecasting. However, there exist very few researches which applies the ARCH-GARCH family to commonly traded non-ferrous metals. The literature shows that GARCH models are very successful at capturing the volatility clustering effect of financial time series and EGARCH model outperforms the traditional models in capturing asymmetric effects. Thus, this paper focuses on forecasting of price volatilities non-ferrous metals traded in the London Metal Exchange using non-linear models.

DATA & METHODOLOGY

Data

Daily time series for the mean three-month futures prices of three commonly traded non-ferrous metals (aluminum, copper and zinc) are used for this study. The sample covers the period December 12, 2003 – December 15, 2008. All three-month futures prices are sourced from London Metal Exchange (LME) and these prices are given in US dollars per ton. The total observations for each metal are 1305. All data used is in natural logarithm form of prices for forecasting the metal prices. The last thirty days data are kept as the hold out sample and estimate the models with the remaining data set. Then the forecasting accuracy of the models is evaluated using the holdout sample.

Unit Root Tests

In time series models in econometrics, the ARCH modeling requires that the series under study be in stationary form, so the first part of the analysis focused on the unit root properties of the variables. Several tests are available for testing the existence of unit roots, but the results are sometimes conflicting. In order to continue with the analysis safely, the stationarity of the series must be ensured. In theory, a time series is considered to be stationary if the series fluctuates around a constant mean which implies that the series have a finite variance. On the contrary, if a time series have a unit root this means the process is non-stationary. Namely, the series do not have a constant variance and no tendency to return to the predetermined path. The commonly used methods in the literature to test for the presence of unit roots are augmented Dickey–Fuller (ADF) test belongs to, as the name implies, Dickey and Fuller (1979), Phillips–Perron (PP) developed by Phillips and Perron (1988), Elliot–Rothenberg–Stock Dickey–Fuller GLS detrended (DF–GLS) test proposed by Elliott, Rothenberg, and Stock (1996), a more comprehensive Kwiatkowski–Phillips–Schmidt–Shin (KPSS) test is presented by Kwiatkowski, Phillips, Schmidt, and Shin (1992), Elliott, Rothenberg, and Stock (1996) developed a more recent test which is Elliott–Rothenberg–Stock (ERS) test and, Ng–Perron $MZ\alpha$ (NP) test is created by Ng and Perron (2001). All of these procedures are applied so that the results of the study are more reliable. Detailed explanations of each of these procedures are not given here due to space limitations. However, extensive researches of Maddala and Kim (1998) and Ng and Perron (2001) can be used for detailed information about unit root tests. In general, the ADF and PP tests are criticized because they have very low power; these tests cannot differentiate highly persistent stationary processes from non-stationary processes and the power of these tests diminish as deterministic terms are added to the test regressions. KPSS also has the same low power problems. Efficient unit root tests are proposed for maximum power by Elliot, Rothenberg, and Stock (1996) and Ng and Perron (2001). These tests have considerably higher power than the ADF, PP or KPSS unit root tests. All of these tests are included in this study because they are still in use in literature. Null hypothesis of all unit root tests employed in this study states that the series under analysis has a unit root (non-stationary) against the

alternative that it is stationary. The only exception is the KPSS where the null hypothesis states that the series is stationary.

ARMA(p,q) – EGARCH(1,1)

The most common of the several asymmetric GARCH specifications is the EGARCH model, which is argued to be superior to alternative models (Radha & Thenmozhi, 2002). In order to carry out the analysis of metal price data, a form for the variance equation must be selected. The GARCH(1,1) specification for the variance equation is suggested in the literature for modelling volatility, so the EGARCH(1,1) model will be used in this study. The reason for that is the GARCH models do not take into account the leverage effect and hence the EGARCH model is used to capture whether the asymmetric effect is present. Proposed method of exponential GARCH or EGARCH model to capture the leverage or asymmetric effects by Nelson (1991) includes a coefficient, γ , that account for such asymmetries, as seen in the variance equation in equation 1:

$$\ln(\sigma_t^2) = \omega + \beta \ln(\sigma_{t-1}^2) + \gamma \frac{u_{t-1}}{\sqrt{\sigma_{t-1}^2}} + \alpha \left[\frac{|u_{t-1}|}{\sqrt{\sigma_{t-1}^2}} - \sqrt{\frac{2}{\pi}} \right] \quad (1)$$

Therefore, this variance equation follows the mean equation that is assumed to follow an ARMA(p,q) model. In this study, we select the the best ARMA specification (p and q) based on Akaike Information Criterion (AIC). The ARMA model in general form is represented in equation 2:

$$y_t = \mu + \sum_{i=1}^p \phi_i y_{t-i} + \sum_{i=1}^q \theta_i u_{t-i} + u_t \quad (2)$$

First of all, stationarity of the series has been tested to ensure that they do not contain unit roots. After ensuring stationarity of the series, the models are estimated by maximum likelihood estimation procedure and the best model with the appropriate AR and MA lengths are selected via the minimum Akaike information criterion (Bozdogan, 2000). Then the inverted roots of the final model are also checked the stationarity of the model. Last step in selecting the best ARMA specification is done for each non-ferrous metal price by significance tests of coefficients of the AR and MA terms. Additionally, the leverage effect is tested via the coefficient, γ , added into equation that account for such asymmetries.

ARMA(p,q) – GARCH(1,1)

Bollerslev (1986) introduced the generalized autoregressive conditional heteroscedastic (GARCH) models which describes the dynamic changes in conditional variance are dependent upon previous own lags. Because of this reason, the GARCH model is a more parsimonious model than the ARCH model. The GARCH family is extensively surveyed by Bollerslev, Chou, and Kroner (1992). They believe that the GARCH model is a very effective tool for examining volatility. Since the variance is known at time (t-1) in this model, one-step-ahead forecasts are already available. Multi-step-ahead forecasts can be calculated by repeating same procedure infinitely. As it was mentioned earlier in this paper, GARCH(1,1) model is selected for variance equation while modeling volatility. The variance equation is given in equation 3:

$$\sigma_t^2 = \alpha_0 + \alpha_1 u_{t-1}^2 + \beta \sigma_{t-1}^2 \quad (3)$$

As in the EGARCH process, the best ARMA(p,q) specification (see equation 2) must be selected for the mean equation. The best specification selection proceeds exactly the same with the best ARMA specification selection in the ARMA(p,q) – EGARCH(1,1) part of the study, except the leverage effect part.

Forecasting

The best specification selection is followed by the evaluation of the forecasting results of GARCH(1,1) and EGARCH(1,1) models. Several measures are used to carry out this comparison and these measures are calculated as follows :

$$\text{Root Mean Squared Error (RMSE)} = \sqrt{\frac{\sum_{t=T+1}^{T+h} (\hat{y}_t - y_t)^2}{h}} \quad (4)$$

$$\text{Mean Absolute Error (MAE)} = \frac{\sum_{t=T+1}^{T+h} |\hat{y}_t - y_t|}{h} \quad (5)$$

$$\text{Mean Absolute Percentage Error (MAPE)} = 100 \sum_{t=T+1}^{T+h} |\hat{y}_t - y_t| / y_t / h \quad (6)$$

$$\text{Theil Inequality Coefficient} = \frac{\sqrt{\sum_{t=T+1}^{T+h} (\hat{y}_t - y_t)^2 / h}}{\sqrt{\sum_{t=T+1}^{T+h} \hat{y}_t^2 / h} + \sqrt{\sum_{t=T+1}^{T+h} y_t^2 / h}} \quad (7)$$

The first two error statistics, RMSE and MAE, mainly based on the dependent variable scale. Forecasts of different models are compared by using these relative measures. The model with the lowest value of the error statistics will lead to a better forecasting performance. The other two statistics do not depend on a relative scale. MAPE equals to when explaining a perfect fit. However, MAPE does not have an upper restriction. The Theil inequality coefficient always gives values between zero and one, where perfect fit indicated by zero.

Decomposition of the mean squared error into proportions is given below:

$$\text{Bias Proportion} = \frac{((\sum \hat{y}_t / h) - \bar{y})^2}{\sum (\hat{y}_t - y_t)^2 / h} \quad (8)$$

$$\text{Variance Proportion} = \frac{(s_{\hat{y}} - s_y)^2}{\sum (\hat{y}_t - y_t)^2 / h} \quad (9)$$

$$\text{Covariance Proportion} = \frac{2(1-r)s_{\hat{y}}s_y}{\sum (\hat{y}_t - y_t)^2 / h} \quad (10)$$

where $\sum \hat{y}_t / h$, \bar{y} , $s_{\hat{y}}$, s_y are defined as the means and standard deviations of \hat{y}_t and y_t and correlation between them is r . The bias proportion measures how far the mean of the forecasts is from the mean of the actual data. The variance proportion measures the difference between the variation of the actual data and the variation of the forecasts. The covariance proportion measures the remaining unsystematic part of the forecasting errors. These proportions have to add up to one. Accurate forecasts have small bias and variance proportions so that most of the error can be attributed to the covariance proportions.

EMPRICAL RESULTS

Summary of the results of the unit root tests are given in Table 1. ADF, DF-GLS, and PP critical values are sourced from MacKinnon (1991). KPSS critical values are from Kwiatkowski, Phillips, Schmidt, and Shin (1992) and MZA critical values are from Ng and Perron (2001). Elliot, Rothenberg, and Stock (1996) gives the critical values of ERS. Although the results seem to maintain a conflict between the tests, in general the aluminium, copper, and zinc prices are stationary in levels which means that all variables are integrated of order 1.

Literature suggests that the presence of autoregressive conditional heteroscedasticity in the residuals raises the possibility of the leverage effect. In order to examine the possibility of the leverage effect, an ARMA-EGARCH (1,1) model is estimated. The ARMA models of order up to 1,1 for the natural logs of three metal prices are estimated. Stationarity of the series is tested by ensuring that they do not contain unit roots. According to the test results, all of the specifications do not contain unit root which means analysis can continue without a stationarity doubt. The Akaike information criterion (AIC) (not reported here) choose ARMA(1,0) specification for the prices for aluminum and copper. For zinc, ARMA(1,1) specification minimizes the Akaike Information Criterion. In addition, t-statistics of coefficient estimates are used to evaluate the performance of the selected specifications. The tests (not reported here) show that ARMA(1,0) specification is statistically appropriate for the prices for aluminum and copper. Identically, the results for t-statistics ARMA(1,1) specification is appropriate for zinc. For all the metal prices, parameter estimation is conducted similarly on an EGARCH (1,1) for variance equation and the appropriate ARMA model for the mean equation. Best specifications for aluminum and copper prices is ARMA(1,0)-EGARCH(1,1) and ARMA(1,1)-EGARCH(1,1) for zinc. Proposed method of exponential GARCH or EGARCH model to capture the leverage or asymmetric effects is Nelson's (1991) which includes a coefficient that account for such asymmetries. The interpretation of this coefficient in the variance equation of the EGARCH model shows that asymmetric effect is not present in prices of the three commonly traded non-ferrous metals and it is statistically insignificant (unit root test results will be available upon request).

Table 1 EGARCH versus GARCH¹

$$\ln(\sigma_t^2) = \omega + \beta \ln(\sigma_{t-1}^2) + \gamma \frac{u_{t-1}}{\sqrt{\sigma_{t-1}^2}} + \alpha \left[\frac{|u_{t-1}|}{\sqrt{\sigma_{t-1}^2}} - \sqrt{\frac{2}{\pi}} \right] \quad (1)$$

$$\sigma_t^2 = \omega + \alpha_1 u_{t-1}^2 + \beta \sigma_{t-1}^2 \quad (3)$$

Equation for variance specification	EGARCH (1)			GARCH (3)		
	LPALUM	LPCOPP	LPZINC	LPALUM	LPCOPP	LPZINC
ω	-0.079426 ^b (0.026762)	-0.083540 ^b (0.028723)	-0.081076 ^b (0.027850)	0.067692 ^b (0.024939)	0.127234 ^c (0.070972)	0.095307 ^b (0.036169)
β	0.976429 ^c (0.008434)	0.976574 ^c (0.010879)	0.971787 ^c (0.009974)	0.904395 ^c (0.022494)	0.892974 ^c (0.035641)	0.910125 ^c (0.021346)
γ	0.043081 ^a (0.028731)	-0.003261 ^a (0.028650)	0.003219 ^a (0.026896)	-	-	-
α	0.132326 ^c (0.036731)	0.156935 ^c (0.046162)	0.166648 ^c (0.044247)	-	-	-
α_1	-	-	-	0.067203 ^b (0.027845)	0.078360 ^b (0.026566)	0.074418 ^b (0.019853)

¹Notes to Table: Coefficient estimates and their standard errors are given in parantheses. ^{a, b, c} Significant at 1%, 5%, and 10% levels, respectively.

As it was mentioned in Data & Methodology part of this paper, best ARMA specification selection for the GARCH models proceeds exactly the same with the best ARMA specification selection in the ARMA(p,q) – EGARCH(1,1) part of the study, except the leverage effect part. Best specifications for aluminum and copper prices is ARMA(0,1)-EGARCH(1,1) and ARMA(0,0)-EGARCH(1,1) for zinc.

After the best specification selection, this study continues with the evaluation of the forecasting results of the selected specifications. Based on the RMSE and MAE performance measures in Table 3, GARCH(1,1) models are slightly superior to EGARCH(1,1) models for all three non-ferrous metals. Also the interpretation of MAPE results confirms the RMSE and MAE results (see Table 2) that GARCH(1,1) model results in a slightly better fit than EGARCH(1,1) models for all three metal price data. However, Theil inequality coefficient gives conflicting results with other three forecasting error statistics for all three data sets. Namely, EGARCH(1,1) models result in a better fit than GARCH(1,1) models according to Theil inequality coefficient estimates (see Table 2). Also, proportions that decomposed from forecasting errors confirms the results of Theil inequality coefficient because GARCH(1,1) models have higher variation from the actual data than EGARCH models and GARCH(1,1) models have no covariance component (see Table 2).

Table 2 Forecast Statistics

$$\ln(\sigma_t^2) = \omega + \beta \ln(\sigma_{t-1}^2) + \gamma \frac{u_{t-1}}{\sqrt{\sigma_{t-1}^2}} + \alpha \left[\frac{|u_{t-1}|}{\sqrt{\sigma_{t-1}^2}} - \sqrt{\frac{2}{\pi}} \right] \quad (1)$$

$$\sigma_t^2 = \omega + \alpha_1 u_{t-1}^2 + \beta \sigma_{t-1}^2 \quad (3)$$

Equation for variance specification	EGARCH (1)			GARCH (3)		
	LPALUM	LPCOPP	LPZINC	LPALUM	LPCOPP	LPZINC
RMSE	1.457008	2.068801	2.251417	1.456375	2.068339	2.249464
MAE	1.060954	1.436628	1.633354	1.059823	1.436630	1.631546
MAPE	95.40437	100.8427	95.83370	94.78518	100.5874	94.75301
TIC	0.970338	0.959406	0.952216	0.994389	0.960782	0.965508
Bias P.	0.000256	0.000327	0.002118	0.000086	0.000257	0.000974
Variance P.	0.998794	0.996335	0.985232	0.999914	0.999743	0.999026
Covariance P.	0.000949	0.003338	0.012650	0.000000	0.000000	0.000000

SUMMARY AND CONCLUSIONS

In this paper the three non-ferrous metals' prices are modeled using nonlinear autoregressive conditional heteroscedasticity models. We discover that the three prices are governed by the conditional heteroscedasticity effects. However, on the EGARCH specification the leverage effect was not significant for any of the three metals. We then proceed with the comparison of the forecasting accuracy of the GARCH and EGARCH models. We find that in general both models show similar performance in forecasting the prices of the three metals. However, the GARCH model performs slightly better than the EGARCH model according to several criteria. Furthermore, since the GARCH model is more parsimonious, we recommend the utilization of the GARCH model for forecasting the prices of aluminum, copper, and zinc traded in the LME.

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VARIOUS USER GROUPS' PERCEPTION OF CORPORATE ANNUAL REPORTS: EVIDENCE FROM TURKEY

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ABSTRACT

The aim of corporate annual report is to provide useful information to various user groups, all of whom have different information needs. The perception of various user groups of corporate annual reports has been investigated in a number of studies. The vast majority of these studies, however, have covered developed economies. Little reference has been made in the literature to the developing countries. In this study an attempt is made to provide empirical evidence on the usefulness of different aspects of the corporate annual report to various Turkish user groups. We provide evidence based on a questionnaire of seven different user groups. A questionnaire was distributed to 100 individual investors, 50 institutional investors, 50 financial analysts, 100 academics, 50 bank loan officers, 50 stock market brokers and 100 auditors. A total of 328 completed questionnaires were returned giving a response rate of 65.6 percent. Descriptive statistics, Chi-Square and Kruskal-Wallis tests were used to analyze the results.

INTRODUCTION

A corporate annual report can be viewed as the major output of the financial accounting system. The annual report consists of the chairman's letter, the director's report, the financial statements, footnotes to financial statements, the auditor's report and various other disclosures. This report is also the main vehicle for managers to demonstrate how effective they have been in meeting their fiduciary duties and carrying out their stewardship functions in the organization (Anderson and Epstein, 1995). The objective of general purpose corporate annual reports is to supply information to a number of user groups to enable them to make investment decisions about the allocation of scarce resources. This report should contain information about the financial condition of the enterprise and other information that would be of interest to the user groups.

This paper attempts to discover the most important sources of information about Turkish companies with particular emphasis on the corporate annual report. The research also provides evidence on the importance, understanding and usefulness of corporate annual reports to various user groups in Turkey.

CORPORATE ANNUAL REPORTS IN TURKEY

Corporate annual report preparations have flourished (evolved) in each country based on the nature of its capital market, the level of economic development, legal systems, the regulatory enforcement regime and the quality of accounting regime (Saudagaran, 2004).

In this framework, Capital Markets Board of Turkey (CMB) makes the preparations in annual activity reports of registered companies in Istanbul Stock Exchange (ISE) and amendments consisting of these concepts. In accordance with the amendment (Corporate Governance Principles of Turkey) put into effect in 2005 (CMB, 2003); the annual

report should be prepared in a manner to ensure public access to all kinds of information regarding the company's activities. Statistical data and graphics should also be incorporated in the annual report.

The annual report should be signed by the board chairman, chief executive officer/general director and department manager responsible for the preparation of periodical financial statements and reports or by the company official who was appointed to fulfill such responsibility, as well as board member(s) responsible for the preparation of the financial statement and reports if a distribution of duties is performed among the members of the board of directors and a statement indicating that the current periodical financial statements completely reflects the true financial status of the company and that the company acts in accordance with the related legislation should be provided. In case any of the above-mentioned persons disagree with the information included in the annual report, the matters disagreed should be included in the annual report in writing.

The below listed issues should be incorporated in the company's annual report;

- Scope of activities of the company,
- Information about the sector in which the company operates and the company's status within this sector,
- Board of directors' evaluation and analysis of financial status and operation results; level of achievement of the planned operations; the company's position with respect to the defined strategic objectives,
- Board of directors' statement about the status of internal control system,
- Audit firm's opinion about the internal control system,
- Rating agency's opinion about the company,
- Detailed explanation about the foreseeable risk factors regarding future operations,
- Analysis of significant transactions carried out during the preceding year with the group companies and other related persons and institutions,
 - Commercial and non-commercial transactions between the company and companies, where board members, executives and shareholders, who either directly or indirectly own at least 5% of the company's capital, possess at least 5% and more of shareholding or having the control of the latter,
 - The curriculum vitae of the company's board members and executives; their duties and responsibilities within the company; positions held outside the company and compliance with the internally established company rules in that respect; independence statements by the independent board members; remuneration, bonuses and other benefits offered and performance evaluation of the corporate governance committee; proportion of shares and amounts invested in the company's capital; transactions made between the mentioned persons and the company, possessions in the company's capital market instruments; lawsuit filed against them on company operations,
 - Changes in the organization, capital, ownership and management structure of the company,
 - Ownership structure table showing the controlling shareholder(s), as released from any indirect and cross ownership relations,
 - Fines levied as a result of practices acting against the legislative provisions and the reasons thereof,
 - Changes in the legislation that may affect the company operations at a significant level,
 - Important lawsuits filed against the company and possible consequences thereof; warnings, notifications or administrative fines and similar information submitted by public authorities,
 - Dividend policy; the reason/s for not distributing dividends, if applicable,
 - Future forecasts for sales, company's level of efficiency, company's market share, income yielding capacity of the company, company profitability and the company's debt/equity ratios and similar issues,
 - Access to transcripts of information about the function of general shareholders' meeting, shareholders rights and the Principles that refer to the exercise of these rights.
 - Precautionary measures that may be taken in order to prevent any possible conflicts of interest arising between the company and the related organizations which offer investment advice, investment analysis, and rating activity etc.

RESEARCH METHODOLOGY

Objectives of the Study

The aim of this study is to empirically examine the importance, understanding and usefulness of corporate annual reports to external users in Turkey. In order to achieve its objective the study will seek answers to the following questions:

- Is there difference among user groups on their frequency of annual report usage?
- What are the sources of corporate information used by the various Turkish user groups?
- How different various user groups of the corporate annual reports in Turkey perceive the importance of the various sections of these reports?
 - How different various user groups of the corporate annual reports in Turkey perceive the understandability of the various sections of these reports?
 - How different various user groups of the corporate annual reports in Turkey perceive the usefulness of the various sections of these reports?

Data Collection and Sampling

To provide empirical evidence on the above research questions, a questionnaire was designed to fulfill our research objective. An extensive review of the literature (see for example, Baker and Haslem, 1973; Lee and Tweedie, 1975a,b; Wilton and Tabb, 1978; Arnold and Moizer, 1984; Abu-Nassar and Rutherford, 1996; Bence *et al.*, 1995; Naser *et al.*, 2003; Alattar and Al-Khater, 2007; Al-Razeen and Karbhari, 2004 a,b; Stainbank and Peebles, 2006; Berry and Waring, 1995; Barlett and Chandler, 1997; Alijarde, 1997; Wallace, 1988) was undertaken to ensure that no important point was omitted. The questionnaire was divided into two parts. The first part sought general information on the respondent's demographic profile. The second part of the questionnaire was related to the respondent's opinion regarding the level of importance, understanding and usefulness of the various sections of the corporate annual reports when making investment decisions.

Drawing on the literature and considering the Turkey environment, seven groups of external users of annual corporate reports were identified which include: individual investors, institutional investors, financial analysts, academics, bank loan officers, stock market brokers and auditors. The respondents were asked to indicate their opinion on a five-point Likert scale in terms of "very important (5)", "very useful (5)", "very understandable (5)" or "strongly agree (5)" to "not important at all (1)", "not useful at all (1)", "not understandable at all (1)" or "strongly disagree (1)". The questionnaire was delivered by hand and by e-mail in period between September and November 2008. Details of the number of questionnaires that were distributed, the number of returned questionnaires, the response rate for each group and the overall response rate are presented in Table 1 below. It can be observed from Table 1 that a total of 500 questionnaires were distributed to the seven groups in our sample. We received a total of 328 usable responses generating an overall response rate of 65.6 per cent.

Table 1: Questionnaire response rate by user groups

User Groups	Distributed Questionnaire	Received Questionnaire	Response Rate (%)
Individual investors	100	84	84
Institutional investors	50	28	56
Financial analysts	50	34	68
Academics	100	73	73
Bank loan officers	50	32	64
Stock market brokers	50	23	46
Auditors	100	54	54
Total	500	328	65.6

Descriptive statistics namely frequencies and measures of central tendencies were used for data analysis. In addition to the descriptive statistics, Pearson Chi-Square and Kruskal-Wallis tests were used to determine whether or not the mean responses of the seven user groups are significantly different. The tests were carried out for significance at the 5 percent confidence levels in order to confirm the results of significant differences among means.

RESEARCH FINDINGS

Findings About Demographic Profile of Respondents

User groups who took part in the survey were asked to give information about their gender, age, level of education and years of experience. Sixty-eight percent of the respondents were male. Participants' age ranged between 25 and 65. The average age of the participants was 37 years and 79 percent of them indicated that they hold a bachelor degree or more. Ninety-two of the respondents have more than six years of working experience.

Findings About Level of Annual Report Usage

One of our aims is to determine if there is a significant difference in the frequency of annual report usage by different groups.

Table 2: Level of Annual Report Usage (%)

Level of Frequency	Individual Investors	Institutional Investors	Financial Analysts	Academics	Bank Loan Officers	Brokers	Auditors	Total
Always	17.7	4.9	5.5	11.3	7.6	4.3	8.2	59.5
Usually	3.4	3.0	4.9	6.4	2.1	1.8	4.3	25.9
Sometimes	2.4	0.6	0.0	4.6	0.0	0.6	4.0	12.2
Seldom	2.1	0.0	0.0	0.0	0.0	0.3	0.0	2.4
Never	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100	100	100	100	100	100	100	100

Table 2 shows how often different groups use financial reports for decision making purposes. The results indicate that more than 85% of the user-groups regularly turn to annual reports for making investment decision. The result of the Pearson chi-square test ($\chi^2 = 55.351$, $p = 0.000$) show statistically significant difference at the 1% level for all seven levels of the frequency tested. Hence, we can say that there is difference among user-groups on their frequency of annual reports usage. User-groups use annual reports with different levels of frequency.

Findings About the Sources of Corporate Information

To investigate how user groups rate the influence of different sources of information, participants were asked to rate the importance of nine separate possible sources of information about companies. The respondents were asked to rate them on a five point Likert-type scale. The scale ranges from 1 "not important at all" to 5 "very important". The results are reported in Table 3. As seen in Table 3, at the whole sample level, users ranked the annual report as the most important source of information and friends' advice as the least important source. As for the separate user groups, on the other hand, five out of the seven user groups (institutional investors, financial analysts, academics, bank loan officers and auditors) indicated that the annual report is the most important source of information about companies. While individual investors indicated that tips and rumors is the first source of corporate information, brokers pointed out that published daily price is the first source of information when making investment decisions about a company. Kruskal-Wallis tests were carried out for each of the nine different sources of information to gauge the extent of similarity in how user groups perceived the importance of these items. The results of the analysis indicate no statistically significant differences among users about the annual report, government publication, newspapers, magazines and journals, published daily share price and direct information from company. But there is a statically significant difference among users about the stockbrokers' advice ($\chi^2 = 78.880$, $p = 0.000$), friends'

advice ($\chi^2 = 167.960, p = 0.000$), tips and rumors ($\chi^2 = 21.189, p = 0.002$) and specialist's advice ($\chi^2 = 14.324, p = 0.026$).

Table 3: Influence of Difference Sources of Information as Mean Scores (rank in parentheses)

Sources of Information	Individual Investors	Institutional Investors	Financial Analysts	Academics	Bank Loan Officers	Brokers	Auditors	Total
Annual report	4.62 (2)	4.68 (1)	4.59 (1)	4.60 (1)	4.81 (1)	4.52 (2)	4.56 (1)	4.62 (1)
Government publication	4.31 (8)	4.11 (6)	4.38 (4)	4.19 (6)	4.69 (2)	4.17 (6)	4.20 (3)	4.28 (5)
Newspapers, magazines and journals	4.31 (8)	3.96 (7)	4.32 (5)	4.19 (6)	4.41 (5)	4.43 (3)	4.06 (4)	4.23 (6)
Published daily share price	4.36 (7)	4.46 (3)	4.53 (2)	4.38 (3)	4.28 (7)	4.70 (1)	3.93 (5)	4.34 (3)
Stockbrokers' advice	4.55 (6)	2.61 (9)	3.59 (8)	4.15 (7)	4.28 (7)	3.91 (7)	3.67 (7)	3.98 (7)
Friends' advice	4.58 (5)	2.82 (8)	2.79 (9)	4.26 (5)	1.88 (8)	2.22 (8)	2.44 (8)	3.39 (8)
Tips and rumors	4.64 (1)	4.29 (4)	4.18 (7)	4.37 (4)	4.38 (6)	4.22 (5)	3.85 (6)	4.32 (4)
Specialist's advice	4.60 (4)	4.25 (5)	4.24 (6)	4.37 (4)	4.47 (4)	4.30 (4)	3.93 (5)	4.34 (3)
Direct information from company	4.61 (3)	4.54 (2)	4.47 (3)	4.58 (2)	4.53 (3)	4.52 (2)	4.43 (2)	4.54 (2)

Findings About Importance Level of Annual Report Sections

Since one of the objectives of the study is to determine how respondents rate different sections of the annual reports, the annual report was divided into eight sections and the respondents were asked to indicate to what extent these sections are important when making investment decisions. Table 4 shows the mean importance score that user groups accorded to the different parts of the annual report and their ranks. It can be seen from the table that eight sections of the annual report were considered remarkably important to user groups in Turkey, implying that they all are relevant for investment decision making with the balance sheet, income statement and auditor's report being of the there most important parts of the annual report. The results of Kruskal-Wallis test show that there is a statistically significant difference between user groups about the statement of cash flows ($\chi^2 = 18.460, p = 0.005$), accounting policies ($\chi^2 = 17.488, p = 0.008$) and historical information ($\chi^2 = 22.247, p = 0.001$). There is no statistically significant difference among user groups about the remaining five sections of annual reports.

Table 4: Importance of Annual Reports Sections as Mean Scores (rank in parentheses)

Sources of Information	Individual Investors	Institutional Investors	Financial Analysts	Academics	Bank Loan Officers	Brokers	Auditors	Total
Balance sheet	4.60 (2)	4.57 (3)	4.35 (5)	4.68 (1)	4.47 (6)	4.57 (1)	4.56 (2)	4.57 (1)
Income statement	4.61 (1)	4.54 (4)	4.29 (7)	4.68 (1)	4.44 (7)	4.43 (3)	4.59 (1)	4.55 (2)

Footnotes to financial statements	4.28 (5)	4.57 (3)	4.50 (2)	4.45 (3)	4.72 (2)	4.26 (4)	4.50 (4)	4.45 (5)
Statement of cash flows	3.80 (6)	4.32 (5)	4.47 (3)	4.41 (4)	4.53 (4)	3.87 (7)	4.41 (6)	4.23 (6)
Accounting policies	3.73 (7)	4.32 (5)	4.32 (6)	4.23 (6)	4.44 (7)	4.13 (6)	4.44 (5)	4.17 (7)
Auditor's report	4.55 (3)	4.75 (1)	4.41 (4)	4.55 (2)	4.56 (3)	4.48 (2)	4.52 (3)	4.54 (3)
Board of directors' report	4.52 (4)	4.61 (2)	4.71 (1)	4.45 (3)	4.75 (1)	4.26 (4)	4.44 (5)	4.52 (4)
Historical information	3.67 (8)	3.18 (6)	4.18 (8)	4.29 (5)	4.50 (5)	4.22 (5)	4.41 (6)	4.06 (8)

Findings About Understandability of Annual Report Sections

The user groups' level of understandability of different part of the annual report is reported in Table 5. At the whole sample level, statement of cash flows is the least understandable section though its mean was 4.21. On the other hand for the whole sample demonstrated that it is easy to understand balance sheet. The results of Kruskal-Wallis test revealed that although users groups' views regarding their understandability of notes to financial statements ($\chi^2 = 16.093$, $p = 0.013$) and statement of cash flows ($\chi^2 = 23.233$, $p = 0.001$) were significantly different, they shared similar views on their understandability of balance sheet, income statement, accounting policies, auditor's report and board of directors' report.

Table 5: Understandability of Annual Report Sections as Mean Scores (rank in parentheses)

Sources of Information	Individual Investors	Institutional Investors	Financial Analysts	Academics	Bank Loan Officers	Brokers	Auditors	Total
Balance sheet	4.57 (2)	4.61 (2)	4.38 (4)	4.70 (1)	4.50 (4)	4.57 (1)	4.57 (2)	4.58 (1)
Income statement	4.60 (1)	4.50 (4)	4.32 (5)	4.68 (2)	4.50 (4)	4.43 (2)	4.54 (3)	4.55 (2)
Notes to financial statements	4.27 (4)	4.54 (3)	4.53 (2)	4.51 (3)	4.78 (1)	4.13 (4)	4.52 (4)	4.46 (3)
Statement of cash flows	3.74 (7)	4.39 (5)	4.47 (3)	4.41 (5)	4.53 (3)	3.70 (6)	4.44 (5)	4.21 (7)
Accounting policies	4.05 (5)	4.29 (6)	4.26 (6)	4.29 (6)	4.38 (6)	4.13 (5)	4.43 (6)	4.24 (6)
Auditor's report	4.35 (3)	4.71 (1)	4.32 (5)	4.51 (3)	4.47 (5)	4.13 (4)	4.61 (1)	4.45 (4)
Board of directors' report	4.04 (6)	4.54 (3)	4.56 (1)	4.47 (4)	4.63 (2)	4.23 (3)	4.44 (5)	4.37 (5)

Findings About Usefulness of Annual Report Sections

The participants were asked to give their level of agreement with six statements that may reflect the areas where the annual report sections can be useful to the user groups. The results of their answers are presented in Table 6. As shown in Table 6, all seven groups assigned an average usefulness mean above 4.4 to each of the given six statements, revealing a strong agreement on the usefulness of information contained in the annual report sections for investment decisions. Respondents gave a preference for using annual report sections to provide primary

information for making investment decisions over the five statements. The results of Kruskal-Wallis test show that there is no statistically significant difference among user groups about six statements.

Table 6: Usefulness of Annual Report Sections as Mean Scores (rank in parentheses)

Annual Report Sections...	Individual Investors	Institutional Investors	Financial Analysts	Academics	Bank Loan Officers	Brokers	Auditors	Total
To provide primary information for making investment decisions	4.43 (1)	4.54 (2)	4.47 (5)	4.64 (2)	4.56 (4)	4.35 (2)	4.60 (3)	4.53 (1)
To provide information about the company's liquidity	4.37 (3)	4.57 (1)	4.65 (1)	4.52 (4)	4.75 (1)	4.22 (4)	4.64 (1)	4.52 (2)
To provide information to help investors to monitoring their investment	4.40 (2)	4.46 (3)	4.62 (2)	4.62 (3)	4.44 (5)	3.96 (6)	4.54 (5)	4.47 (3)
To help investors to predict future dividends of the company	4.29 (5)	4.39 (4)	4.53 (3)	4.70 (1)	4.63 (3)	4.39 (1)	4.40 (6)	4.47 (3)
To help investors to evaluate company's performance overtime	4.35 (4)	4.39 (4)	4.47 (4)	4.49 (5)	4.38 (6)	4.30 (3)	4.56 (4)	4.43 (4)
To help investors to make comparison between a company's performance with other companies' performance	4.29 (5)	4.32 (5)	4.41 (5)	4.40 (6)	4.66 (2)	4.13 (5)	4.63 (2)	4.41 (5)

CONCLUSIONS

The main purpose of this study was to investigate the perception of various user groups towards corporate annual reports in Turkey. Hence, seven user groups were surveyed: individual and institutional investors, financial analysts, academics, bank loan officers, stock market brokers and auditors.

It is possible to summarize the findings as in the following;

- Majority of respondents indicated that they regularly used annual reports for making investment decision. And user groups used annual reports with different levels of frequency.
- Annual reports were rated as the most important source of information about companies. Friends' advice was considered as the least important source of information by all user groups. Also there is a statically significant difference among users about the stockbrokers' advice, friends' advice, tips and rumors and specialist's advice.
- Balance sheet, income statement and auditor's report were identified as the there most important parts of annual reports based on the results of mean importance score. And there is a statistically significant difference between user groups about the statement of cash flows, accounting policies and historical information.
- There was general consensus within the user groups that all of the main sections of the annual report published by Turkish companies are not difficult to understand. Balance sheet was rated as the most understandable section of annual reports. Although users groups' views regarding their understandability of notes to financial statements and statement of cash flows were significantly different, there is no statistically significant difference between user groups about their understandability of balance sheet, income statement, accounting policies, auditor's report and board of directors' report.
- When the comparison of the usefulness of information contained in the annual report sections for the user groups are examined, it is seen that there is a strong agreement. According the results, respondents gave a preference for using annual report sections to provide primary information for making investment decisions over the five statements. Also there is no statistically significant difference among user groups about six statements.

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AUTOMATIC IDENTIFICATION OF THE GARCH MODEL ORDER USING NEURAL NETWORKS

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ABSTRACT

GARCH models are being largely used to model the volatility of financial assets, the GARCH(1,1) being the most used one in practice. The identification phase of the GARCH model orders specification has not been fully looked into. However, the technology of knowledge-based systems has been used in some applications of time series models such as time series classification problems (Reynolds et al, 1995) and in identifying ARMA models (Machado, 2000) and SARIMA ([Luiza]). This paper aims to develop an intelligent system that can correctly identify the specification of GARCH models, thus allowing for an easier choice of the model to be used and avoiding the indiscriminate use of GARCH(1,1) model.

INTRODUCTION

“Identifying the order of a GARCH model to be adjusted to an actual series is usually hard. Using low order models, such as (1, 1), (1, 2) or (2, 1) and then choosing the model based upon various criteria such as AIC or BIC is recommended...” (Morettin and Tolo, 2004).

The ARCH and GARCH models have been widely used, both theoretically and in practical applications, since they were created in 1982 and 1986, respectively. Nevertheless, the focus of studies has been turned chiefly to either the theoretical studies or to predicting the volatility in the studies applied to actual series, where the GARCH(1,1) is usually assumed.

There are not many studies concentrating on the order identification phase of GARCH models. Some studies using computational intelligence have been developed in time series models such as in time series classification problems (Reynolds et al, 1995) and in identifying ARMA models (Machado, 2000) and SARIMA. In face of this context, this paper aims to create an intelligent system using Neural Networks that is able to improve the order identification phase of models, thus avoiding the indiscriminate use of the GARCH(1,1) model. For such, simulated time series will be used to validate the system proposed hereby. The outcomes achieved with the intelligent system will be compared to the choice of the models through the AIC (Akaike Information Criterion) and BIC (Bayesian Information Criterion) statistics.

CONCEPTS

Garch Model

Today’s financial market has been greatly influenced by everyday events. By analyzing a series of financial returns, which can be usually represented as a time series that shifts between periods of large and small fluctuation of values around its mean and makes “agglomerates”, volatility can be defined as “the variation over time of the conditional variance of a time series.” (Veiga; Fernandes and Baidya, 1993)

This volatility is good and beneficial for the financial market, since an increase in volatility is of interest not only to market investors and analysts but also to economists and policymakers. However, when such volatility is excessive, it affects economy in a negative manner and impairs the ‘smooth running’ of the financial system.

Excessive volatility might interfere with the financial market in many ways, namely:

- The prices of financial assets: such volatility may affect the level of investment, since the risk would be higher, prompting a search for other lower-risk assets in other markets.
- The interest rate: with higher costs to take credit or loans for investment projects, economy level might fall.
- The exchange rate: it may cause a significant reduction in the country’s imports if the prices of imported and exported goods increase due to exchange risk, causing the consumption of such goods to be reduced.

Volatility is very important within the economy and for the financial market. For that reason, economic estimates and forecasts have a different treatment from that of the classical models of time series (ARIMA de Box.& Jenkins, 1976), since they do not duplicate any underlying characteristics (stylized facts) such as conditional/unconditional non-normality and non-constant conditional variance over time.

There are several types of models for volatility modeling such as the Exponential Smoothing (EWMA), stochastic volatility models (VE) and GARCH. This paper focuses on the GARCH family models. For further details on other models, please refer to Clark (1973), Taylor (1980 and 1986), Tauchen and Pitts (1983), Hull and White (1987), and Harvey et al. (1994).

Before starting with the GARCH models, it is important to know some stylized facts of financial series in order to clarify the inspiration behind such models. For a deeper study on these stylized facts, please refer to Bernardo and Fernandes (1999).

- Stylized Fact 1 – Stationarity: the statistical properties of the series are invariant over time.
- Stylized Fact 2 – Poor/No linear dependence and non-linear dependence (GARCH effect): normally, the series is poorly or not self-correlated, but the series containing the square of the observations is self-correlated.
- Stylized Fact 3 – Non-normality: The distributions of the financial series generally show heavy tails and asymmetry, not fitting the Gaussian curve.
- Stylized Fact 4 – Existence of Volatility clusters: The financial series usually shift between periods of high and low volatility; that is, the conditional variance of the series varies over time.

A core hypothesis concerning derivation of the model for pricing options, as suggested by Black and Scholes (1973), is the assumption for the series of assets returns to have a log-normal distribution with constant mean and variance over time. However, it was faithfully used until Mandelbrot (1963) proposed the distribution of heavy tails and the volatility clusters. The characteristics were interpreted as evidence of stochastic volatility of financial assets.

In order to represent such characteristics, for approximately two decades the GARCH family models have been broadly used in the finance literature, especially regarding derivatives. The initial success of the ARCH models to capture non-linear dependence allowed for many extensions.

Garch Model Representations

The first model of the GARCH family was suggested by Engle (1982) with a goal to capture a part of the stylized facts of financial series. He proposed to model the series of the return squares by a q-order autoregressive model (AR(q)), thus naming such model Autoregressive Conditional Heteroskedastic or ARCH(q), which can be expressed by:

$$u_t^2 = \zeta + a_1 u_{t-1}^2 + a_2 u_{t-2}^2 + \dots + a_q u_{t-q}^2 + w_t \quad (0.1)$$

where w_t is a white noise:

$$E(w_t) = 0$$

$$E(w_t w_\tau) = \begin{cases} \lambda^2 & \text{para } t = \tau \\ 0 & \text{caso cc } \text{otherwise} \end{cases} \quad (0.2)$$

At times it is convenient to use an alternative representation for the ARCH (q) process that imposes a slightly stronger assumption regarding the serial dependence of u_t . Suppose that:

$$u_t = \sqrt{h_t} v_t \quad (0.3)$$

where:

$$E(v_t) = 0 \quad E(v_t^2) = 1 \quad (0.4)$$

if h_t is written as:

$$h_t = \zeta + a_1 u_{t-1}^2 + a_2 u_{t-2}^2 + \dots + a_q u_{t-q}^2 \quad (0.5)$$

this implies that:

$$E(u_t^2 | u_{t-1}, u_{t-2}, \dots) = \zeta + a_1 u_{t-1}^2 + a_2 u_{t-2}^2 + \dots + a_q u_{t-q}^2 \quad (0.6)$$

Therefore, if u_t is generated by (0.3) and (0.5), then u_t follows as ARCH(q) process; and if (0.3) and (0.5) are replaced in (0.1), the result is:

$$h_t v_t = h_t + w_t \quad (0.7)$$

By using the specification of (0.3), the innovation w_t on the representation of AR(q) for u_t^2 in (0.1) can be expressed as:

$$w_t = h_t (v_t^2 - 1) \quad (0.8)$$

Notice that from (0.8), even if the unconditional variance of w_t was assumed as constant, the conditional variance of w_t varies over time; thus, the ARCH model can describe the volatility clusters.

In 1986, Bollerslev observed through empirical evidence that it was necessary to estimate the ARCH models with very high orders so as to capture the dynamics of conditional variance. By that, he created a more general and parsimonious of the ARCH models, called Generalized ARCH or (GARCH) (Bollerslev, 1986) to get that problem solved.

The same parsimony idea used in the ARMA models was used in GARCH models. That is, it can be easily demonstrated that an order one MA is equivalent to an infinite order AR. So, in order to reduce the number of parameters of the model, the AR-MA conjunction is used, thus forming the ARMA. The GARCH model is based upon the specification of the infinite-order ARCH model and h_t can be expressed as:

$$h_t = k + \sum_{i=1}^q \alpha_{t-i} u_{t-i}^2 + \sum_{j=1}^p \beta_{t-j} h_{t-j} \quad (0.9)$$

Just like the ARCH model depends on restriction for h_t to be positive for every 't', the GARCH models depend on the restrictions of $k > 0$, $\alpha_i \geq 0$ e $\beta_j \geq 0$. Nelson and Cao (1992) observed that the conditions $\alpha_i \geq 0$ and $\beta_j \geq 0$ were sufficient, but not necessary. By that, they inferred that, by imposing that all coefficients are non-negative, it is very restrictive and some of such coefficients were estimated to be negative in practice with the positive conditional variance. Consequently, such imposition was relaxed and in practice estimations are usually made without those restrictions.

In many high-frequency time series applications the conditional variance estimated through a GARCH(p,q) process shows strong persistence, namely:

$$\sum_{j=1}^p \beta_j + \sum_{i=1}^q \alpha_i \approx 1$$

If $\sum_{j=1}^p \beta_j + \sum_{i=1}^q \alpha_i < 1$, the (u_t) process is a second-order stationary, and the shock on the conditional variance of σ_t^2 has a decreasing impact in σ_{t+h}^2 , when 'h' grows, and it is asymptotically insignificant. This property is called persistence in literature.

Other variations were proposed which had diverse objectives such as the Exponential GARCH (EGARCH) and the TGARCH [Zakoian, 1991, Glosten et al., 1993, Rabemananjara and Zakoian, 1993], which seek to capture the asymmetry effect, that is, the fact of negative shocks on the returns of assets has a greater impact than that the positive shocks. The ARCH and GARCH models will be used as the object of study.

Modeling Strategy

According to Franses and Djik (2000), the modeling sequence normally involves the following steps:

- Calculate time series statistics (ACF and PACF)
- Compare the values or sizes of such statistics to theoretical values that state whether the model is adequate. (Identification)
- Estimate the parameters of the suggested model in step 2. (Estimate)
- Assess models using adequacy metrics. (Validation)
- Re-specify the model, if necessary.
- Use the model with descriptive or predictive purposes. (Forecast)

The concern of this study lies on the phase of identifying the appropriate lag structure for the conditional variance equation in a GARCH process. The autocorrelation and partial autocorrelation functions of innovation series are normally used to identify and validate the time behavior of the ARMA model series (Box and Jenkins, 1976). Bollerslev et al. (1988) demonstrated that these very functions, when applied to the residues square series, can be useful to identify and validate the time behavior of the conditional variance equation in the GARCH form. So, identification and validation of a GARCH process can performed as follows:

Being τ_n the n-th autocorrelation and ϕ_{kk} the k-th partial correlation of u_t^2 obtained through the solution of the equations for the GARCH, similar to the equations of Yule-Walker. Usual interpretations are applicable. For an ARCH(q) process, ϕ_{kk} has an abrupt cut after the q-th lag, a behavior that is identical to the partial autocorrelation function of the AR(q) processes. On the other hand, the autocorrelation function of u_t^2 for a GARCH(q,p) process is, in general, different from zero and decreases slowly. This way, the autocorrelation and partial autocorrelation functions of u_t^2 can be used to identify and validate the form of the GARCH models.

Another way to identify the architecture of the GARCH models is using the AIC and BIC statistics – the model showing the smallest statistics is selected as the identified model. Chapter 3 presents some results using this type of identification.

This paper focuses on the identification phase of the models, particularly in the identification of symmetrical GARCH models.

Neural Networks

One of the most widely used models of computational intelligence of present times is the neural networks. According to Haykin (1999), in 1943, McCulloch and Pitts set the beginning of the modern times for neural networks through a pioneer and innovative work. By putting together the expertise of McCulloch, a psychiatrist and

neuroanatomist, and the logic thinking of mathematics expert Pitts, this paper depicts a logic calculation of neural networks, assuming a model of a neuron that followed an “all-or-nothing” type of law. With a sufficient number of such units and duly adjusted synaptic connections operating synchronously, they demonstrated that a network built that way would accomplish, in principle, computing of any computable function. That work was an inspiration for several researchers such as Von Neumann, Hebb, Ashby, Taylor, amongst others, and is considered the starting point for the neural networks and artificial intelligence subjects.

The neural networks are mathematical models inspired in the human brain, that is, they are built from architectures of connected neurons, each neuron being represented by a mathematical equation and each connection between neurons being represented by weights or functions, which generate propagation signals and simulate synapsis.

The input layer represents the standards (or observations) to be presented to the network. This layer is connected to the first intermediate layer by weights, that is, how influential a given standard will be on each neuron of the next layer. Hidden layers are also connected by synaptic weights, which can also be interpreted as their contributions to the next connected neurons. These weights have “the knowledge” of the network, since they are the ones adapted during training. The hidden layer is where most of the processing is carried out. The output layer provides the result of all calculations among input values, weights and activation functions.

Each neuron (of the intermediate and output layers) has an activation function whereby, given the signal received by the other neurons, that neuron gets more active or not. The result of such activation is used to pass the signal on to another neuron or to the network’s final result. A neural network is mainly specified by its topology, by the characteristics of the neurons and by training rules.

Most of neural networks is trained by some algorithm represented by a mathematical equation or by various combined equations with an aim to produce, from the network’s output, a numerical value that will adjust the value of the weight connections of each processing unit. That algorithm determines how the network connection weights will be adjusted. By that, it changes the activation of the neurons in face of a specific set of input stimuli, which can be called learning.

There are two types of learning for neural networks, supervised and non-supervised. In supervised learning, also called learning by error correction, the data have examples; thus, it compares to the network’s output through the examples, that is, these types of algorithms aim to minimize such error. As for non-supervised learning, also called memory-based learning, there are no examples to be followed and the algorithms aim to group data which have similarities and maximize the difference between the characteristics of different groups.

Identification Using AIC and BIC

In order to test the identification of the models on the basis of the AIC and BIC criteria, the first step was simulating time series through GARCH family models. Matlab was the tool used in this study.

The models used for comparison were: ARCH(1), ARCH(2), GARCH(1,1), GARCH(2,1) and GARCH(1,2). Simulation involved 1,600 series using each of the previous models (varying the size of the series, representing daily series of one month (22), one quarter (66), one semester (132), and one year (264), respectively), amounting to 8,000 series. For that simulation, random figures were generated in interval (0,1), complying with the Stationarity conditions of the GARCH models. As for the identification criteria, the models selected were those with such a structure that has the lowest AIC and BIC statistics amongst the models estimated by maximum likelihood. Table 1 shows a sensitivity analysis for model identification match when the size of the series is increased.

Table 1: Results of model identification by the AIC and BIC criteria

Size of the series	Identification by AIC		Identification by BIC	
	Match	% match	Match	% match
22	488	24.4%	465	23.3%
66	809	40.5%	734	36.7%
132	1,070	53.5%	947	47.4%
264	1,371	68.6%	1,200	60.0%
Total	3,738	46.7%	3,346	41.8%

Identification through these criteria had a low match of 50% on average. For the annual series, the matching was better, at 68.6%. However, considering the series with the lowest number of observations (for example, series of companies that took IPO recently), identification gets much lower.

By observing the identification error by each model, as shown in Table 2 and Table 3, it can be noticed that the higher the model's order the greater the identification error. Intuitively, that result was expected, since these statistics seek parsimony, that is, they penalize the models with higher orders, tending to bias identification for lower order models. Since the AIC criterion showed a better classification result, such criterion will act as a parameter for comparison of the suggested identification model.

Table 2: Matching percentage in model identification by AIC

N	ARCH(1)	ARCH(2)	GARCH(1,1)	GARCH(2,1)	GARCH(1,2)	Total
22	94.5%	22.5%	3.5%	1.5%	0.0%	24.4%
66	92.8%	64.8%	29.5%	8.0%	7.3%	40.5%
132	92.3%	82.5%	54.0%	23.3%	15.5%	53.5%
264	93.0%	89.8%	74.5%	53.0%	32.5%	68.6%
Total	93.1%	64.9%	40.4%	21.4%	13.8%	46.7%

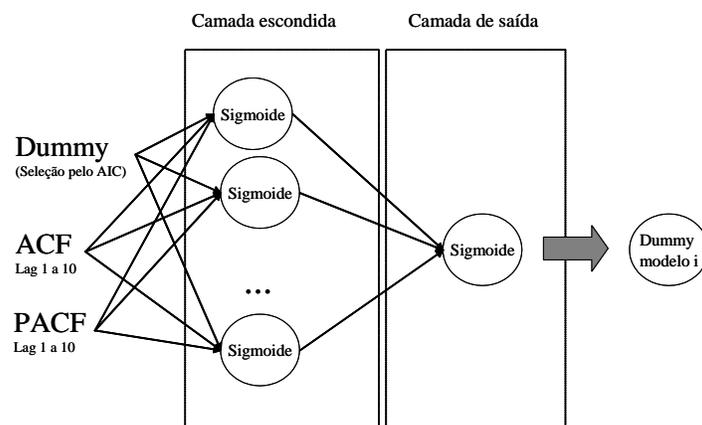
Table 3: Matching percentage in model identification by BIC

N	ARCH(1)	ARCH(2)	GARCH(1,1)	GARCH(2,1)	GARCH(1,2)	Total
22	96.8%	16.0%	3.0%	0.5%	0.0%	23.3%
66	98.8%	56.5%	25.0%	2.0%	1.3%	36.7%
132	99.3%	79.0%	53.8%	3.5%	1.3%	47.4%
264	99.5%	91.5%	83.0%	19.8%	6.3%	60.0%
Total	98.6%	60.8%	41.2%	6.4%	2.2%	41.8%

Identification Using Neural Networks

In order to verify the opportunity to identify the GARCH models using computational intelligence techniques, a neural network was specified and its structure can be seen in Figure 1.

Figure 1: Network structure for GARCH models identification



The neuron of the hidden layer and those of the output layer are represented by sigmoid functions (30 neurons in the hidden layer and 1 neuron in the output layer). The network was implemented in the MatLab software. For this experiment to be carried out, 8,000 series were used which had the same characteristics as those of the past experiment for training and validation of neural networks and the same series used in the past experiment were used for comparison and testing. The first step was selecting the relevant variables for the networks. For such, the SIE

[Cao e Rossiter, 1997] method was employed, and for selecting which of the 21 variables (10 lags of ACF and PACF, adding to a selection dummy through the AIC method). For each of the models we have the selection of the variable as per Table 4.

Table 4: Selection of variables by the SIE

Model	Variables selected by the SIE (importance)
ARCH(1)	ACF1 (60.2%); DummyAIC (19.7%); ACF3 (6.5%); ACF5(2.2%) and PACF1 (1.9%)
ARCH(2)	DummyAIC (59.4%); PACF1 (7.3%); ACF4 (6.1%); ACF7(3.1%) and ACF1 (2.5%) and ACF1 (2.3%)
GARCH(1,1)	DummyAIC (39.9%); ACF5 (13.3%); ACF10 (9.7%); ACF3(6.3%); ACF8 (5.9%); ACF9 (5.6%); ACF6 (3.8%) and ACF1 (2.0%)
GARCH(2,1)	DummyAIC (55.4%); ACF2 (21.8%) and ACF1 (18.2%)
GARCH(1,2)	ACF2 (33.2%); DummyAIC (23.6%); ACF8 (10.4%); ACF1(7.2%); ACF10 (5.5%); ACF4 (3.0%); ACF5 (2.8%) and ACF6 (1.9%)

After the training of the networks with the previously selected variables, a definition was made as to the selection criterion that network presenting the output value that is closest to one. The results of such experiment can be seen in Table 5.

Table 5: Identification matching percentage through the neural network

N	ARCH(1)	ARCH(2)	GARCH(1,1)	GARCH(2,1)	GARCH(1,2)	Total
22	66.3%	23.5%	27.3%	9.0%	38.8%	33.0%
66	86.0%	61.8%	25.5%	8.5%	54.5%	47.3%
132	89.3%	81.5%	42.5%	23.5%	62.8%	59.9%
264	92.0%	89.5%	57.0%	53.0%	69.3%	72.2%
Total	83.4%	64.0%	38.1%	23.5%	56.3%	53.1%

This experiment suggests that the results of identification through the AIC and BIC criteria can be improved, showing an overall matching percentage of 53.1%, that is, 6.4 p.p. higher than the classification through the AIC criterion, and 11.3 p.p. higher than the BIC criterion.

The results of this experiment show a great classification improvement, especially in GARCH(1,2) models. Such result can be interpreted as the utilization of the ACF statistics, especially that regarding to lag 2 (which was considered the most important variable for that model). Lower order models have worse classification, especially because the selection by AIC and BIC tend to benefit lower order models.

CONCLUSIONS

As can be seen in Section 3 above, the AIC and BIC information criteria match only 46.7% and 41.8% of the cases, respectively. Disregarding the annual series, the matching performance is 39.5% and 35.8% for the AIC and BIC criteria, respectively. Thus, an opportunity for improvement clearly exists in the identification phase of the GARCH models. As next steps, the intention is to implement testing of such identification method in order to choose models to be applied in forecasting the volatility of series regarding the actions by the companies that took IPO recently. Such application will be important, since the Brazilian stock market is consolidating itself as a good option for attracting funds to medium- and large-sized companies. This kind of series will be even more present in the financial market.

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LOST IN TRANSLATION: COGNITIVE FAILURE IN POST-COMPUTERIZATION BUSINESS MODELS

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ABSTRACT

The advent of widespread practical electronic computing provided a gateway to many new business opportunities and represented a quantum leap in business processing. At the time of widespread implementation of computing in the finance industry the nature of information shifted significantly, though the changes were little noted at the time. Clerical-based recording was replaced by machine-based recording. The speed and scale of information capture and storage increased. There was a time of mourning for lost or superseded skills that were recorded in the literature of the period. Yet a literature review spanning nearly 50 years reveals little understanding of the data loss that occurred as transaction speed grew at geometric proportions and data changed to suit the demands of binary code. Loss of job content and context were often remarked upon, but the meaning of the loss of data is much harder to document and evaluate. This paper represents an initial attempt to transfer the implications of data loss from implicit to explicit knowledge. It records the personal experience of the author and is linked to more recent research into the deficiencies of current due diligence procedures in the finance industry. These deficiencies are believed to have their roots in a failure, nearly half a century ago, to align computerized information transfer to the cognitive needs and skills development of their users.

INTRODUCTION

In the years 1957 to 1965 two British researchers investigated the impact of computerization upon the banking system of the UK and published the research in a book under the modest title of *The Computer and the Clerk* (Mumford & Banks, 1967). Their project involved an examination of the social and organizational implications of the shift from manual clerical procedures to electronic data processing (EDP). When reviewing their comprehensive report, one is struck by the concentration on human behavior and the lack of focus upon the quality of information which had to be acted upon by a human after the EDP task was done.

This should not be a surprise. The organizational behavior themes of the period were centered, for example, on behavioral psychology (Asch, 1955), motivation theory (Maslow, 1954; McClelland, 1961; Skinner, 1972), socio-technical research (Trist, 1981; Trist & Bamforth, 1951), and leadership (McGregor, 1960; Blake & Mouton, 1968). In many countries the union movement was also reaping the benefits of post-war prosperity, seeking better salary and working conditions for their members. The EDP developments of the time seemed, to many, to create the workplace risks that were also associated with the efficiency outcomes of the work of earlier management thinkers such as Frederick Taylor (Kakar, 1970; Smith, 1998; Kanigel, 1999), Emerson (1913), Casson (1935), and the Gilbreths (Thickett, 1970), which entailed a rapid increase in productive capability potentially creating a fall in job opportunities.

Two years after the publication of the Mumford and Banks (1967) research the first international symposium on cybernetics was held in London in 1969 (Rose, 1970). During the conference one of the speakers defined cybernetics as “the science of control and communication in animals, men and machines, and is especially concerned with systems that are adaptive, capable of feedback, and are also in evolution” (George, 1974, p. 114).

Elaborating on this theme, one of the lead papers in the symposium (Ashby, 1970, p. 57) commenced with the statement:

We have brains primarily so that our bodily activities may be coordinated; so that our left hand shall act properly in conjunction with our right. Co-ordination and integration have long been recognized in physiology as the brain's highest function, but cybernetics today is equally concerned with coordination in systems of other types.

If this was the prevailing view of the 'brain's highest function' then it may be no surprise that there was little attention paid to the intrinsic content of the data collected in manual systems and transferred to the computer. Yet this was also the era of enhanced communications especially in the news media and in organizational communications, the essence of which was captured by writers such as Mumford (1972), McLuhan (1970, 1972), and Townsend (1971). Each one of these authors argued passionately about their view of 'automation'. McLuhan (1972) spoke of the value of enhanced information flows and feedback systems, miniaturization of production equipment, information processing speed, and the positive impact of automation through EDP. Mumford (1972), by comparison, spoke against automation, expressing concerns about control (including fears of loss of control), and information overload. Mumford (1972, p. 115) touched on the quality of data but in the context of message control, remarking that in "face-to-face communication, even the most ignorant person can answer back, and he [*sic*] has various means at his command beside the word – the expression of his face, the stance of his body, even threat of bodily assault". Townsend (1971) argued, more pragmatically, for improvement in manual systems before they were computerized, suggesting that the failure to do so would simply 'speed up the mess'. Describing aspects of these changes, Trist (1981, p. 11) noted that:

... changes in technology bring about changes in values, cognitive structures, lifestyles, habitats and communications which profoundly alter a society and its chances of survival. Socio-technical phenomena are contextual as well as organizational.

While expecting to find the results of a more detailed examination of the physical structure of data as it changed from manual processing to EDP, this was not the case. However, the 'cognitive structures' may be the essence of the problem, but different to the structures considered by Trist (1981). Some of the questions that might have been asked were: How does the intrinsic meaning of data change as it moves from manual to EDP format. What is gained and lost in this change? How fundamental to successful communication is the change?

This paper is related to some separate research being undertaken to better understand the failure of 'due diligence' processes that were related to the failure of the sub-prime mortgage market in the USA during 2008. This research gave rise to questions about the implications of the excessive volume of transactions now being experienced in the finance system and posed questions about the ability of average human beings to synthesizing large amounts of data in short periods of time. These thoughts then moved back to the beginning of computerization; to the dawn of EDP.

The questions the researcher sought to answer relate to areas of perceived cognitive failure arising from the implementation of EDP or Information Technology (IT). Three areas of cognitive failure are addressed in this paper. First, the failure to create (or be able to create) data files of equivalent content to the manually created files they were replacing. Second, the failure to address significant data input bottlenecks created by the use of data entry devices such as keyboards. Third, the failure to systematically evaluate the productivity increases attributable to IT investment. The conclusion speculates upon the links between these issues and the transactions associated with the sub-prime mortgage crisis.

CHANGING DATA STRUCTURES TO SUIT INFORMATION TECHNOLOGY

As a young person I worked in the environment that Mumford and Banks (1967) researched: a bank. Over the years of 1967 to 1975 my role changed from ledger keeper (of 100% manual ledgers) to a retail lender to an auditor pioneering the introduction of systems-based audits (Stettler, 1967). In the same period, the bank I worked for shifted from being a partially mechanized bookkeeping operation (see below) to a computerized system with delayed processing of transactions (using paper-tape) to 100 percent on-line processing of most transactions. As I moved from operations to lending I was struck even then by the intrinsic changes in information transfer. Petty as they seemed at the time, I believe these changes still have a significant impact nearly forty years later.

The organization was gradually moving towards automation of its tasks and it was obvious that many routine activities could be simplified by use the power of the new technology. Machine-readable encoding of transactions occurred quite early and substantial clerical factories were established by the large banks in my country to process checks and deposits. The system is still partly in use today. A check, which had the unique branch and account number already printed on its face, was deposited in a bank many hundreds of miles from the 'home' branch of the person signing the check. The check was sent 'for value' to the home branch via the Clearing House where the value of the check was inserted by a machine operator. Thereafter the check could be machine read until it reached the home branch where it was charged to the customer's account by a human ledger keeper and, with a different type of machine, entered onto the customer account statement.

In this case, the system of handling the check was not changed, but the pathways were changing and there was a combined machine, EDP, and human intervention. At this stage, on-line transactions were not available. As on-line processing became available the system then began to change but the detail of the transaction and its nature remained constant. Each check created a legal transfer of funds, assuming it was always honored by the issuing bank. The value entered on the face of the check remained the same, as did the branch and account number. An innocent bystander could easily reconcile the type of transaction and its processing. The audit test was to ensure that the face value of the check was always reliably charged to the correct account and the relevant interest and charges were not only charged to a customer but also lodged into the correct income account of the bank.

In circumstances where subjective judgment was part of the working environment, however, the data changes between manual and EDP records were significant. The manual ledger or ledger card was regarded as an accountable document which was kept for long periods of time and represented a semi-permanent record of a customer's account history. On the one page appeared all transactions initiated by the customer (deposits and checks) and the bank (interest earned or loan charges). In the case of a checking account, it also showed transactions that drew more funds from the account than were lodged by the customer (an overdrawn account), dishonored checks, and any other irregularities. All the calculations made and reviewed by bank staff also appeared on the ledger card.

Most importantly, the scale of any problem was instantly obvious and clerical or technical errors would usually be quickly corrected. But what happened when a judgment about a customer had to be made from the record. Whether this person a low risk or a high risk customer? It was at this point that the cognitive agility of humans came to the fore. The best example comes from the detailed information once contained in a personal loan ledger card. This document showed all loan transactions and any additional charges incurred by the borrower during the life of the loan. A personal loan was the predecessor of the credit card account. It was a highest interest rate, low administration cost product. A bank approving a personal loan charged a flat interest rate (about double the rate charged for mortgage loans) and required the borrower to repay the loan in equal monthly installments (typically 24 or 36 months). The loans targeted consumer purposes such as motor vehicles, holidays, minor home renovations, and white goods. As the payments were made, the date and amount was entered on the ledger card. If the payment was received late, the customer was charged penalty interest and all the details were entered on the ledger card.

Personal loans were popular and many clients simply took out a new loan as soon as they repaid the last. Part of the approval process involved checking previous borrowing history (credit ratings were not in widespread use at the time). The easiest check for a repeat loan was to view all previous personal loans. The old ledger cards were held for three years in the home branch of the bank and a glance at the ledger sheet told an important story: name and address; address changes during the life of the loan; loan amount; term and interest rate of the loan; and repayment history including late payments and penalty interest charges.

In a few moments an experienced lender could see whether late payments were a major or minor problem, whether address changes were frequent or only occasional, and indeed the entire health of the prior loan could be assessed in an instant. However, with computerization this rich detail became minimized to showing just the current address, the number of late payments as a bald number and the penalty interest simply as an amount. Any major or minor problems? Were many payments late by one day? Or were a few payments badly delayed? Difficult to say. The qualitative value of the record was significantly diminished.

This case attempts to recount how data structures and contents were changed to suit IT requirements without ensuring that data quality was being maintained. The data simplification was probably not intended, but rather based upon an evaluation of what was the most important information to capture. The choices may have been made by IT system designers rather than the end users, although this is mere speculation at this stage of the research.

EVAUATING OPERATOR SPEED AND PRODUCTIVITY

The issue of speed has been one of the productivity lures of computer technology. Transaction speed and transaction numbers are theoretically limited only by the load capability of the data transmission system. The change in capability can be illustrated by the experience of history. Norway (1954, p. 76) reports on the 1924 experience of calculating stress for the airship R100:

The stress calculation for each transverse frame [of the airship] for instance, required a laborious mathematical computation by a pair of calculators [people, not machines] that lasted for two or three months before a satisfactory and true solution to the forces could be guaranteed.

The rise of working computers such as the Electronic Numerical Integrator and Computer (ENIAC) in 1945 facilitated calculations (Saville & Callender, 1991) but still did not meet the specifications that would enable wider usage. This came via two inventions: the Electronic Delay Storage Automatic Computer (EDSAC) which held computer programs in its memory; and the transistor invented by Shockley, Bardeen and Brittain (Saville & Callender, 1991). These developments were so swift that computer-aided calculations found their way, for example, into the design of the high speed aircraft within 50 years of Norway's laborious experience with human calculators.

In the more mundane world of the office, however, computers have been related to significant social and systems changes (Trist, 1981). But despite the volatile results reported for IT-related productivity (Stiroh, 2008), the absence of deeper research into this issue is quite remarkable. When Frederick Taylor produced the results of his elaboration of 'scientific management' (Kanigel, 1999), his research was based on one of the most common low-paid jobs of this era (circa 1860-1915): the laborers' task of shoveling. When Mumford and Banks (1967) published their research, they too were examining a common, modestly-paid occupation: the clerk. Yet as computing continued to change office structures, the focus was on the loss of job content rather than the expected changes in productivity. The management focus of the time seemed to be upon the need to be up to date with their competitors and to gain the transaction load capacity offered by high speed processing. Yet it seems almost no attention was paid to the weakest link: the input rate by human beings via computer keyboard.

Again it is worth looking back at Taylor. Regardless of the many controversial features of his work (Kakar, 1970; Kanigel, 1999), Taylor identified a base-line activity that needed development to meet the productivity requirements of that time: shoveling. When it came to a revolution in office automation, the focus was on middle management (Ginzberg & Vojta, 1985) and work content (Mumford & Banks, 1967; Mumford, 1972). At this point, many interesting changes were occurring that have not been widely researched. Social change and power structures were significantly altered, but so too were the patterns of office work wherever there was interaction between the computer and a typical computer operator and their manager.

The social change at the keyboard was both subtle and far-reaching. It is difficult to track the exact circumstances that placed women in the office in front of keyboards, but Saville and Callender (1991) suggest that the clerks around the time the typewriter was invented saw this equipment as best compared to manual labor, and a role they would not consider undertaking. Whatever the reason, this outcome had significant social and institutional

effects. From a social perspective, women in business, professional, and government offices obtained a monopoly over all typewriters (and possibly most business machines) whether they wanted it or not. This condemned them to junior, low-paid technical functions in most cases. However, it also handed them considerable potential informal power over workplace output. Work could be done well and quickly or it could also be done in a slovenly, desultory fashion. The clerks might fume, but they had no access to the typewriter. Furthermore, if they had dictated their letters (shorthand was an additional technical skill held by many typists), they could not easily recover their words without doing the work again. This power, if it was such, was mitigated by poor pay and barriers to salary rises. In Australia, for example, the basic rate of pay for most office workers was set by industry-wide labor agreements. These included secretaries and office machine operators who gained a small productivity-based allowance according to their typing and shorthand speed and accuracy.

When computers entered the office the social arrangement became less clear. The pressure for equal opportunity in the workplace also had an input. As computers in offices moved to the front counter, men and women (whether clerks or typists) all found themselves with a keyboard and, soon, a 'mouse'. Labor agreements also changed and the pay differences between clerks and typists blurred in a way that matched the changes in workplace roles. But what of the institutional factors? These changes required fundamental shifts in homes and educational institutions. In traditional families a typing and shorthand technical education was often seen as a typical post-school pathway for a young woman. For men, this pathway was unlikely, perhaps because the majority of staff and students in typing and shorthand classes were women. Their pathway was more likely to be professional, clerical, or in the trades. When the keyboard and screen arrived on most desks, a logical response might have been to teach everyone how to use a keyboard efficiently. But did this happen? The answer is pretty clear.

Watson (1990, p. 398) notes that in "the 1960s there were predictions that the home of the 1990s would be 'computer controlled' with a central computer". He found that by the 1990s, while computers were pervasive in the home, they were inside each individual piece of equipment. This serves as an interesting comparison with the office. Whereas the computer of the 1960s was a centrally-controlled and centrally-controlling device, today's computers are small, distributed, and immensely powerful. But has there been a change in operation?

The reality is that, while there have been significant attempts to remove the keyboard as the principal interface between humans and the computer, it remains. Furthermore, whatever the layout of the keyboard, the fastest typing performance comes from the trained operator. However, how many organizations have made keyboard skills mandatory for their staff? Are standards of keyboard output a requirement? How many schools or universities make keyboard skills a study option? The focus point has seemingly been computer processing speed rather than the slowest part of the process: the speed of the keyboard operator.

The consequences, from a productivity perspective, are profound. A trained keyboard operator can be expected to touch-type between 30-60 words per minute with 100 percent accuracy. The Australian Standard Keyboarding Speed Tests (AS2708-2001) (Standards Australia Committee, 2001) sets performance levels for testing candidates which prescribe the conditions and criteria but not overall benchmarks of performance. However, it should be noted that candidates in this test are expected to maintain continuous, accurate performance over a period of five minutes—their performance is expected to be sustained over time and workload (one more link to Taylor and his efforts to create continuous workload rather than peaks and troughs in work performance).

This is the minutiae of productivity, not unlike Taylor's focus on shoveling. Just as his study examined a core task of laborers, so AS2708- 2001 provides some insight into typing or keyboard speed and accuracy. While performance standards are set, there is little pressure to enhance this level of performance. Indeed, as computers have become an essential part of the office scene, touch-typing skills have disappeared or are not a requirement for the majority of workers, management, and staff. Thus, a core skill has been diminished at the very time the computer has become dominant and is a deficiency that is unrecognized in micro-economic examination of the productivity changes (Stiroh, 2008). This is a topic to be examined in the next section.

THE PRODUCTIVITY ATTRIBUTED TO INFORMATION TECHNOLOGY INVESTMENT

Research by Ko, Clark and Ko (2008) includes a literature review linking IT investment and productivity. They report that, in the majority of cases, there were mixed results in terms of the relationship between IT investment and productivity improvements. These findings were confirmed by Stiroh (2008) who makes some interesting observations about average labor productivity (ALP) which he defined as “output per hour worked” (p. 358). This research traces the poor productivity growth in the USA between 1973 and the mid-1990s, followed by a sharp increase between 1994 and 2004 and a more recent decline. One of the major difficulties of this type of micro-economic review is in understanding the exact causes of these productivity changes and its relationship to IT investment. Stiroh (2008, p. 369) notes that “in response to the enormous relative price declines for IT investment, firms rapidly substitute IT assets for other inputs, e.g. a web-based accounts receivable system for an accountant or a word processor for a secretary”.

In terms of this paper, such alternatives pose some fascinating questions: What is the relative productivity of a word processor compared to a secretary, or the accountant compared to any web-based system? How can we apply an economic productivity value to the keyboard skills of an average keyboard operator? How can a micro-economic (*sic*) variable such as a keyboard stroke (one character on a keyboard) be converted into a productivity factor? The list of questions could be developed much further. Yet the fact that they have not already been asked reflects an enthusiasm for building IT assets on the assumption that higher computing speed and capacity can be equated with higher productivity. The evidence collected for this paper suggests researchers have overlooked operator speed at the keyboard—a factor that may now be *the* core IT productivity issue.

There is anecdotal evidence that employers engaging data entry staff set performance criteria based on key strokes per minute. But is this a performance indicator for a sales clerk, airline check-in agent, branch clerk, office assistant, or secretary? AS2708-2001 provides some clues on the scale of this change (Standards Australia Committee, 2001, p. 4):

Modern technology has necessitated several changes in the previously accepted rules of speed tests. The most obvious of these is the change from the concept of a speed test as a test in which error correction was not permitted to a test where corrections are permitted ... The change was brought about by the rapid replacement in the workplace of manual and electric typewriters by computer-based equipment, which allow quick and imperceptible correction of errors ... Although the Standard does not enable comparisons to be made between speeds achieved on different types of equipment, e.g. computers, electronic and manual typewriters, it will enable employers to confidently compare speeds achieved by different persons on particular equipment.

This section makes a brief but significant comment about the traditional methods of measuring the productivity arising from IT investment and the failure of these methods to bring to account the individual performance of IT operators. At this stage of the research, a more precise estimate of the impact of operator performance on overall productivity of IT can only be surmised, but anecdotal evidence suggests that sustained and accurate data entry speeds of around 30-60 words per minute (AS 2708, 2001) are unlikely to be found in the majority of workplaces. Further research is needed to quantify this productivity shortfall and to integrate it into micro-economic estimates such as those discussed by Stiroh (2008).

SOME PRODUCTIVITY CONCLUSIONS

This paper commenced as a reflection on the changing content of documents as a key to understanding the impact of IT on the cognitive responses of people to electronically generated data and became an examination of the impact of content and data input on productivity. It is a first attempt to better understand the nature of IT productivity and the cognitive impact on data reliability as it shifts from a format that matches the cognitive capabilities of humans to the data management requirements of IT equipment. It seems that this debate should have occurred 40 years ago, but is only now emerging because of the extensive failures occurring in the finance sector with its heavy reliance on IT to manage client data.

From a management perspective, the findings of this research suggest that significant productivity gains are available to organizations which provide their staff with extensive keyboard training designed to increase the speed and accuracy of data input by staff at all levels of an organization.

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MOVIE DOWNLOAD CHALLENGES TRADITIONAL MOVIE RENTAL

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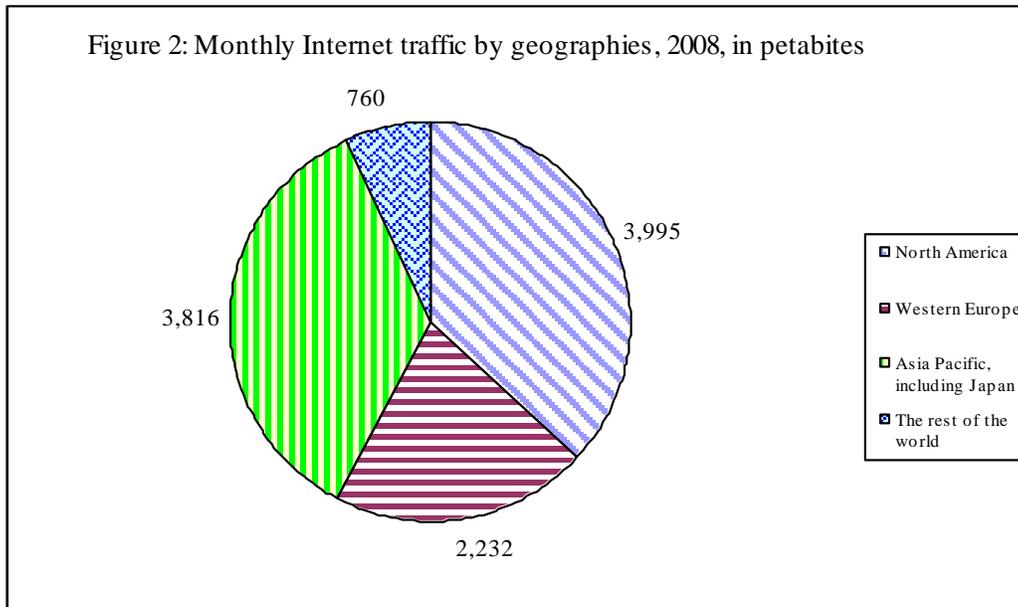
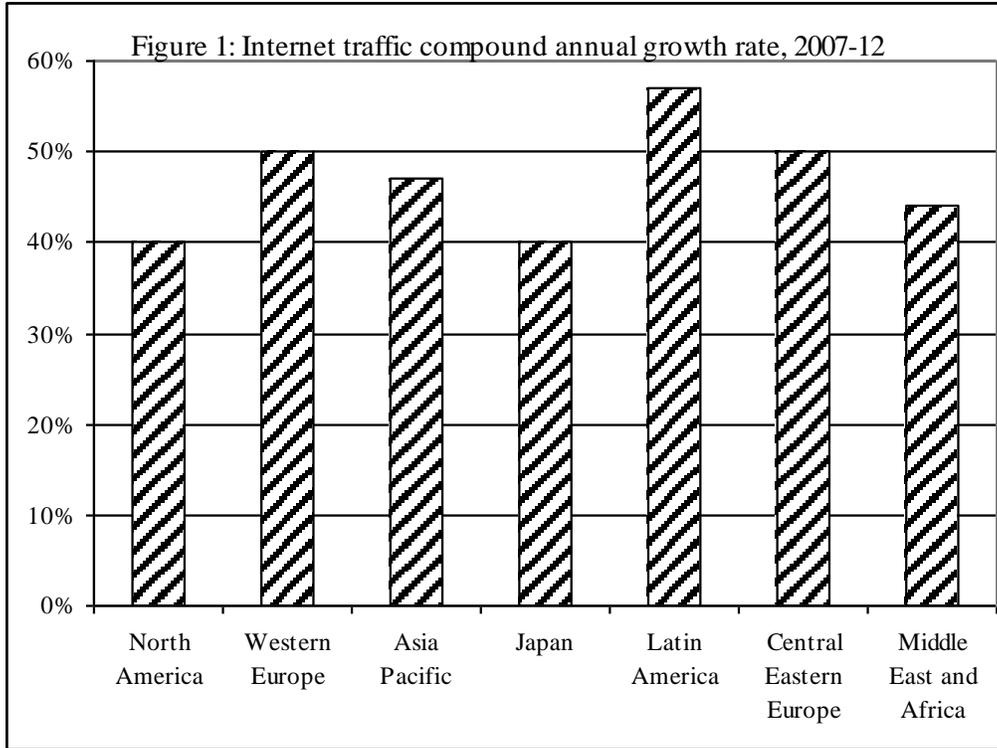
ABSTRACT

Movie download has emerged through an E-commerce transformation from the typical movie rental store visits to picking up DVD disks, and from website visits to placing orders online and waiting the orders showed up in the mailbox. Movie download does not only challenge the traditional way of seeing movies in the movie theater, but also impacts on the traditional movie rental business. Although Blockbuster and Netflix have websites where customers can add all their favorite movies to a queue and pay a flat rate to receive a certain number of DVD's by mail each month, their e-commerce model has its delivery inadequacy since it was introduced. The traditional process is still handled by a physical distribution system that may take days for the DVD disks to arrive. The study, through an empirical experiment, focuses on consumers' preference over price, product quality and delivery of movie downloading from the internet as compared to the traditional movie rental. Movie download presents overwhelming advantages over the traditional movie rental delivery. E-commerce shows a trend in the movie industry that consumers can stream movies and TV shows directly from the internet instead of waiting for the DVD's in the mail. As technology advances globally, movie download perhaps will prevail in next few years.

INTRODUCTION

The competition in movie industry takes different forms. Traditional movie theaters require the physical presence and enable movie goers to enjoy the high quality picture in large screen and high quality sound effects; movie rental provides the convenience for the customers who do not have to go to the movie theaters, and the customers either visit local movie rental stores or browse and place their orders online; while movie download has emerged as a new way to watch movie without either going to the movie theaters or going to movie rental stores, or waiting their movies showed up in their mail boxes when rental orders placed on line. Thanks to the advancement of high speed internet connections and continuous improvement in movie quality, movie download may become next music download.

This emerging phenomenon of movie download in the recent years depends heavily on the technology advancement in computers, networking, and most of all the speed and capacity of the internet. The thirst for internet traffic, i.e. peer-to-peer (P2P) file sharing networks in 2008 carried 600 petabytes per month more than they did in 2007, which means there was the equivalent of an additional 150 million DVDs crossing the network each month, for a total monthly volume of over 500 million DVD equivalents, or two exabytes [Cisco, 2008]. Figure 1 and 2 present the internet traffic growth and global internet traffic.



Video sharing was now approximately one-quarter of all consumer Internet traffic in 2008, not including the amount of video exchanged through P2P file sharing. Internet video grew from 12 percent in 2006 to 22 percent in 2007, and reached 31 percent in 2008.

Internet video will account for nearly 50 percent of all consumer Internet traffic in 2012. Internet video-to-PC will make up the majority of Internet video at 31 percent of total Internet traffic, but Internet video-to-TV will grow rapidly to 18 percent of the total in 2012 Cisco, 2008 [Cisco, 2008].

Non-Internet Internet Protocol (IP) video will increase more rapidly than consumer Internet. The twin trends of on-demand viewing and high-definition video are generating very rapid growth in cable video and Internet Protocol Television (IPTV) traffic transported over IP in the metro. Consumer IPTV and Cable Television (CATV) traffic will grow at a 68 percent compound annual growth rate (CAGR) between 2007 and 2012, compared to a CAGR of 41 percent for consumer Internet traffic [Cisco, 2008].

This study intends to examine the some key issues of price and promotion, product quality, and delivery of movie download through an empirical experiment to explore the consumers' preferences.

REVIEW OF LITERATURE

Video consumption and distribution has grown exponentially in the past few years, converting and preparing this content for the digital realm was largely a 'black art' until recently, when several enterprise-grade solutions came onto the market.

The traditional movie rental giants, Blockbuster and Movie Gallery were able to generate billions of dollars in revenues in the past, have suffered huge losses in the recent years. They are losing ground to more internet based movie rental firms, i.e. Netflix and Amazon.com. Netflix has grown to a 10 million customer base in ten years, with a user-friendly website which allows its customers to search by title or type, then add those titles to a waiting list of movies to watch called a "queue", without due dates and late fee penalties. Netflix ships to most locations by first class mail in the following day when orders are placed online [Netflix profile, December 2008].

Many traditional cable companies, i.e. Comcast (CMCSA), Time Warner Cable (TWC), and their ilk are going on the offensive. Long technology laggards, the cable companies have set up skunk works. The aim of doing so is twofold: putting more of their content online and making the regular television and movie viewing experience more Weblike. Even as they move online, the cable companies are scrambling to make TV as interactive as the Web. For years they've tried and largely failed. Now the industry may have hit on the answer. It's called tru2way, a service arriving in the coming months that will allow viewers who have the latest generation of set-top boxes and televisions to more easily search for TV shows, play games, chat, and even browse the Web. Beyond improving the viewing experience, the technology also will allow the cable companies to offer interactive commercials. For example, viewers will be able to request more information about a sponsor's product and, at some point, even buy it through their televisions [Lowry, 2009].

Piracy. The convenience of downloading movies from internet has caused some concerns from the movie industry, as untold thousands of people watched a version of "X-Men Origins: Wolverine" online in early April 2009, a full month before its scheduled theater release, while the film's distributor, 20th Century Fox, said it did not know how the unfinished copy of the comic book adaptation was leaked onto the Internet. Even the copy was missing many special effects and included temporary sound and music, it circulated widely online beginning on April 1, 2009, even prompting some viewers to publish reviews, favorable and unfavorable, of the hotly anticipated film [Stelter, 2009].

Price. The cost of movie download varies, depending on the internet service providers' fees. For example, when a customer in a remote country town buys a new Apple TV because he wants to rent high-definition movies he might wind up paying Time Warner Cable as much as \$30 when you download a movie using its high-speed Internet service, as compared with a fixed fee from Netflix of about flat fee of \$5.00 a month with unlimited movies. Timer Warner is still working on what to charge people who exceed their limits. Bell Canada has imposed bandwidth limits on its customers from 7.50 Canadian dollars for each gigabyte when customers exceed the 30-gigabyte limit on a plan that costs 29.95 Canadian dollars a month. Since the average high-definition movie is 4 gigabytes to 5 gigabytes, that would mean a charge of at least \$30 a download for customers on a plan like that that were over their limit. Some Internet Service Providers (ISPs) suggest that it is a more straightforward pricing system that does make heavy users pay more, especially since some Internet service providers are quietly slowing down or otherwise restricting some service, most notably to users of the BitTorrent file-sharing protocol. Whether cable users agree, or

they start to complain because of occasional surprise bills for \$30 movie downloads, depends on how Time Warner actually structures its rate plans [Hansell, 2008].

Walmart and others will also be launching their own services, possibly with in-store DVD burning kiosks as well. As download services become more popular, the large DVD retailers, particularly Walmart and Target, will continue to push for lower wholesale DVD prices as well. Hopefully, competition from these various services and products will ultimately push consumer prices down.

Many movie downloaders have found that in many ways, download DVD movie still cost more than renting DVD movies. Some factors affect movie downloading pricing can be summarized in the following manners: (1) Piracy (leakage) that violates the intellectual property right, would make the movie industry hesitate to put movie online for downloading; (2) Competition that forces the ISPs to cut and/or increases prices depending on market conditions and how many providers in the fields, i.e. Netflix, Walmart, etc; (3) Broadband roll-out (market) that those backbone infrastructure providers, i.e. Cisco, Verizon, and Time Warner, etc.

Quality. With numerous online video platforms on the market, choosing a solution is difficult. Some offerings focus on content management and monetization, while others are geared towards enabling syndication and interactive advertising campaigns. For an entire industry that defines itself based on the word "quality", today there is still no agreed upon standard for what classifies HD quality video on the web. Both Microsoft and Adobe have different views on what classifies a video as HD and many content owners don't truly know themselves how to classify HD videos on the web. If the industry wants to progress with HD quality video, there must have an agreed standard [GigaOM Daily Feed, 2009].

Delivery. Netflix recently announced that it would likely add a video-streaming-only option for subscribers as the largest U.S. movie-rental service via mail shifts more of its resources toward digital content delivery. Such a streaming video is content sent in compressed form over the Internet and displayed by the viewer in real time. This technology revolutionizes the delivery. The company also estimated that the number of subscribers who rent Blu-ray discs could jump 50% this year [SearchUnifiedCommunications.com website, 2009].

Netflix's fourth-quarter profit surged 45% as its customer base grew faster than it forecast 2008. The company, which added more than 600,000 customers during the first six weeks of this year for a total of more than 10 million, attributed much of its recent growth to its efforts to augment its DVD-rental service with an expanded video-streaming offering. Netflix reached agreements in 2008 to make its more than 12,000 digital titles available for streaming through components such as Microsoft's Xbox 360 videogames consoles, TiVo digital video recorders and Blu-ray players from Samsung and LG Electronics. The company has estimated that subscribers for its DVD-delivery service will peak between 2013 and 2018. Netflix, as the leader in the movie rental and online delivery service, foresee the future would be more internet download than current mail delivery [King, 2009].

As movie downloading is emerging as a formidable phenomenon, and predicted internet movie will reach \$5.8 billion in 2011, it may be a growth stimulus during this global economic recession [Farlex, website, 2007]. Many interesting questions from both academia and practitioners remain to be answered.

METHODOLOGY

With the focal questions in mind, this research studied the views of consumers with regards to how they download movies as compared to other ways, i.e. mail order, and/or online order and mail delivery. A survey was developed to investigate the pros and cons in the consumer preferences on products and their quality, price and promotion, deliveries, together with other features available using different shopping methods. The following variables were based on literature reviews.

Variable Selection

The following variable selections affect how and where consumers make their purchase decisions.

1. *attractive prices, as compared to other methods.*
2. *variety of selection.*
3. *free movie legally and ethically even the movies are copyrighted.*
4. *good quality products, i.e. high definition and superb sound quality.*
5. *your opinion: movie downloading is easy.*
6. *your opinion: movie downloading is secure and safe.*
7. *privacy protection.*
8. *easy way for delivery.*
9. *your opinion: movie downloading enables you to keep a copy of the movie.*

Hypothesis, test of hypothesis, and sampling

The hypothesis for this research is to find if there is a significant difference between movie downloading and other methods of viewing movies. The hypothesis for this study states:

H: There is no significant difference between movie downloading vs. other methods of obtaining movies.

Alternatively, there is significant difference between movie downloading vs. other methods of obtaining movies.

Due to the nature of this empirical study, the questionnaires were distributed in college students in a large university campus in the northeast for a convenient sampling since students tend to browse on the websites and download movies. The respondents were asked to evaluate the selected variables in a five point Likert scale, with 5=strong agree, 4=agree, 3=neutral, 2-disagree, and 1=strongly disagree. Since the data collected are of ordinal scaling, the Mann-Whitney nonparametric statistic test was used to test the hypothesis. The Mann-Whitney U test, often referred to as the rank sum test, was applied to test the null hypothesis. If the null hypothesis that the two samples were drawn from the same population were true, the totals of the ranks (or equivalently, the mean ranks) of the two samples would be expected to be about the same. The null should be rejected if the significance level is less than or equal to 5% in any one criterion.

RESULTS

173 hundred consumers were surveyed, with 97 completed responses for analysis that represents 56 percent of the total surveyed. Table 1 presents the general information of the respondents.

Table 2 presents the test results that include Mann-Whitney U test, Z value and the significance. Out of variables studied, three variables: *attractive prices*, *easy way for delivery*, and *your opinion: movie downloading enables you to keep a copy of the movie*, present significant differences (less than 5%) exist between movie downloading and movie rental. The respondents give high means for movie rental to movie downloading. Therefore the hypothesis is rejected.

Table 1: Backgrounds of the respondents

Categories	mean
1. Age 1<18; 2=18-35; 3>35	1.97
2. family annual income? 1< \$25k; 2=\$25-\$30k; 3>30k	2.09
3. how many dvd movies do you watch a month at home or on your pc? 1=1, 2=2-3, 3>3	2.50

4. methods of obtaining movies: 1=download from online source; 2=rent at a local store or browse online stores; 3=buy from stores and websites; 4=all of the above	2.37
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Table 2: Mann-Whitney test results

categories	Mann-Whitney U	Z	Asymp. Sig. (2-tailed)
<i>attractive prices, as compared to other methods.</i>	3546.50	-3.66	0.00
<i>easy way for delivery.</i>	4158.00	-2.31	0.02
<i>your opinion: movie downloading enables you to keep a copy of the movie.</i>	4175.00	-2.08	0.04
<i>free movie legally and ethically even the movies are copyrighted.</i>	4235.50	-1.82	0.07
<i>variety of selection.</i>	4400.00	-1.52	0.13
<i>privacy protection.</i>	4665.50	-0.84	0.40
<i>your opinion: movie downloading is easy.</i>	4683.00	-0.79	0.43
<i>good quality products, i.e. high definition and superb sound quality.</i>	4682.50	-0.69	0.49
<i>your opinion: movie downloading is secure and safe.</i>	4861.00	-0.23	0.82

MANAGERIAL IMPLICATIONS

Through our survey we conclude that consumers still favor movie rental as compared to movie downloading, even the later can result in substantial reduction in delivery costs. Currently movie rental, led by Netflix with a \$5.00 a month subscription fee is apparently very attractive, while movie quality appears indifference. The mail service is adequate and easy.

Although movie downloading is growing rapidly, still lacks some of the advantages movie rental offers. For time being, movie rental industry may still focus on the traditional ways to handle movies business, however, the industry should keep movie download as a major alternative for the future.

This research, as it surveyed only college students, the cautions must be made when one tries to generalize the outcome of the research, as the sample size and the representation are both narrow. This may throw light for future studies in a broader way.

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CONSUMER BUYER BEHAVIOUR ASSOCIATED WITH THE PURCHASE OF ORGANIC FOOD PRODUCTS IN CHINA –DEVELOPMENT OF A CONCEPTUAL MODEL.

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ABSTRACT

This research aims to investigate the determinants of consumer buyer behaviour relating to the procurement of organic food products. There are several reasons why consumers are motivated to purchase organic food products. We shall evaluate relevant extant research which has been well developed in North America and Western Europe. We then intend to develop a conceptual model and validate it in China – a fast growing economy where organic foods are increasingly being marketed. This paper will be limited to the development of a conceptual model of buyer behaviour of organic food products. In the future, we intend to validate this model by collecting relevant data from consumers in China.

BACKGROUND OF THE RESEARCH

This research aims to investigate the determinants of consumer buyer behaviour relating to the procurement of organic food products in China. In the last decade or so, there have been significantly increased interests in organic foods (Makatouni 2002). There are several reasons why consumers are motivated to purchase organic food products. We shall evaluate relevant extant research studies, which have been well developed in North America and Western Europe (Bonti-Ankomah and Yiridoe 2006). Many developed countries have set stringent standards to ensure quality of their organic food products. A number of developing countries including China have also started to establish national organic products' standards and regulations (Food and Agriculture Organisation of the United Nations 2002).

A study by Chan (2001) claimed that with increasing affluence derived from rapid economic growth, certain sections of Chinese society and Chinese government have begun to realise the hazardous impact of environmental deterioration on national well-being. The Chinese market for 'green' and 'organic' food is uneven. The standards are low, inspections are weak, and regulations are not adequately policed. In recent years, the Chinese government has increased warnings against sub-standard food products, and consumers have become cautious about food safety issues (Ho et al. 2006). In order to regulate the growing market, in 2005 China's Council of General Administration on Quality Supervision, Inspection, and Quarantine published guidelines for organic food production, certification, labelling and marketing with effective punishment for non-compliance (Baer 2007).

Only a handful of studies have been conducted in Asian countries such as Japan, Taiwan, India and Thailand, which investigate the perceptions of consumer attitudes toward the purchase of organic food. These studies also confirm that the most important reasons and motivation for consumers buying organic food are health, food safety, concern for the environment and animal welfare. As best as can be ascertained, very few studies of this nature have been undertaken in China – a fast growing economy where organic foods are increasingly being marketed. Little is known or understood about Chinese consumers' attitudes towards organic products or their purchasing behaviour.

The United States Department of Agriculture (2009) defines: *'Organic' as a labelling term that denotes products produced under the authority of the Organic Foods Production Act.* The Food and Agriculture Organisation of the United Nations (2002 p.1) defines organic products as those 'products being certified as having been produced through clearly defined organic production methods'. The International Federation of Organic Agriculture Movements (IFOAM)'s goal is to build a global organic movement platform, the IFOAM Organic Guarantee System facilitates organic certifiers to become 'IFOAM Accredited' and for their certified operators to label products with the IFOAM seal (IFOAM 2009).

The term 'organic food' has many different connotations and interpretations, and is sometimes used interchangeably with the term 'green' food. Various contrasting 'organic' definitions are often coupled and confused with terms such as 'biological', 'ecological', 'natural', 'alternative', 'unsprayed', 'free of pesticides', 'without artificial', 'without chemicals', 'environmentally produced', 'green', and 'sustainable' (Essoussi and Zahaf 2008). This definition dilemma has caused confusion in the minds of consumers worldwide. The stereotypical images of organic consumers as 'greenies', 'health nuts' or 'yuppies', which are more interested in fashion than anything else, hence consumption of organic food reflects a 'greening' lifestyle (Lockie et al. 2002). For regular organic food buyers, consumption organic food is part of a lifestyle, with related interests in nature, society and environment lifestyle (Schifferstein and Oude Ophuis 1998).

Although a very small and almost insignificant percentage of the total Chinese population consume organic food products, China has gone well beyond being an adopter of the world organic concepts, and is now an active organic innovator by promoting the concept of 'green food' (Paull 2008). Both green food and organic food concepts can be claimed 'safe and ecological environment' in China (Zhang 2007). The Chinese green food specifies two standards, i.e. 'A' and 'AA', 'A' represents a transitional level between conventional and organic food, allowing restricted use of chemical fertilisers and pesticides; 'AA' represents full organic status and matches all the international organic food standards, 98 percent of green food produced in China are 'A' standard, not 'AA' standard (Sanders 2006). In a Chinese survey (Li et al. 2005) show that 92.2 percent of respondents had heard about 'green food', only 37.2 percent of respondents were aware of 'organic food'. The term 'green food' is much more popular than the term 'organic food' in China, the interpretation of green food in China is different from western countries. Generally speaking, in many western countries, the interpretation of 'green' connotes environmental meaning, the fear of global warming, saving the planet by reducing carbon emission (Bonini and Oppenheim 2008). Shamdasani et al (1993 p.488) claimed 'The green consumer is generally defined as one who adopts environmentally-friendly behaviour and / or who purchases green products over the standard alternatives'.

THEORIES ASSOCIATED WITH PREVIOUS RELATED STUDIES

There are many models related to consumer behaviour in the marketing discipline. One of the most classical model which measures consumer buyer behaviour is the Consumer Decision-Making Process (CDP) model (Blackwell et al. 2006). In recent years, there has been increased interests in the study of consumers' behaviour for organic food, various approaches that consumers make in their purchasing decision have been developed (Vindigni et al. 2002).

Motivations for Purchasing Organic food

Current literature has shown that there is a prevalent belief that organic food is healthier, safer, more nutritiousness, and of higher quality, and presents a higher level of intention to purchase by consumers (Chen 2007). The strongest motivation in the purchase of organic food is health concerns (Squires et al. 2001). Consumers' interest in health seems to correspond to their interest in and desire to use organic food (Wier and Calverley 2002). Buying organic food is driven by growing consumer interest in more healthy food, increasing personal healthy consciousness. Health consciousness is considered to be a major motivation for buying organic foods and the consumption of organic foods (Verhoef 2005). Another main motivation for buying organic food is driven by growing consumer interest in ecological values, concerning about the environmental sustainability and threat of conventional

agricultural production (Honkanen et al. 2006). Hence consumers are willing-to-pay greater premium price for pesticide elimination and organic food (Botonaki et al. 2006). Even in newly emerging markets, consumers are still willing to pay premium for higher quality, taste, and 'safety' certified food (Grannis et al. 2001). Food safety is the one of most important issues to influence consumer purchasing organic food (Tsakiridou et al. 2006).

Psychologist and marketing researchers have also effectively used the 'theory of reasoned action' and the extended theory of 'planned behaviour' to explain consumer's food choice behaviour (Chen 2007). These models have been used intensively in applied food decision-making, food consumption attitudes, and predicting food choice, as it is the best predictor of food consumption behaviour, and explain all parts of the processes that determine consumer behaviour.

Magistris & Gracia (2008) investigated the consumers' decision-making process of organically produced foods. It found consumers' attitudes towards health attributes, such as healthy diet and balanced lifestyle, and towards the environment are the most important factors that explain consumers' decision-making process for organic food products' variables. Consumers purchase organic food is based on subjective experiences and perception of organic food products (Hughner et al. 2007). It is perceived that organic food is healthier, natural, nutritious and environmentally friendly. The consumers' attitude toward the purchase of organic food is assumed to be positively related (Chen 2007). It is perceived that organic food has better quality. Consumers with positive attitudes toward organic food are more likely to form positive intentions to purchase organic food (Honkanen et al. 2006).

Barriers for Organic Food Consumers

Study also revealed that some of the reasons for the non-purchase of organic food include consumers perceptions of it being expensive, limited in availability and choices (Sanjuán et al. 2003), unsatisfactory in appearance (Radman 2005), misleading labelling and certification (Krystallis et al. 2006), low profile distribution channels (Sanjuán et al. 2003), and lack of perceived value (Gallagher and McEachern 2003). It is still debatable whether organic food production is an opportunity or just hype (Bhaskaran et al. 2006).

Demographic and Psychographic Influences

A consumer perception and demand for organic food study (Chang and Zepeda 2005 p.164) suggest that 'consumers' preferences and food choices appear to be influenced by socio-demographic factors such as income, family structure, lifestyle, dietary restrictions and some social values and beliefs'. It assents to consumers' decision-making process model, and consistent with some previous consumers' behaviour towards organic food findings. Higher income and education levels have a strong correlation with food safety and environment concerns (Tsakiridou et al. 2008). Older consumers (aged over 51) have more positive attitudes towards organic food rather than other age groups (Roitner-Schobesberger et al. 2008). Women are more likely to choose organic food rather than men (Lea and Worsley 2005).

Our preliminary research indicates that the purchasing behaviour of organic food in Asian countries is different to consumers in western countries. For example the environment is not a major motivation for Indian organic buyers, however health and nutrition are still major drivers (Chakrabarti and Baisya 2007). There are also different motivations to purchase organic food in Thailand. Like other developed countries, consumers in Thailand expect to obtain health benefits as well as have a better tasting for from organic products. It was observed that organic food as a new and fashionable product was also an attraction for Thai consumers as they look for new, fresh and trendy products. Meanwile men in Bangkok seem to be more likely to purchase organic food than women (Roitner-Schobesberger et al. 2008). It contrasts other findings that women are more likely to purchase organic food.

DEVELOPMENT OF A CONCEPTUAL MODEL

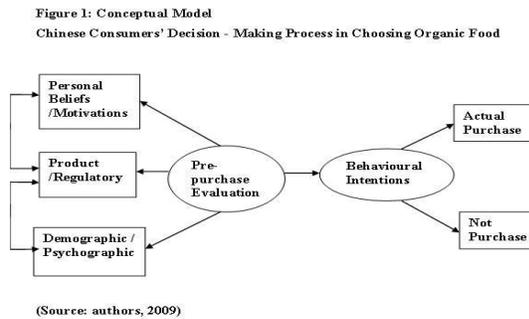
Our intention is to develop a conceptual model, which explains the dimensions of Chinese consumers' decision-making process with respect to the consumption of organic food products. Additionally, we intend to research the demographic and psychographic profile of Chinese consumers in urban cities relating to the purchase of organic

food. The beneficiaries of this research will be the vendors, and consumers of organic foods, government and other stakeholders.

Our research aims to find answers to the following research questions:

- Why do Chinese consumers purchase or not purchase organic food products?
- How do Chinese consumers make decisions relating to the purchase of organic food products?
- When do Chinese consumers change or alter their consumption pattern of organic food products?
- What is the demographic and psychographic profile of Chinese consumers who purchase organic food?

The conceptual framework shown below describes Chinese consumers' decision-making process in choosing



organic food.

The original Consumer decision making process (CDP) model consists of need recognition, search for information and pre-purchase evaluation of alternatives, before consumers actually make purchase (Blackwell et al. 2006). The developed conceptual model of this search depicts that consumers' pre-purchase evaluation reflects three dimensions i.e. personal beliefs and motivations, product and regulatory, demographic and psychographic evaluations.

In global studies, essentially, personal beliefs and motivations, which indicate food safety concern appears as the most important factor to influence purchasing decision-making. Organic food is perceived as healthy and natural, less chemical residues products. Consumers are motivated by ecological concerns, which contain personal health and environmental consciousness. Meanwhile, other factors, such as, the way of lifestyle and culture influence can also drive the personal beliefs. Personal health concern and environmental sensitivity are directly and positively associated with the buying decision making of organic food, but this situation needs to be measured in the Chinese environment. Therefore, which is the most important factor that drives the Chinese consumers' demand for organic food?

Once a need has been recognised by consumers, searching for information emerges across the continuum. The credence characteristics of organic food product attributes, which includes health, taste, appearance, freshness, smell, environmental, animal welfare are important products attributes' aspects to determine consumers' consumption process. In addition, labelling and certification seem one of the significant issues among organic food purchasing. Organic food products characteristics and regulatory are directly and positively associated with the buyer decision-making process, again, this also needs to be tested in China.

The socio-demographic profile seems to significantly influence consumers purchasing organic food. Demographic factors which include level of income, education, occupation, gender, marital status, age group, social status, place of residence (first or second tier cities in China) show significant influences on consumer attitudes toward organic food. Further more, psychographic variables, such as personal values and lifestyle concepts also affect consumers purchasing intention. Based on different socio-demographics & consumers segments with different attitudes towards organic food, the hypotheses purchasing intention will be developed and tested in China.

The correlation between organic foods purchase decision associated with people's attitudes is positive and significant from previous studies. Positive attitudes are more likely to have purchasing intention behaviour, eventually conduct actual purchasing; negative attitude towards organic food leads not purchasing decision-making. Barriers of purchasing organic foods can be discovered in this phase. Does an organic food higher price mean a symbol of quality or burden of purchasing? Personal normative beliefs and subjective perception of the environment influence directly or positively impact on Chinese consumers' purchasing decision intention of organic food. We are intending to research these facts in China.

DISCUSSION AND CONCLUSION

Past studies related to consumer attitudes and behaviour toward organic food have provided evidence that consumers consider health concern and environment issues as the most important factors that influence their purchasing decision-making process. Organic foods are perceived as being more nutritious and healthier, safer, environmentally friendly, contain less chemical residues and taste better than normal food. Positive attitude towards organic food leads to positive behavioural intentions and actual purchase. Demographic and psychographic factors show significant influences on consumers' purchasing decision-making.

There are hardly any studies done associated with consumers of organic food in China. In fact, there are misconceptions of the terms 'Organic' and 'Green' types of food and these are interchangeably used by consumers there. It is our intention to empirically investigate the various determinants related to Chinese consumers' pre-purchase evaluation of organic food. These determinants are related to the constructs of consumers' personal beliefs, product features and their demographic profiles.

This paper will be limited to the development of a conceptual model of buyer behaviour of organic food products. In the future, we intend to validate this model by collecting relevant data from consumers in China, and subsequently relevant hypotheses will be tested. This study will provide valuable insights into the global consumer behaviour related to organic foods, and it will also build a new body of knowledge with regard to the future potential of the organic food business in China. Beneficiaries of our study include various stakeholders in China and globally, for example the consumers, vendors both local and international and government agencies.

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MINIMIZING TOTAL FLOW TIME IN A FLOWSHOP WITH BOTTLENECK MACHINES

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ABSTRACT

The scheduling problem considered in this paper is a flowshop with bottleneck machines in the system. The objective of the problem is to minimize the total flow time of jobs. A bottleneck-based heuristic algorithm is proposed to solve the scheduling problems. To evaluate the performance of the suggested algorithm, the shortest processing time (SPT) dispatching rule and bottleneck-based dispatching rules collected from literature are investigated for comparison purposes and computational experiments are performed on randomly generated test problems. Results show that the suggested algorithm performs better and more robustly than those dispatching rules for various test problems.

INTRODUCTION

A flowshop scheduling problem with bottleneck machines is considered in this paper. The objective of the scheduling problem is to minimize the total flow time of jobs. Flowshops are common in a real-world factory. The flowshop scheduling problems have been extensively studied. The bottleneck phenomenon frequently occurs in flowshops (Rajendran, 2007). Goldratt and Cox (1992) proposed the idea that overall system performance is governed by bottleneck resources. Bottleneck management is a very important task on the shop floor and is really effective in production scheduling. Therefore, using bottleneck-based heuristic methods to solve production scheduling problems has attracted many researchers.

Adler et al. (1993) considered a practical scheduling problem for plants that produce multiple paper bags. The machine environment can be regarded as a flexible flow shop, and the machines at any given stage may not all be identical. They developed an ad hoc bottleneck-based heuristic to solve the specific problem. Chen and Lee (1998) suggested a heuristic bottleneck-based group scheduling procedure to solve flow line cell scheduling problems. This procedure was based on the bottleneck machine and attempted to fully utilize the bottleneck machine and minimize makespan. Chen and Lee (2001) proposed another bottleneck-based group scheduling procedure to solve group scheduling in job-shop cells. This bottleneck-based method is the most robust and shows the best average makespan. Lee et al. (2004) proposed a bottleneck-focused heuristic algorithm to solve a multiple-stage problem involving identical parallel machines and to minimize the total tardiness scheduling problem. The algorithm focuses on the bottleneck stage first, constructs a schedule for the bottleneck stage, and then further schedules for other stages based on this first schedule. This is because the bottleneck stage may not be the first stage, and the ready time of the jobs may not be zero. The algorithm first uses the sum of processing times of operations on the job at the upstream stages as the estimated ready time of the job at the bottleneck stage and produces an infeasible schedule. Then, it iteratively updates the ready times of operations at the bottleneck stage until it becomes a feasible schedule. Lee et al. (2004) compared eight well-known dispatching rules with the performance of the bottleneck-focused algorithm. The outcomes demonstrated that the heuristic algorithm shows better results in regard to the total tardiness criterion. Rajendran and Alickie (2007) proposed several bottleneck-based dispatching rules to solve flowshop scheduling problems with bottleneck machines. Chen and Chen (2008) proposed a bottleneck-based heuristic to minimize the

number of tardy jobs from flexible flow line scheduling problems.

In this paper, we are interested in studying a flowshop with bottleneck machines. The objective of the scheduling problem is to minimize the total flow time. The flowshop scheduling problems are NP-complete in nature. Heuristics are acceptable approaches in practice. Hence, a heuristic scheduling algorithm based on the maximum workload machine (bottleneck machine) is proposed to solve the problem. The rest of this paper is organized as follows. Section 2 describes the problem considered in this paper. Section 3 presents the proposed heuristic algorithm. Section 4 describes and analyzes computational experiments. Finally, section 5 summarizes the major findings of this paper and proposes some promising directions for future research in this area.

DESCRIPTION OF THE PROBLEM

A flowshop scheduling problem can be formally stated as follows: a set of N jobs is to be processed on M machines sequentially. All machines are continuously available. A job is to be processed on the machine at a time without preemption and the machine processes no more than one job at a time.

To describe the proposed algorithm, we use the following notations:

i =job index, $i=1,2,3,\dots,N$

k =machine index, $k=1,2,3,\dots,M$

b =bottleneck machine index, $b \in [1,2,3,\dots,M]$

A_b =the available time for bottleneck machine b

a_{ib} =the arrival time of job i at the bottleneck machine b

C_{ib} =the completion time of job i at the bottleneck machine b

p_{ib} =the processing time of job i at the bottleneck machine b

R_{ib} =the ready time for job i at the machine b

q =the position of the bottleneck machine b

q' =the position of the bottleneck machine b

Z_i =priority index of job i

The total flow time objective is considered in the paper. The scheduling problem considered in this paper is to minimize total flow time. This objective can be defined as follows:

$$\text{Objective} = \text{Minimize} \sum_{i=1}^N C_{iM}$$

BOTTLENECK-BASED HEURISTIC ALGORITHM

The proposed bottleneck-based algorithm revises the method proposed by Chen and Chen (2006) for flexible flow line scheduling problems with unrelated parallel machines. A typical flexible flow line scheduling problem can be defined as follows: many jobs pass through multiple stages with one or more parallel machines at each stage, and there are unlimited intermediate storage areas between any two successive stages. The flow of jobs through the shop is unidirectional and moves from the first stage to the last stage in order. In the method proposed by Chen and Chen (2006), a bottleneck stage was identified, and then, a schedule for the bottleneck stage was constructed; the schedules for the upstream stages ahead of the bottleneck stage were then fixed simultaneously. Finally, the schedules for the downstream stages, beyond the bottleneck stage, were based on the schedule for the bottleneck stage. The workload was used as an indicator to define the bottleneck stage.

In the proposed algorithm, a bottleneck machine was identified, and then a schedule for the bottleneck machine was constructed; the schedules for the upstream machines ahead of the bottleneck machine were then fixed simultaneously. In order to schedule jobs at the bottleneck machine, a greedy algorithm was proposed here to obtain the schedule of the bottleneck machine. The iteration method was adopted for the greedy algorithm to construct the

schedule of the bottleneck machine. The algorithm decides a job's schedule at the bottleneck machine at a time (per iteration) and after n iterations, all jobs will be scheduled completely at the bottleneck machine. Since the bottleneck may not be the first stage, the arrival time for the jobs at the bottleneck stage may not be zero. The arrival time depends on the scheduling of jobs upstream in the flowshop. To get the arrival time of jobs at the bottleneck machine, we try to simulate each job in the upstream machines ahead of the bottleneck machine and from this we can get the temporary schedules and the arrival time for each job. The greedy algorithm chooses the job with the highest priority among jobs that are yet to be scheduled at the bottleneck machine. The sequence of jobs at the bottleneck machine will guide the sequence of jobs entering the system. After the greedy algorithm chooses the job with the highest priority in iteration, the schedules of the job at the upstream machines, ahead of the bottleneck machine, will be determined and fixed. The status of the system will also be kept. The next iteration for computing the arrival time of a job at the bottleneck stage is based on the previous status of the system.

The greedy algorithm combines the shortest completion time at the bottleneck machine and the ready time of job i at bottleneck machine b into one rule. The ready time means the starting time of the next unscheduled job i that can be processed on the machine b . The arrival time can be regarded as the flow time for the upstream machines ahead of the bottleneck machine. The ready time is combined into the shortest completion time priority function, this means that the new priority function not only considers the effect of the flow time, but also considers the machine waiting time. We also perform a pilot test for measuring the effectiveness of the arrival time and ready time information. The results show the algorithm including the ready time works better than the rule containing the arrival time. Therefore, the ready time information is adopted in this study. The main difference between the proposed algorithm and the method proposed by Chen and Chen (2006) is the ready time information. The method proposed by Chen and Chen (2006) did not consider it. The greedy algorithm is presented as follows:

Greedy algorithm: A bottleneck with ready time and the shortest completion time at the bottleneck machine (BRS)

- Step 1.* Assign all jobs to set Ω , where $\Omega = \{1, 2, 3, \dots, N\}$. Set the schedule for the bottleneck machine $S = \phi$ and set the available time for each machine to zero in the bottleneck and non-bottleneck machines.
- Step 2.* If Ω is ϕ then stop.
- Step 3.* Compute the arrival time a_{ib} for each job $i \in \Omega$.
- Step 4.* Compute the ready time R_{ib} , where $R_{ib} = \max\{A_b; a_{ib}\}$ for the bottleneck machine b and for each job $i \in \Omega$.
- Step 5.* Compute $Z_i = \{R_{ib} + C_{ib}\}$, where $C_{ib} = R_{ib} + p_{ib}$ for the bottleneck machine b and for each job $i \in \Omega$.
- Step 6.* Assign the job i to S , remove i from Ω and update the next available time of machine b , $A_b = R_{ib} + p_{ib}$. Fix the schedules of job i at the upstream machines ahead of the bottleneck machine b .
- Step 7.* Go to step 2.

When the jobs for the bottleneck machine and the upstream machines ahead of the bottleneck machine are scheduled, the dispatching rule could be used to schedule jobs for the downstream machine beyond the bottleneck machine.

COMPUTATIONAL EXPERIMENTS

In order to evaluate the performance of the bottleneck-based algorithm suggested here, the computational experiments can be divided into two parts. Experiments of the first part consider the flowshop with one bottleneck machine. The second part experiments consider two bottleneck machines in the flowshop. For the first part experiments, the shortest processing time (SPT) dispatching rule and bottleneck-based dispatching rules (PR1 and PR2) proposed by Rajendran and Aliche (2007) are used for the comparison of performance. For the second part experiments, the shortest processing time (SPT) dispatching rule and bottleneck-based dispatching rules (PR3 and PR4) proposed by Rajendran and Aliche (2007) are used for the comparison of performance. The SPT rule performs

well in regard to the total flow time criterion (Brah and Wheeler, 1998; Hunsucker and Shah, 1994; Kadipasaoglu et al., 1997). The SPT greedy algorithm is used to schedule the bottleneck and non-bottleneck machines. In addition, the SPT dispatching rule is also used in the bottleneck-based algorithm to schedule jobs for the downstream machines beyond the bottleneck machine. The priority function of the rule is stated as below:

Shortest processing Time (SPT)

$$\text{Min } Z_i = p_{ik}$$

Two bottleneck-based dispatching rules, PR1 and PR2, are proposed by Rajendran and Alicke (2007) to solve flowshop scheduling problems with a bottleneck machine.

PR1 can be defined as follows:

Case 1: job i on machine j and $j \leq q$

$$Z_i = \sum_{k=j}^q p_{ik}$$

Case 2: job i on machine j and $j > q$

$$Z_i = \sum_{k=j}^M p_{ik}$$

PR2 can be defined as follows:

Case 1: job i on machine j and $j \leq q$

$$Z_i = \sum_{k=j}^q (b - k + 1) p_{ik}$$

Case 2: job i on machine j and $j > q$

$$Z_i = \sum_{k=j}^M (M - k + 1) p_{ik}$$

Two bottleneck-based dispatching rules, PR3 and PR4, are proposed to solve flowshop scheduling problems with two bottleneck machines.

PR3 can be defined as follows:

Let their positions be q and q' , and let q be $< q'$. PR3 rule works as follows:

$$\begin{aligned} Z_i &= \sum_{k=j}^q p_{ik}, \text{ if } j \leq q \\ &= \sum_{k=j}^{q'} p_{ik}, \text{ if } q < j \leq q' \\ &= \sum_{k=j}^M p_{ik}, \text{ otherwise.} \end{aligned}$$

PR4 can be defined as follows:

$$\begin{aligned} Z_i &= \sum_{k=j}^{q'} p_{ik}, \text{ if } j \leq q' \\ &= \sum_{k=j}^M p_{ik}, \text{ otherwise.} \end{aligned}$$

A series of computational experiments are presented to make comparisons between the results given by the heuristic algorithm, the SPT greedy algorithm, and bottleneck-based dispatching rules on randomly generated problems. All algorithms are implemented in C++ language, and all experiments are performed on a PC Pentium 4 2.4 GHz with 512 MB. For the first part experiments, the experimental parameters and their values used in these experiments are summarized in Table 1. In regard to the problems, there are four factors: number of jobs, number of machines, positions at the bottleneck machine, and workload difference between bottleneck and non-bottleneck machines. The number of jobs has three levels with values set to 30, 50, and 100 (low, medium, and high). The number of machines has three levels with values set to 5, 10, and 20 (low, medium, and high). To set the bottleneck machine, we trisect the flowshop. The bottleneck machine may exist in these trisections. The position of the bottleneck machine in the flowshop has three levels and is randomly set to a position between the first trisection, the second trisection, and the third trisection of the line. The workload differences between the bottleneck and non-bottleneck machines which have the highest workload among the non-bottleneck machines are set at the ratios of 1.5, 2.0 and 2.5 (low, medium, and high). To set the three levels, the processing time of each operation on the bottleneck machine is generated from

a discrete uniform distribution [51, 100], [51, 150], and [51, 200] separately. The processing time of each operation on non-bottleneck machines is generated from a discrete uniform distribution [1, 100]. There are a total of 81 test scenarios and 30 data sets generated for each scenario, and 2430 problems.

Table 1. Experimental design for one bottleneck machine.

Problem parameter	Values used	Total values
Number of jobs	30, 50, 100 (low, medium, high)	3
Number of machines	5, 10, 20 (low, medium, high)	3
Position of the bottleneck machine	the first trisection, the second trisection, the third trisection,	3
Workload differences	1.5, 2.0, 2.5 (low, medium, high)	3
	Total parameter combinations	81
	Number of problems/ combinations	30
	Total problems	2430

The SPT greedy algorithm, two bottleneck-based dispatching rules, and the proposed bottleneck-based heuristic result in four algorithms. These algorithms are evaluated on the basis of the relative percentage deviation (RPD) from the best solution, the number of cases where each rule found the best solution (NBS) and the average total flow time. The RPD is defined as follows:

$$RPD = \frac{S_a - S_b}{S_b} \times 100.$$

S_a is the solution value obtained by method a, and S_b is respectively the best solution value among those obtained by the algorithms included in the comparison.

The results of the main experiments are summarized in table 2, where it is observed that the proposed bottleneck-based algorithm perform more effectively in terms of RPD than other algorithms in regard to all problems. The BRS algorithm can find the best solutions for almost 87% of the problems. We further study the performance of BRS under different production scenarios. Tables 3-6 summarize the average RPD and NBS for each level of the four factors for generating the 81 production scenarios. Table 3 shows BRS performs better at the high level number of jobs size. Tables 4 and 5 show BRS performs well at the low level machine size and bottleneck machine at the first trisection. This means the bottleneck machine in the back machine of the flowshop leads the BRS to inferior performance. However, this algorithm still works better than the other rules. Table 6 shows BRS performs better at the high level workload difference. From these results, one can be observed that BRS heuristic fits well to be applied in the smaller machine size, no matter what the job size.

Table 2. Performance comparisons of all algorithms.

Algorithms	Relative percentage deviation index (RPD)			Average total flow time
	Average	Standard deviation	Number of best solutions *	
SPT	4.4003	2.872	688	171091.1
PR1	1.0748	1.041	833	165261.6
PR2	1.4082	1.238	795	166243.4
BRS	0.2707	0.818	2125	163699.2

*Number of best solutions found in a total of 2430 problems

Table 3. Results for different job sizes.

Performance (in RPD and NBS*) for different job sizes			
Algorithms	Low	Medium	High
SPT	4.2759(230)	4.5728(227)	4.3523(231)
PR1	1.2960(268)	1.0665(262)	0.8620(303)
PR2	1.2438(312)	1.5499(243)	1.4310(240)
BRS	0.5106(663)	0.1718(746)	0.1297(716)

*Number of best solutions for the level of each factor found in a total of 2430 problems.

Table 4. Results for different machine sizes.

Performance (in RPD and NBS*) for different machine sizes			
Algorithms	Low	Medium	High
SPT	2.9985(254)	4.9476(218)	5.255(216)
PR1	0.6455(301)	1.3178(248)	1.2611(284)
PR2	0.9874(256)	1.6941(244)	1.5433(295)
BRS	0.0683(714)	0.2015(748)	0.5423(663)

*Number of best solutions for the level of each factor found in a total of 2430 problems.

Table 5. Results for different bottleneck positions.

Performance (in RPD and NBS*) for different bottleneck positions			
Algorithms	M*0.25	M*0.5	M*0.75
SPT	3.3082(217)	3.8360(254)	6.0568(217)
PR1	0.7849(277)	1.0128(294)	1.4267(262)
PR2	1.1131(236)	1.3587(268)	1.7528(291)
BRS	0.1250(728)	0.1522(709)	0.5348(688)

*Number of best solutions for the level of each factor found in a total of 2430 problems.

Table 6. Results for workload differences.

Performance (in RPD and NBS*) for workload differences			
Algorithms	Low	Medium	High
SPT	4.2759(230)	4.5728(227)	4.3523(231)
PR1	1.2960(268)	1.0665(262)	0.8620(303)
PR2	1.2438(312)	1.5499(243)	1.4310(240)
BRS	0.5106(663)	0.1718(746)	0.1297(716)

*Number of best solutions for the level of each factor found in a total of 2430 problems.

For the second part experiments, two bottleneck machines are considered in the flowshop. The factors of job sizes and machine sizes are identical to the first part experimental design. In addition, as for the presence of the two bottleneck machines in the flowshop, we adopted the following three settings:

Case 1: Positions of two BMs are in the first trisection and the third trisection, and discrete processing times of jobs

on both BMs are sampled from the uniform distribution in the range [51, 99].

Case 2: Positions of two BMs are in the first trisection and the third trisection, and discrete processing times of jobs on the former BM are sampled from the uniform distribution in the range [76, 124], and the discrete processing times of jobs on the latter BM are sampled from a uniform distribution in the range [51, 99].

Case 3: Positions of two BMs are in the first trisection and the third trisection, and discrete processing times of jobs on the former BM are sampled from the uniform distribution in the range [51, 99], and the discrete processing times of jobs on the latter BM are sampled from a uniform distribution in the range [76, 124].

There are a total of 27 test scenarios and 30 data sets generated for each scenario and 810 problems. The SPT greedy algorithm, two bottleneck-based dispatching rules, and the proposed bottleneck-based heuristic result in four algorithms. These algorithms are evaluated on the basis of the relative percentage deviation (RPD) from the best solution, the number of cases where each rule found the best solution (NBS) and the average total flow time.

The results of the second part experiments are summarized in table 7, where it is observed that the proposed bottleneck-based algorithm performs more effectively in terms of RPD than other algorithms in regard to all problems. The BRS algorithm can find the best solutions for almost 85.5% problems. We further study the performance of BRS under different workload scenarios. Table 8 summarizes the average RPD and NBS for each level of the factor workload differences for two bottleneck machines. The results show BRS performs better in Case 2 and Case 3. The consequences are similar to the results of the first part experiments.

For evaluating the efficiency, the average CPU time required for solving a problem in the BRS algorithm is less than 0.2 second, which is short enough for it to be used in practice.

Table 7. Performance comparisons of all algorithms for two bottleneck machines.

Algorithms	Relative percentage deviation index			Average total flow time
	Average	Standard deviation	Number of best solutions*	
SPT	3.7578	2.998	243	172254.4
PR3	1.9932	2.264	296	169500.6
PR4	1.3313	1.266	273	168449.3
BRS	0.3327	1.068	693	166189.5

*Number of best solutions found in a total of 810 problems

Table 8. Results for workload differences for two bottleneck machines.

Algorithms	Performance (in RPD and NBS*) for workload differences		
	Case 1	Case 2	Case 3
SPT	3.0173(82)	2.0704(88)	6.1857(73)
PR3	1.0368(124)	0.5599(99)	4.3828(73)
PR4	1.2403(99)	0.5771(95)	2.1766(79)
BRS	0.8800(185)	0.0373(247)	0.0808(261)

*Number of best solutions for the level of each factor found in a total of 810 problems.

CONCLUSIONS

This paper presents a bottleneck-based algorithm to minimize the problems of the total flow time in a flowshop with bottleneck machines. In this algorithm, the bottleneck machine is first identified, and then a schedule of the bottleneck machine is constructed using the heuristic procedure proposed here. The schedules for the upstream machines ahead of the bottleneck machine are formed at the same time. Finally, the dispatching rules can be used to build the schedules for the downstream machines beyond the bottleneck machine. In order to evaluate the performance of the proposed algorithm, several rules such the shortest processing time (SPT) dispatching rule, and bottleneck-based dispatching rules collected from literature, are used for comparison with it via computational

experiments. Since the bottleneck machine may not be the first in the flowshop, the arrival time of a job at the bottleneck machine depends on the schedules at its upstream machines. A trial simulation method is adopted to simulate each single job at the upstream machines ahead of the bottleneck machine then the job of temporary schedules and the arrival time for each job can be obtained. The experimental results show the proposed heuristic focused on the highest workload bottleneck, and performs better than all other heuristic algorithms whatever the presence of the one or two bottleneck machines in the flowshop.

Our future research will consider other system characteristics, which are not included in this paper, such as setup operations required between jobs and re-entrant processing.

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CONCEPT ANALYSIS: EVIDENCE-BASED PRACTICE AND ITS IMPORTANCE TO NURSE-PRACTITIONERS

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ABSTRACT

This paper provides a review of Evidence-Based Practice in the nursing environment, and validates its use and growing interest among nurse-practitioners. Through an extensive literature review and development of a concept analysis, it has been established that Evidence-Based Practice provides a scientifically based evaluation of information required to improve nursing care decisions. Evidenced-Based Nursing Practice improves one's utilization of time; reduces medical costs to treat illness; and improves patient satisfaction. Through the use and understanding of available information, Evidence-Based Practice provides a sense of integrity and renewed appreciation for factual, empirical data as it relates to a patient's medical prognosis and treatment.

INTRODUCTION

The position of nurse holds with it a certain level of knowledge and respect. With the title comes the need for integrity and factual information that patients can rely on when addressing their individual medical needs. The importance of the nurse has been prevalent since the time of Florence Nightingale in the 1860's and continues to hold a position of stature in today's society. This paper examines the use of Evidence-Based Practice as necessary for today's nursing staff, and discusses how its use creates responsible recommendations for nursing care based on quantifiable information. This approach to providing appropriate healthcare and decision-making is of great importance, and will have significant impacts on both the social and financial aspects of the medical industry in the future. The implications to new nurses will also be significant as the concentration on education and the use of the best resources to obtain information related to medical concerns (Bertulis, 2008; Simon, 1999) will raise the expectation of the nurse's practice standards. By addressing the research, one will be bridging a long-term gap between the needs of the researcher and that of the nurse-practitioner, which provides validity to what is represented as evidence and can be used in a working environment (Mulhall, 1998).

LITERATURE REVIEW

The need for Evidence-Based Practice in the nursing field has grown and is at the greatest pace since its inception. To ensure adequate care for patients based on responsible decision-making and the necessities to reduce medical costs, more nurses are depending on Evidence-Based practices along with other aspects of clinical knowledge including experience, past case histories, and the expert opinion of the care giver (Salazar, 2003). While these aspects are important, nurses still realize that the randomized controlled trial reviews are still the gold standard, and rate as the highest level of evidence used to direct clinical decision-making (Beyea & Nicoll, 2000; Girard, 2008; Jennings & Loan, 2001). Each of these components along with patient preference is driving change. These changes show the need for Evidence-Based Practice and what the construct represents to the medical community and its patients. The utilization of Evidenced-Based Practice solely is not the answer to all nursing issues, but does provide a more cost-effective savings of healthcare dollars, a higher quality of healthcare to the patient, and a significant

decrease in nursing time within a clinical setting (Salazar, 2003; Youngblut & Brooten, 2001). These savings can be realized across virtually all medical and nursing disciplines and specialties.

Advocates of Evidenced-Based Practice realize the diversity of information sources and how the nature of evidence can be different based on its application. While there is a significant separation among the medical community about what constitutes “true evidence”, most believe that there must be quantifiable scientific evidence to support the decision-making process and the administration of healthcare to the patient (Rycroft-Malone et al, 2004). This establishes the need to have both an explanation for evidence, and the caregiver’s assurance that it is the most reliable information available.

Many studies on Evidenced-Based Practice have realized the omission of three primary factors leading to its successful implementation. The first of these is the lack of time provided to nurses to both carry out their day-to-day duties, and still have time to research available evidence to support learned medical diagnoses (Bertulis, 2008; Gerrish et al, 2007; Sredl, 2008). As a result of this deficiency, most nurses use alternative methods of information collection. These include asking peers for advice, actual observation, personal experience or other methods that rely on something other than available research.

The second factor creating issues for the nurse is the minimal diffusion of education on the subject of Evidenced-Based Practice, and the lack of access and understanding that accompanies the learning process. Based on past research studies, the amount of information related to evidence is sparse, and past literature reviews on the subject have yielded little data (Franco, 2001). Some of the confusion occurs due to the sheer number of sources that exist for the nurse. They must be able to understand the information and then apply it to a specific situation (Rousseau & McCarthy, 2007). This can be a very daunting task for even the most seasoned veteran of nursing. Additionally, there are problems with the arrangement of the information. Although there are more sources from which to pull from, the way it is delivered can be confusing and makes the searching even more difficult (Franco, 2001).

Lastly, there is real confusion among the medical community on what actually constitutes the term useful evidence (Sredl, 2008; Youngblut & Brooten, 2001). This gap requires a significant need for updating the current sources of information, and the methods behind the educational process for training nurses, both new graduates and current practicing nurses, in research retrieval and comprehension. At present there are a number of different avenues that can be accessed to provide the best known protocols of practice. The list includes peer-reviewed journals, government organizations, internet sources, libraries, and databases. The primary health care source, The Cochrane Library, is one used by nurse-practitioners and medical professionals towards a multitude of medically-related concentrations (Rosswurm & Larrabee, 1999; Youngblut & Brooten, 2001). For some, this source is still referred to as clinical and difficult to use (Bertulis, 2008). Other noted research support for nurses can be found at sites such as Campbell Collaboration, which provides decision-making help on social, behavioral, and educational issues; The National Guideline Clearinghouse, which addresses medications and their prescribed guidelines; and the Appraisal of Guidelines for Research & Evaluation, which is recommended by the Council of Europe and the World Health Organization as the guideline to validate medical publications and their content (Hanson, Hoss & Wesorick, 2008). Electronic library databases such as Ovid are also sources as well as online professional organizations such as the ANA, NLN and specialization professional organizations.

THE NURSE

Practitioner

As a trusted medical agent, the nurse is put in a position to make decisions based on one’s current medical condition and the external factors that affect those conditions. This realization is referred to as the nurse and the patient being captives together and it acknowledges that both parties must interact through a physiological and social approach (1997). There lies the necessity for this mindset as nursing requires an evaluation of many aspects of the patient, and not all of these are medically focused. The result is the need for nurses to be both learned in the medical sciences, as well as that of the behavioral and social sciences (Craig & Smyth, 2002). By utilizing empirical scientific research, the nurse of today limits the possibilities of error and meets what is known as the error criterion. While this does not completely eliminate errors, it minimizes the number of occurrences to accepted levels for which true research allows (Paley, 2005).

As part of their position as practitioners, nurses are responsible for individual medical support and obligated with a great deal of responsibility. This is evident by their position of authority, which requires all of their attributes to assist with one’s most important healthcare decisions. To maintain the highest level of integrity and provide the best

professional advice, nurses must be able to utilize factual, quantifiable information, reliable data from all available resources. This approach goes against what is usually substituted for evidence. This includes things like archaic knowledge, one's own experiences, specific skills, hype, beliefs, and what is described as mindless mimicry of top performers (Pfeffer & Sutton, 2006). Different factors related to environment, circumstances and medical condition are important, but they can not act in place of true, scientific evidence.

Decision Maker

To support the true processing of evidence, one must first understand that nurses are required to make decisions for their patients as part of their daily routine. There are many influences that affect these decisions. The list includes evidence as well as characteristics such as individual values, choice, theories, clinical judgments, ethics, legislation and practice-environments (Canadian Nurses Association, 1998). The process of decision-making is defined as a purposeful act, which is intended to achieve a desired outcome based on the vision of the decision maker (Levin, 1972). Thus, the true meaning of decision-making must be understood, and how it applies to medical initiatives and specifically the profession of nursing. As there has been a transformation of beliefs, some researchers have gone away from the previously supported view of basing decisions on one's individual intuition or experience, and have started making managerial decisions based on the best available scientific evidence (Rousseau & McCarthy, 2007). The use of Evidence-Based Practice follows the same criteria and applies this approach to nurses and how they make decisions concerning their patients, while still allowing for these additional influences that affect the outcome of the process.

Decision-making was best represented by one of the most influential social scientists of the 20th century, Herbert Simon, who recognized that this act is not as simple as some, may have previously believed. This was clear when Simon stated, "A decision is not a simple, unitary event, but the product of a complex social process generally extending over a considerable period of time" (1965). For nurses, this same importance applies as their decisions not only relate to time-critical outcomes, but ones that occur over longer periods. These decisions may require a number of different measures be taken to resolve the individual medical concerns and conditions of their patients. As a result, each one must be made based from accurate data, applicable evidence, and facts related to the patient's symptoms, while maintaining an environment that supports an evidence-based culture (Ciliska, Dicenso & Cullum, 1999; Craig & Smyth, 2002; McSherry & Haddock, 1999).

According to a leading advocate of Evidence-Based Medicine, the pre-cursor to Evidenced-Based Practice, the ideals that support the theory eliminate uncertainty because they are the "conscientious, explicit, and judicious use of the current best evidence in making decisions about the care of individual patients" (Sackett et al, 1996). Other experts have provided definitions that recognize the process as a "systematic finding, appraising, and using of contemporaneous research as the basis for clinical decisions" (Long & Harrison, 1996). Still the Sigma Theta Tau International Evidence-Based Practice Task Force describes it as "the integration of the best evidence available, nursing expertise, and the values and preferences of the individuals, families, and communities who are served" (DiCenso et al, 2004). Each of these representations acknowledge a utilization of the best and most reliable information available, which supports the decisions of nurses, and makes them better equipped to provide accurate medical advice to their patients. This is of major importance as the decisions of one's nurse can mean the difference between life and death. Among the list of many reasons why Evidenced-Based Practice is important, this is the one which is most imperative to the patient as well as the practitioner.

REASONS FOR INTEREST

As with other medical processes, the use of Evidenced-Based Practice has become more important to today's nurse practitioner, the medical community, and the individual receiving the treatment or diagnosis. There are a number of reasons for this increased interest, some of which includes the need for cost-effective measures that improve health policy, needed improvements in both level and access of information, and the patient's increasing knowledge about treatment options and available care providers (Gerrish, Ashworth, Lacey, Bailey, Cooke, Kendall, & McNeilly, 2007; Youngblut & Brooten, 2001). The suggestion has been made that there is also a necessity for an evidence-based approach because it will guide new practitioners in their decision-making, and it promotes the more experienced ones to maintain accepted clinical competencies (Simon, 1999). The uniformity in approach among the nursing staff promotes a favorable response from the patients. It ensures the progression of nursing by influencing

policy and creating consistent guidelines for both experienced and novice caregivers alike (Cleary-Holdforth & Leufer, 2008).

ATTRIBUTES AND USES OF EVIDENCE-BASED PRACTICE

As the fundamentals of Evidenced-Based Practice have existed for some time, Evidenced-Based Practice itself is a newer concept. The ideals that support the practice include evidence obtained by using recognized procedures that rule out or minimize the possibility for error (Paley, 2006). This position is represented by nursing authorities when they take the position that evidence-based decision-making is an important element of quality care in all domains of nursing practice (Canadian Nurses Association, 1998).

Theoretical

As with any ideology, Evidenced-Based Practice acknowledges specific attributes that relate to the concept. Some of the primary ones utilized provide the use of evidence from research, clinical expertise, and client preference, in addition to other available resources, to make decisions for current patients (Ciliska, Pinelli, DeCenso, and Cullum, 2001; Mulhall, 1998). By using Evidenced-Based Practice, nurses are applying a scientific research approach that recognizes a starting point or theoretical assumption, and addresses that paradigm through a continually changing process. As with any medical issues, this same flexibility must be used to provide the best healthcare decisions. As noted by Thomas Kuhn, the results gained in normal research are significant because they add scope and precision in which the paradigm can be applied (Kuhn, 1996). This allows one's nurse to improve upon the existing factors already applied to in nursing activities such as experience, education, and intuition and to strengthen these with factual, supporting documentation based on scientific evidence.

Operational

Evidenced-Based Practice also provides a recognized operational perspective for nurses who use it to provide medical recommendations. To experience its full impact, nurses who prescribe to Evidenced-Based Practice must follow well-established guidelines that include the following: (1) the formulation and asking of questions that evidence-based research can answer; (2) the collection of evidence and information from known sources; (3) the conducting of a critical analysis of the evidence for validity, generalizability and transferability; (4) the integration of the evidence with knowledge, clinical expertise, and patient preference; and (5) the evaluation of the outcome to make adjustments or improvements (Cleary-Holdforth & Leufer, 2008; French, 1998; & McSherry & Proctor Childs, 2001). To adequately operate based on an Evidenced-Based Practice approach, each one of these steps is used in a linear fashion to prescribe educated recommendations to patients.

To provide a clear explanation of what is applicable to the nurse-practitioner, the author has provided a visual depiction of areas of concern from an operational standpoint (Refer to Figure 1-1). While there are many functional activities of the nurse, these four are primary based on the author's point-of-view. They include the relationship of Evidence-Based Practice to the nurse; one's health; one's environment; and the perception of the patient.

First, the nurse must establish decision-making results based on fact and provide medical evaluation and recommendations from legitimate sources of research. Second, the healthcare community establishes standards based on the quality of outcomes. Third, the healthcare environment requires a high level of education, training, and support based on factual concepts and ideas. Last, the nurse-practitioner uses concepts of Evidence-Based Practices to establish the highest level of patient satisfaction. Each of these areas requires support and application from all operational levels and determines the success of establishing an Evidence-Based Practice meta-paradigm within the medical community.

CONCLUSION

The primary objective of this paper was to establish a concept analysis of Evidenced-Based Practice. Through a comprehensive literature review, the theoretical and operational concepts of Evidenced-Based Practice have been discussed, and both the current and future impacts of utilizing this approach to nursing and healthcare have been

acknowledged. Based on an analysis of the available information, the philosophy and process of Evidenced-Based Practice provides a scientifically, supportable method of providing nursing diagnosis and treatment of patients. Although there is an agreement among the nursing ranks that Evidenced-Based Practice cannot be used by itself, each practitioner concurs that it enhances the other methods of diagnosis and patient care. Although this research has recognized current limitations and deficiencies in the process, the use of Evidenced-Based Practice will continue to increase in importance to all healthcare professionals directly related to the field of nursing. Based on what has been evaluated, the author suggests further research be conducted on ways to improve upon accepted medical sources; the amount and type of training provided to nurses related to research; and improved educational curriculums addressing information gathering and comprehension.

Relationship of Evidenced Based Practice to the Nursing Meta-Paradigm

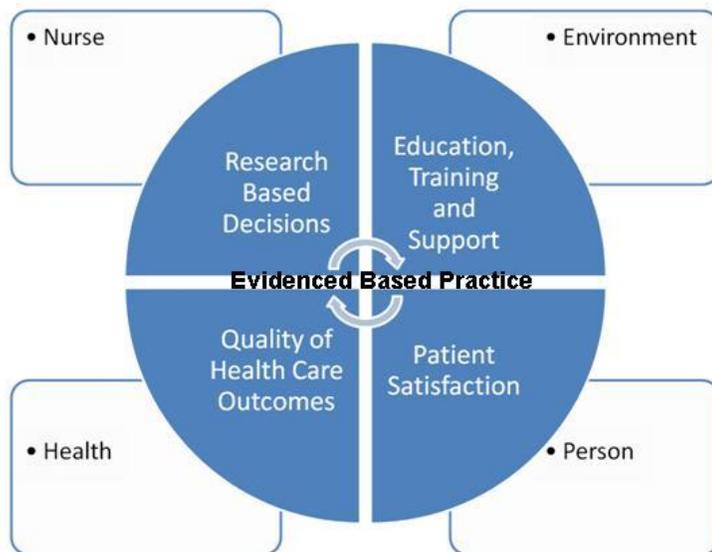


Figure 1-1

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A NEW DIMENSION OF SISTER CITY RELATIONSHIPS IN THE 21ST CENTURY: A PILOT STUDY IN AUSTRALIA

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ABSTRACT

Sister City agreements have historically provided a goodwill platform for countries to undertake activities for the enhancement of peaceful and cooperative relations. They have also become instruments for cities to develop their own form of internationalization and to provide for specific activities of cultural, educational or other similar cooperative exchanges between cities generally in different nations. Sister City Relationships are broadly-based, officially approved, long-term partnership between two communities in two countries. Using on-line questionnaires distributed through the membership of Australian Sister City Association (ASCA), this pilot study confirmed that the existing relationships are mainly focused on cultural exchange, education and council exchange. An overwhelming majority of the local governments, however, are ready for the extension of the Sister City Relationship by developing business and economic related activities. In fact the pilot study confirms this research is timely and necessary especially in developing policy guidelines and operation frameworks.

INTRODUCTION

Sister City agreements have historically provided a goodwill platform for countries to undertake activities for the enhancement of peaceful and cooperative relations. They were especially utilized during the aftermath of the Second World War to create bridges between former warring nations. In the more recent years, they have also become instruments for cities to develop their own form of internationalization and to provide for specific activities of cultural, educational or other similar cooperative exchanges between cities in the same country. In short a Sister City Relationship is a broadly-based, officially approved, long-term partnership between two communities in two countries. However Sister City Relationships were rarely seen as vehicles for business promotion between cities and countries. The aim of this research is to understand the receptiveness of local governments to adding business as one of the activities of a Sister City Relationship. In doing so, the paper also aims to produce future research direction in order to provide guidelines and frameworks for local governments in advancing Sister City Relationships.

SISTER CITY RELATIONSHIPS

Sister Cities are named in different ways such as Sister Cities, twinning, twin cities, friendship cities, *Jumelage* (French), *partnerstadt* (German) and *Gemellaggio* (Italian). On the whole a Sister City Relationship is a broadly-based, officially approved, long-term partnership between two communities in two countries (O'Toole 2001: 403). A Sister City Relationship becomes official with a signing ceremony of the top-elected officials of the two local jurisdictions, following approval by the local city councils. Sister City programs are also unique in that they inherently involve the three main sectors in a community: local government, businesses, and a wide variety of citizen volunteers (and civil society or non-profit organizations).

The Sister City, county and state affiliations date back to the immediate aftermath of the Second World War. Two towns, one Ludwigsburg in Germany and Montbeliard, France were in 1950 the first such Sister City

arrangements. However the concept was most embodied and driven by the US and developed into a national initiative when President Eisenhower proposed the people-to-people program at a White House conference in 1956. The history of the Sister City Relationships as a post-war phenomenon is most comprehensively presented by Cremer et al (2001) however this analysis had little or no explicit reference to international trade and economic co-operation as one of the objectives of the relationship.

SISTER CITIES IN AUSTRALIA

Today Australian cities have over 475 Sister City Agreements in place throughout the world and this number increases every year (ASCA 2009). Over the last decade Sister City Relationships in Australia (and elsewhere) have received unfavorable publicity and comment from the media. Sometimes this has flowed over to outright hostility by the media against 'money wasting' Sister City Relationships by local government. While serious academic research is not influenced by this negativity it has acted as a brake on Sister City development and the fear of only addressing economic development issues. In other media outlets accusations of 'junkets' and other critical commentary because in essence the 'peace' factor is no longer sufficient and government can no longer live on playing a social and political role but must now respond economically. These new political pressures on local government to fend off these criticisms make Sister City Relationships difficult to pursue.

To date, limited research has been conducted in the field of local government and Sister City Relationships and there is a lack of studies across these relationships across countries (de Villiers et al, 2006:9). Moreover the small amount of research that has emerged mostly from Anglo-Saxon/English speaking countries reflecting the narrow base from which our studies are based.

Over the recent period a few number of scholars have examined international Sister City Relationships as a policy instrument to facilitate business relationships between countries with different cultures (Ramasamy and Cremer 1998). O'Toole (2001) suggested the emphasis of Australian Sister Cities in the recent period has changed from friendship ties to those of exchange of economic development. Cremer et al (2001, p. 377) suggested the Sister City Relationship provides a hybrid form of entrepreneurialism 'municipal-community entrepreneurship' in which is a valuable facilitator of economic and social vibrancy of cities. Local governments may play a role in promoting business and being a facilitator between its own jurisdiction and business with other countries.

This pilot study was supported by the Australian Sister Cities Association (ASCA). The ASCA was established in 1979 around a small convention established in the city of Newcastle and is a non-government voluntary organisation and has functioned as a promoter and focal point for local government authorities. Two years later the ACSA established a solid basis for its existence at their 1981 conference presented their four objectives which ultimately defined their organisation. They were:

1. To extend the hand of friendship nationally and internationally;
2. To encourage an interchange between the nations to consolidate this friendship;
3. To help cities to re-personalise and motivate communities towards 1 and 2;
4. To promote and foster the affiliation of Sister Cities (O'Toole 2001).

METHODOLOGY

As a pilot study, the questionnaire was distributed to all members of Australian Sister City Association (ASCA). It took place solely in the form of an on-line survey. The study seeks to highlight the drivers, the motivations, the impediments and the potential for these relationships. The total number of responses was 59 local governments (out of cohort of 112 members) throughout Australia (ASCA 2009). This gives the respondent rate of 53%. The questionnaire does not exclude respondents without existing Sister City Relationships of which there are 8 of the respondents in this category.

The survey was available to all members of the Association for a period of 9 weeks. The association prompted their members on a weekly basis to participate. The distribution of the questionnaire was kept within the members of the Association because it was the understanding that all members of the association had an interest in Sister City Relationships. The questionnaire consisted of 22 questions in which 19 questions were quantitative questions while 3 questions were open ended and respondents were encourage to provide qualitative comments to the questions.

FINDINGS AND DISCUSSIONS

Table 1 illustrates the distribution of respondents by State in order to determine the location of the respondents. As the survey was distributed among the members of the ACSC which numbered 112, the responses strongly reflected the (actual) strength of membership in each state as can be evidenced in Table 1. NSW, Australia's most populous State had the greatest number of actual members and in the response registered the greatest number of responses (44.07 percent) of all responses.

Table 1 - State location of respondents in survey of Sister Cities, 2009

State	Absolute frequency	Relative frequency %	Actual membership distribution
Australian Capital Territory	1	1.69	Not indicated
New South Wales	26	44.07	55
Northern Territory	1	1.69	3
Queensland	11	18.64	18
South Australia	2	3.39	2
Tasmania	2	3.39	8
Victoria	11	18.64	15
Western Australia	5	8.47	11
Total	59	100	112

Source: Questionnaire responses, 2009

Table 2 demonstrates that the 45 percent of the respondents were from cities with populations of over 100,000. This would indicate that the response from respondents on a population basis is significant.

Table 2 – Population of city/shire governments from the survey responses, 2009

Size of population	Absolute frequency	Relative frequency %
10,000 or less	2	3.39
From 10,001 to 20,000	4	6.78
From 20,001 to 50,000	9	15.25
From 50,001 to 100,000	17	28.81
Over 100,001	27	45.76
Total	59	100

Source: Questionnaire responses, 2009

Table 3 highlights the area in which the portfolio of Sister City Relationships might sit within the specific city council. In many respects the response provided is an indication of the focus of the Sister City Relationships. 18 percent indicated that their International Relations area had responsibility for Sister City relations. More than 22 percent indicated that Sister Cities was covered by their cultural/education or sports section. A low 7 percent had an economic development area responsible for Sister City relations while a high 22 percent of 'Other' indicated responsibility. This is a very telling table as it indicated the Sister City Relationships are in a category of undetermined roles. They are certainly not seen as an economic responsibility and that in many cases Sister City Relationships would appear to be more 'sidelined' as an activity. Most of the city councils that responded as 'Other' also included Mayors, Councilors or engaged in other executive and non-executive positions.

Table 3 – Role of the respondent of the Sister City survey, 2009

Role	Absolute frequency	Relative frequency %
International relations	11	18.64
Economic/Business development	7	11.86
Cultural/Education/sport activities	13	22.03
Other	22	37.29
Not answered	6	10.17
Total	59	100%

Source: Questionnaire responses, 2009

90 percent of the respondents indicated that the person completing the questionnaire had responsibility for the Sister City Relationship. This is a pleasing result as it proves the validity of the data.

Over 28 percent of the respondents had only one Sister City Relationship. 17 percent had two Sister City Relationships while 13 percent had three Sister City Relationships. A further 13 percent had no Sister City Relationship. No respondent indicated they had more than seven relationships and 8 had no relationship at all (see Table 4).

Table 4 – How many Sister City Relationships does your city/shire have?

Number	Absolute frequency	Relative frequency %
0	8	13.56
1	17	28.81
2	10	16.95
3	8	13.56
4	5	8.47
5	2	3.39
6	1	1.69
7	1	1.69
Total	59	100%

Source: Questionnaire responses, 2009

The activities currently undertaken by the respondents provided a valuable overview of the current activity undertaken by local governments when in Sister City agreements. 26% of the Sister City Relationships were (Table 5) that of ‘cultural exchange’. The next activity was ‘education’ with 22 percent followed by ‘people to people’ with 20 percent response. ‘Business’ only managed to receive 8 percent of the responses as an activity of the local government.

Table 5 – What are the most important forms of activities undertaken within your Sister City Relationships?

Activity	Absolute frequency	Relative frequency %
Education	35	22.73
Council exchange	27	17.53
Cultural exchange	41	26.62
People to people	32	20.78
Business	13	8.44
Other	6	3.90
Total	154	100

Source: Questionnaire responses, 2009

A major feature of the debate when discussing Sister Cities is the ‘negative’ concern and its origins. The questionnaire responses make clear that many local governments are fearful about the backlash from various sources of the establishment of Sister City agreements. The survey response provided interesting testimony to this concern in which it highlighted that 35 percent of the concern came from the media and over 36 percent of the respondents concerned about ratepayer backlash in pursuing Sister City Relationships is the issue of community/ratepayer support to these relationships. The concern for proper (and improper) use of rate payers rates and contributions figures prominently in Sister City discourse and often comes under the label of Council ‘Junkets’. This clearly concerns the local governments (see Table 6). A factor that has concerned many local governments as witnessed in table number six with.

Table 6 - In your opinion where do the greatest concerns about Sister City Relationships come from?

Source	Absolute frequency	Relative frequency %
The Council	6	8.22
The Media	26	35.62
The Councilors/Aldermen	10	13.70
The ratepayers	26	35.62
Others	5	6.85
Total	73	100

Source: Questionnaire responses, 2009

As for the countries which Australia most establishes its relationships with is Japan, over 50 percent. This is followed by United States 8.47 percent; China 8.47 percent and New Zealand 8.47 percent as the second equal large group of countries (see Table 7).

Table 7 – With which countries have Sister City Relationships have been the most successful?

Country	Absolute frequency	Relative frequency %
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Britain	1	1.69
China	5	8.47
France	1	1.69
Japan	31	52.54
South Korea	2	3.39
New Zealand	5	8.47
Portugal	1	1.69
United States	5	8.47
Not answered	8	13.5
Total	59	100

Source: Questionnaire responses, 2009

Compared to a survey by O’Toole (2001) in 1999, Japan came third behind USA and China, the friendship focus has clearly shifted in a matter of 10 years. According to O’Toole (2001) many of the Sister City Relationships between Australian and Japanese cities has been a product of Japanese local government internationalization of Japan (*Kokusaika*). Moreover the same study has established that by the 1990s Japan had over 85 separate Sister City agreements with Australian cities (O’Toole 2001 p. 407).

The study sought to highlight the benefits attained by city councils (as indicated by the respondents) with their Sister City Relationships and the activities they associate with this function. The study also sought to inquire into the potential for current Sister City arrangements to pursue business development and facilitation as an extra function of this relationship. An overwhelming majority 61.02 percent (Table 8) confirmed that their local city/shire should act in a role of facilitating business activities utilizing Sister City Relationships.

Table 8 – Should Sister City Relationships become business facilitators for your city/shire business community?

Response	Absolute frequency	Relative frequency %
Yes	36	61.02
No	13	22.03
Don’t know	10	16.95
Total	59	100%

Source: Questionnaire responses, 2009

The general sentiment from the respondents on the potential sustainability of business relationships within Sister Cities is overwhelmingly supported as is evidenced from Table 9 below. It is an understood sign of the times that representatives realize they must pursue this avenue of enhancing the Sister City Relationships with a commercial scope alongside other non-business relationships. This is especially evident with reference to the growing number of Sister Cities with China and India.

Table 9 – Are sustainable business relationships possible within Sister City Relationships?

Response	Absolute frequency	Relative frequency %
Yes	41	69.49
No	10	16.95
Don’t know	8	13.56
Total	59	100

Source: Questionnaire responses, 2009

The respondent’s preference for specific kinds of business activities included networking (33 percent) as well as Sister Cities providing a greater meeting point for buyers and sellers (26 percent), as can be seen from Table 10. 23 percent of the respondents felt that Sister Cities could provide greater access to each others respective market (see Table 10).

Table 10 – What specific benefits do you believe Sister City Relationships could provide for the business community?

Activity	Absolute frequency	Relative frequency %
Provide access to the market	29	23.39
Bring potential buyer and seller together	33	26.61
Networking	41	33.06
Demonstrate government support to the process	20	16.13
Other	1	0.81
Total	124	100

Source: Questionnaire responses, 2009

Sister Cities that were part of the study indicated the main nations in the world where the relationship had succeeded and where they had not. They also defined the issues which brought the cities together and the issues which did not. Moreover Sister Cities were often influenced by local conditions and political factors. There was much trepidation about ratepayer concern and the wise use of ratepayers revenues as well as the ability of the respective local government to get the local media on side with exchanges between cities and the avoidance of the 'junket label' which many inside local government feared.

New studies and theoretical appraisals of the functionality of Sister City Relationships in Australia (and elsewhere) have raised discussion towards an inclusion and consideration of the commercial utility of such relationships and not solely cultural (O'Toole 2001).. In part definitions of the relationships have reflected this change of emphasis especially in the last decades of the twentieth century characterised by growing forces of globalisation (de Villiers et al, 2006). As early as 1990, Zelinsky made the observation that shared economic interests actually account for numerous Sister City Relationships within the United States. These included examples such as Pittsburgh with metallurgical centres such as Sheffield in the UK, Houston is twinned with oil rich Baku in ex-Soviet Union Baltimore twinned with ports like Genoa and Rotterdam in the Netherlands (1990). As such the use of Sister Cities was also seen as a trade and economic mechanism of economic enhancement.

28 respondents made qualitative comments addressing an array of issues about Sister City Relationships. These comments cover a broad range of issues. One respondent suggested research into establishing frameworks for local governments when establishing Sister City Relationships:

"It would be very useful if the researchers could also identify and come up with a framework with which we are able to assess/quantify the benefits of Sister City relationships (Comment n. 17)."

This is a pleasing indication that this research is timely and necessary.

The following passage is the best example of what this research is aimed to establish. Sister City Relationships have served their purposes in the past successfully; it is only timely that local government and local community are looking for further development of Sister City Relationships.

"Currently our Sister Cities relations mainly focus on cultural and educational programs. They are very successful and many residents of Logan/ communities are given the opportunity to be a part of the program. We are currently looking for more economic returns for future investment opportunity (Comment number 11)."

I believe some countries do establish Sister City Relationships because of economic value i.e. China however with any relationship having first established the cultural side is important and the bonus is if it then extends to the wider community eg. A business proposal (Comment number 8)."

Comment 27 made the point very abruptly and vividly. It stated:

"Getting the ratepayer who has not been part of the Sister City relations to see the benefits."

Alongside this sentiment, comment number 2 was more explanatory of the process and how to win public support to these relationships. It stated:

"Prior to establishment of a relationship, there should be broad community support. If there is a strong local community from the country selected their involvement and full support is essential. Visits to any Sister City should not be treated as a 'junket'. Ratepayer funds should be kept to a minimum and citizens from the community should be invited and encouraged to participate. For inbound visits citizens from the community should also be involved in activities (Comment number 2)."

Comment number 7 made the same point concerning the cost and benefit relationship. The comment stated:

"Marketing and base root support is essential to have Sister City relationships succeed. If ratepayers do not see value for money they do not want such a relationship. Cost and accessibility to each country is a big factor (Comment number 7)."

This concern is further illustrated through the comments below and it leads to action which may be seen as "hiding truth from tax payers":

"...There is often a fear (by Councils) to publicize visits which then prevents positive stories from being told about benefits to the community and to business from these partnerships (Comment number 9)."

Alongside the rate payers, there was also concern for the negative role played by the media. Comment number 22 addressed this well:

"Sometimes the political nature of these relationships can overpower the long term benefits and can be aggravated by negative media portrayals. Much is dependant upon the very people involved in building and maintaining these links - being selfless and working towards a strong agenda link. The benefits flow after the relationship has been forged. There are not many opportunities to make strong links with cities that can develop economic, social and cultural links just by calling up to start a relationship -"

Sister Cities are the bridge! All the people from our city who have visited Springfield (over 200) would not have done so without the Sister City relationship (Comment number 22)."

In closing a number of difficulties in sustaining Sister City Relationships were mentioned by the respondents. Many of these comments gravitated to the need for resource sustainability for the Sister City Relationships to be effective. They included lack of resources, language and cultural barriers. Comment number 26 stated:

"Sister City programs must be adequately resourced through Council policy' (Comment 26)."

CONCLUSION

The survey undertaken from the membership of the Australian Sister Cities Association provides us with a statistically relevant and authoritative sample of the thinking within these local governments of matters relating to the management and direction of Sister Cities in Australia. This is the first study on Sister City Relationships in the last 10 years. The findings of the survey confirmed that local governments are prepared to see Sister Cities facilitate business as one of its tasks in the functionality of these relationships. While not all respondents were overwhelmed by the proposition, which were largely related to limitation of resources, past negative experience such as the 'junket' phenomenon and undetermined strategic positioning of the Sister City Relationships, it is clear that research on this topic in order to produce policy guidelines and framework is welcome and timely. To the issues identified have led to a slow down in the acquisition of new Sister City Relationships especially on the cost benefit argument from both the public arena and the rate payer community groups. The 'junket' factor from the survey responses seems to be the major argument for local governments in seeking for better solutions of Sister City Relationships. A framework which provides a method of measuring their Sister City performances and guidelines of policy development would be timely and necessary. This should be expended and supported by a larger scale research. The next stage of the research will seek to evaluate the potential of Sister City Relationships being extended to business relationships.

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COLLABORATION AMONG GOVERNMENTS AND COMPANIES IN MANAGING NATURAL PARKS IN THE CITY OF RIO DE JANEIRO: DOES IT PAY?

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ABSTRACT

This paper presents the analyses and conclusions of an empiric research regarding the management of natural parks in Rio de Janeiro through the implementation of collaborative strategies between government agencies and local companies. Case studies were carried out in seven natural parks by means of dozens of interviews with park managers, business managers and other social actors. The results provide evidence that the collaborative strategies used are still insufficient to handle all organizational, material and human limitations that exist in the central agencies responsible for those parks, but they are a promising course of action if governments and companies succeed in overcoming cultural and operational barriers.

INTRODUCTION

Under the National System for Conservation Units (SNUC) was created in 2000 by Law 9985. It regulates the management of different types of environmental conservation units in Brazil with the objective of guaranteeing the preservation and/or sustainable use of a range of areas with relevant natural characteristics in this country. One of the most common forms of conservation units are the natural parks. SNUC identifies five main objectives for a park-type conservation unit (Brazil, 2000; Chapter III, Article 11): 1. Preserve natural ecosystems of great ecological importance and scenic beauty; 2. Enable the execution of scientific research; 3. Develop activities for environmental education and interpretation; 4. Develop recreation activities that include contact with nature; 5. Develop ecological tourism. SNUC establishes a guideline which would help to reach these objectives in a collaborative and participatory way (Brazil, 2000, Chapter II, Article 5): that in which the managing agencies of Conservation Units must seek “the support and cooperation of nongovernmental organizations, private organizations and individuals for the development of studies, scientific research, environmental education practices, leisure and ecological tourism activities, monitoring, maintenance, and other conservation unit management activities”. In Rio there exist dozens of conservation units, among which stand out 17 municipal natural parks, 3 state parks and 1 national park. Each one of these parks is administered by the management agency responsible (within the respective government sphere) which nominates an agency staff member to exercise the function of park manager. Meanwhile, audits have registered that a good many of these parks lack sufficient infrastructure and the financial, human, and management resources to comply with the directives and objectives advocated by SNUC (PCRJ-SMAC, 2005; TCMRJ, 2005). One of the available alternatives to overcome these deficiencies is to seek collaboration among the different social actors: organized civil society and private organizations, whether companies or non-governmental agencies (NGOs). Within this context, an exploratory study was carried out with the objective of understanding how the collaborative strategies used by the management agencies of the natural parks in the city of Rio de Janeiro have been implemented and how such strategies affect the results of management and the relationship with the different groups of social actors involved. Additionally, it was sought to understand the behavior of the businessmen in relation to these parks.

THEORETICAL REFERENCES

Collaborative Strategies and Companies in environmental issues

Gray (1985) defines collaboration as “the reunion of tangible and/or intangible resources by two or more parties interested in resolving a set of problems which neither of them could resolve alone”. Wondolleck and Yaffee (1997) affirm that collaboration can lead to decisions which are both more efficient and easier to implement. At the same time, communities, private organizations and government agencies who collaborate acquire abilities which can serve them in future situations in a process of collective learning. For Wondolleck and Yaffee (1997), building bridges between governments, private organizations and individuals creates mutual understanding, support and growth of all those involved. Pressure from society itself, ever more concerned with environmental issues, takes it upon itself to oblige governments at the federal, state and municipal levels to seek partners. Thus, temporary or permanent partnerships are formed between the conservation unit (represented by the government agency to which it is subordinate) and a certain social actor (a stakeholder) or more complex partnership networks between the conservation unit and a range of social actors. The concept of collaborative strategies applied to the environment incorporates many kinds of collaborative arrangements, temporary or not, with many participants or few, official or informal, including some traditional arrangements such as strategic alliances or networks. Some of the main collaborative strategies identified in the literature on conservation unit management are: Simple Partnerships – those focused on one or two subjects, involving a small number of partners and possessing a few specific objectives. (Wondolleck and Yaffee, 2000; Presas, 2001); Multiple Partnerships – Those involving a large number of partners, in general focusing on more complex environmental projects (Wondolleck and Yaffee, 2000; Petrobras Ambiental, 2008); Interagency Coordination (Government agencies) – actions integrated between agencies of the same government or different governments for the purpose of attaining common objectives vis-à-vis environmental issues. (Wondolleck and Yaffee, 2000; PCRJ - SMAC, 2005); and Participatory Management of conservation units – includes participation by surrounding community in the conservation unit by means of an Advisory Council (Oliva; Magro, 2004). Even though it is clearly perceived in the literature that government agencies linked to the environment foster the participation of the community and other entities of society, this process has not always been effective. Wondolleck and Yaffee (2000) alert to the institutional and structural barriers to collaboration that are present in the complex situations of environmental projects. The main barriers identified by them are: lack of opportunities and incentives; parties at cross-purposes; inflexibility of policies and procedures of the involved parties; limited resources; mutual lack of confidence and incompatible organizational standards and culture.

Senge and Carstedt (2001) state that the perception that companies are part of complex and evolving systems accentuates the role of the relationships, and increases confidence in them. According to them, it is no longer possible for companies to make decisions without considering the impact on third parties. Regardless, the environmental laws in effect, combined with environmental standards (e.g., ISO 14001) voluntarily accepted by companies and the pressure from society itself, have propelled private and state companies to take the initiative to act in a more conscientious and cooperative manner in relation to the environment. As such, in recent years a series of private arrangements have developed which are designed to foster action from companies vis-à-vis their impacts on the environment. This paradigm is known as private environmental management (Maimon, 1996; Barbieri, 2004). According to Barbieri (2004), the environmental concerns of businessmen are influenced by three basic sets of forces: pressure from environmental agencies, society, and the degree of insertion of the firm in the market. Were it not for the pressure from society and government measures, the growing involvement of companies with environmental issues would not be witnessed. One of the results of this social and market pressure is the ever increasing adoption of the sustainable development concept by private companies under the terms “corporate sustainability” or “triple bottom line” (ELKINGTON, 1994; BARBIERI, 2004). In the case of companies, the perception is growing that their interdependence with the social, economic, cultural and political contexts, in parallel with the notion that the economics of natural resources affects their bottom line and naturally their stakeholders, too (ELKINGTON, 1994). In practice, this means the adoption of ecologically correct strategies and operations, and partnerships with other social actors (PRESAS, 2001). As can be seen, companies can act either as instigators of environmental harm or as agents of conservation. The latter behavior is framed within the concept of socio-environmental responsibility, and includes the meeting of the various basic demands originating in the social elements with which the company maintains some sort of exchange (MORSING; SCHULTZ, 2006). In this sense, Richers (2000) confirms that the ecological area is the one

requiring the most urgent efforts and that, sooner or later, all companies will have to concern themselves with this, whether due to pressure from the judiciary, consumers, or nature itself.

RESEARCH METHOD

An exploratory research study was carried out using a qualitative approach (Creswell, 2003), operationalized by means of a strategy of multiple case studies (Yin, 1994), with the objective of increasing the capacity to generalize, based on the research. The reliability of the research was insured by means of a case study protocol and a continuous process of triangulation of the data sources, following Yin (1994). The article presents the results of the analysis of the collaborative strategies used in the management of five natural municipal parks (Mello Barreto, Chico Mendes, Marapendi, Bosque da Barra and Bosque da Freguesia), one federal park (Tijuca National Park,) and one state park (Pedra Branca State Park) in the city of Rio de Janeiro involving collaboration or conflict with companies. Sixty one in-depth interviews were analyzed. Interviewees were representatives from the central management agencies (Municipal Secretariat for the Environment, Brazilian Institute for Environment and Natural Resources and Forest State Institute), park administrators, and representatives from a range of groups of parks stakeholders (specially managers of different companies, NGOs, trade organizations, etc.) Data was also obtained by means of bibliographic and documentary research, as well as ample direct observation in the parks studied. The data collection phase lasted from November 2005 to December 2006, with a final follow-up between January and March of 2007. Treatment of the data was eminently qualitative, and ATLAS.ti 4.2 content analysis software was used based on elaborated conceptual categories.

RESEARCH RESULTS

Five Municipal Natural Parks (MNP)

The duties of the Rio de Janeiro Municipal Secretariat for the Environment (SMAC) include “to plan, promote, coordinate, inspect, license, execute and implement the execution of the municipal environmental policy, in coordination with other Municipal agencies” (SMAC, 2005, p.2). At the time of the research, one of its areas, the Conservation Units Management Administration (GUC) was responsible for the management of the municipal conservation units in Rio de Janeiro. GUC had one manager, six administrative employees and twelve park managers, a number insufficient considering all of the activities to be performed. Park managers' duties include seeking partnerships with the sectors of society and submitting these suggestions to GUC for a final decision. Thus, it can be seen that the manager has limited autonomy with respect to this duty.

Municipal Natural Park Professor Mello Barreto: MNP Professor Mello Barreto is a small park, about 6.5 ha in size, located on the banks of Tijuca Lagoon, close to the residential area known as Peninsula, and across from Rio's largest mall, Barrashopping. The history of the creation of the park by the builder Carvalho Hosken Engenharia e Construções S. A. is rooted in the occupation of the strip on the banks of Tijuca Lagoon by a small favela (slum) in 1990. A group of companies - builders who owned lots in the area - signed an agreement with the city to remove the houses in the area and Carvalho Hosken assumed control of the design of the park with environmental features at the site, aiming to recuperate the 3.5 ha of mangrove along the banks of the lagoon. More recently, in 2003, Carvalho Hosken sought the help of the Environmental Secretariat in order to form an official partnership that might enable the firm to continue taking care of the park while, at the same time, capitalizing on the investment in terms of corporate image. After some years of negotiations and bureaucratic holdups a renewable five-year Term of Cooperation was signed between the two parties for the revitalization, conservation, and maintenance of MNP Professor Mello Barreto. This partnership is informally referred to by SMAC as a park "adoption". Carvalho Hosken commits to performing a series of interventions in the sense of revitalizing the park, and others, at its own expense, with the objective of conserving and maintaining it. For its part, SMAC is committed to providing technical orientation, supervision, and inspection of services provided by Carvalho Hosken, as well as supporting environmental education initiatives by providing human resources and materials. Carvalho Hosken's initiative might be the beginning of a trend to more frequent simple partnerships, as espoused by Wondoleck and Yaffee (2000), between SMAC and private enterprise, where the logic of the private capital profits might be manifest in a greater concern with environmental and social issues. According to information provided by the GUC representatives, SMAC has the intention of extending this type of partnership to other parks. However, there exist internal impediments, such as an excess of

bureaucracy and a lack of human resources to carry out all of the necessary studies and to negotiate the partnerships. Meanwhile, the actions of Carvalho Hosken have met some criticism. According to an environmentalist, the Península Project only became environmentally adequate after much pressure from society, by means of conflicts and lawsuits. In the words of the interviewee, "the impact of the Carvalho Hosken undertaking is not so great because they are more conscientious or because they have a more refined environmental sensibility than other companies: It was based on a lot of heavy handedness".

From the above it can be concluded that despite being in the beginning stages, the collaborative strategy of creating formal partnerships for purposes of "adoption" and shared management, in the form of a "cooperation agreement" with companies is a viable alternative for SMAC. However, the success of such an initiative shall depend on the degree of political pressure and organizational mobilization, as stated by Barbieri (2004) and Morsing and Schultz (2006), and planning by SMAC (especially GUC), in order to overcome the institutional and structural barriers identified by Wondolleck and Yaffee (2000). In order to achieve this, more trained human resources and informal partnerships with other internal agencies must be prioritized.

Municipal Natural Park Marapendi: MNP Marapendi runs through two districts: Recreio dos Bandeirantes, where it is based, quite close to MNP Chico Mendes, and Barra da Tijuca, in a series of fragmented areas along the banks of the Lagoon and Marapendi Canal. This geographic dispersion makes efficient management of the park somewhat difficult. As in the other municipal parks, in MNP Marapendi there lacks adequate organizational structure. The administrator is the only permanent SMAC staff person working to manage the park. The main companies that act in the area of the MNP Marapendi are the construction companies, who have been the mainspring for the urban growth of the Barra da Tijuca and Recreio dos Bandeirantes districts. The majority of the large construction companies have adopted a "green" sales pitch, pronouncing their ecological concern with their undertakings in these regions, something which does not correspond with reality, most of the time. Some of the builders do seem to be concerned about the environmental issue in their undertakings, even though the final objective is profit. This is due to the fact that the perception regarding the environmental issue has increased among potential buyers of real estate in these regions, as well as the growing pressure from environmental NGOs. The construction companies have, however, a strong lobby at City Hall and the state assembly and are constantly trying to get approval for the construction of large hotels along the beach inside the Marapendi Environmental Preservation Area, something which generates local conflicts. Regarding collaborative actions between the park manager and local businessman, the locally designed initiative of a publicity company was identified. At the end of 2005, the initiative had developed at a campaign entitled "Preserve", meant to popularize the natural beauties of the area among the residents and raise their awareness of the importance of preserving nature. The campaign was financed by clients of the company, whose business names and brands were displayed during its execution. The campaign was a success and improved the relationship between the company and park management, but it did not sustain. One of the company officers complained about the excessive bureaucracy within SMAC to get projects approved. With the exception of this initiative and the leaflets distributed to visitors, no other practical initiatives were identified at the park. A lack of continuity in the efforts of the manager to find partners to help popularize the park was felt, especially in the face of the interest from local companies, characterizing the presence of informational and cultural barriers to collaboration (Wondolleck and Yaffee, 2000).

Municipal Natural Park Chico Mendes: MNP Chico Mendes occupies an area of 40 hectares in the middle of the Recreio dos Bandeirantes district, in the West Zone of Rio de Janeiro. The park began to be revitalized in 1995, mainly through the acts of Rio-Zoo Foundation, which managed the park at the time. Even after responsibility for the park passed over to SMAC, in 2003, it was maintained by a co-agreement between both of them, which brought benefits for park Management. There is also a permanent partnership between the park and the Estácio de Sá (private) University veterinary school, which guarantees treatment to sick animals taken to the park. This partnership was organized by the park manager. Several regional businessmen associated with voluntary actions in conjunction with MNP Chico Mendes were interviewed. The perception of the interviewees is that despite the efforts of the manager to create partnerships with companies, these initiatives get stymied by city bureaucracy and the lack of decision-making power of the park manager in relation to such initiatives. For the most part, strategic decisions relative to park management are made in a centralized form at GUC or other SMAC sectors. The interviewees also view their own participation as merely complementary, by means of donations of materials, organization of events. However they reiterate the basic responsibility of the city agency in providing necessary resources to the park manager in order to be able to carry out his job adequately. According to them, resources are currently scarce and the park is frequently mired in difficulties with respect to its maintenance. It is also common for the park administrator to request help from neighboring parks who have maintenance contracts in effect. Notably, the city's rules currently disallow charging for entry or

the presence of food kiosks within the park. Also, according to the businessmen interviewed, the environmental awareness of the businessmen in Recreio dos Bandeirantes is low and many of them do not even know about the park (which, moreover, is also the case with the region's residents). Some companies in the region also contribute to the pollution in the park lagoon. At the beginning of 2005, the manager of MNP Chico Mendes and the coordinator of the Marapendi Environmental Education Center designed and implemented an ecological corridor linking Chico Mendes Park and Marapendi Park. Work began in March 2005. More than 8000 seedlings were planted and some species of exotic vegetation were removed. The area has recovered quite well and the project is ongoing, a highlight being the formation of a multiple partnership involving different City agencies, community associations, a private university and a research institute. Despite the requests made, however, the participation of local companies in the undertaking was practically nil. Incompatibility of purposes was identified as one of the main local barriers.

Municipal Natural Park Bosque da Barra: MNP Bosque da Barra is located in the Barra da Tijuca district, occupying 50 ha next to one of the two most important and busiest thruways in the area. The main companies acting in the area close to the park are construction companies, Carvalho Hosken prominent among them with its regional Peninsula project, the Barrashopping, Casashopping and Via Parque malls and Carrefour and Makro hypermarkets. There are also recreational clubs, amusement parks and restaurants very close to the park. All of these companies are potential partners for MNP Bosque da Barra. Several simple partnerships were identified that were set up in a centralized way between the manager of MNP Bosque da Barra and companies and NGOs. These partnerships combined sports, leisure and environmental education activities, thereby ensuring a good turnout of visitors during weekends. According to the park manager, some local companies have partnered with the park in organizing cultural and sports events. The counterpart to the partnership was manifested in terms of donations of cleaning materials and other items for the park in order to help with the maintenance, especially during times when there was no maintenance contract. Another important partnership reported by the manager was with the Ineptus Clã theater troupe, which has been specializing in works of an environmental education nature since 2001. The group offers eco-theater workshops and performs for free on Sundays. In exchange, the company uses the park as its headquarters and as a showcase to the public and to companies. From the reports, the existence of an enormous potential for collaboration between surrounding companies and park management was noticed. However, the number of companies which effectively engage in these partnerships is still very small. This fact is caused as much by indifference on the part of local businessmen as it is by the operational incapacity of SMAC and the manager to contact them and raise their awareness of the park.

Municipal Natural Park Bosque da Freguesia: MNP Bosque da Freguesia is located in the Freguesia district in the Jacarepaguá region. The area of forest, close to 31 ha, has been impacted by human activities almost throughout and includes many non-native species (PCMRJ, 1998). As a result of the negotiations in 1992 and the consequent donation of part of the land for the creation of Bosque da Freguesia, the businessman who owned part of the land there constructed a car dealership and a shopping mall, which abuts the park. The park manager related several problems caused by the shopping center, among them excessive noise due to a go kart track installed in the parking lot, right next to the mall, as well as the above-mentioned parties. The Rio Shopping manager is also president of the Commercial and Industrial Association of Jacarepaguá and represents this entity in the Park Advisory Council. In relation to partnerships formed during park management for the purpose of providing support to a range of leisure and ecotourism activities or participation, these are, in general, informal. According to information provided by the manager, no partnerships have been formed with companies for the purpose of recuperation and conservation of flora and fauna, but she has in mind to have areas within the park – paths, for example – adopted by companies. However the manager admits to not having autonomy for this type of partnership – the potential sponsor must be identified and the process submitted to upper management, where it will be decided and negotiated. Undoubtedly, the proactive actions of the MNP Bosque da Freguesia's search of partnerships, combined with private initiatives, seem to be the most effective among the municipal parks studied. It seems that the existence of an Advisory Council, the only one functioning among the municipal parks at the time, fostered mutual confidence as advocated by Wondoleck and Yaffee (2000) and facilitated contact with companies and enabled the formation of an informal network of park partners, something confirmed by the park manager herself.

Tijuca National Park

Tijuca National Park is Rio's most famous natural park basically due to the Christ the Redeemer statue on the top of Corcovado peak. However, the park is surrounded by dense urban area, increasing human pressure and threatens over it. The annual number of park visitors reaches one million. The park belongs to federal administration, represented by the Brazilian Institute for Environment and Natural Resources - IBAMA. In order to host the huge number of tourists, the park administration has developed a formal and multiple partnership (Wondolleck and Yaffee, 2000; Presas, 2001; Petrobras Ambiental, 2008)) with the Municipal administration, enterprises that operate at the Corcovado site and other interested companies. According to the park manager this partnership encompasses conservation and cleaning of that park site and a visitor's center operation including a parking area. Although satisfied with the partnership, the manager was revising it in order to include further demands to the companies. Another important partnership was developed in 2005 between the park and the environmental NGO "Terra Azul Institute" in order to plan and implement a two year project named "Water in Conservation Unit". This project has been financed by Brazilian largest company, Petrobras, under the umbrella of "Environmental Petrobras" Program, which has already invested approximately US\$ 70 million since 2003 in several environmental projects in the country, all of them seeking to promote consciousness about the rational use of water resources. Fortunately, the project has been renewed and is still operating after four years. For Tijuca National Park project it was adopted a systemic and integrated approach seeking to help implement a participative management (Petrobras Ambiental, 2008). Its main lines of action were: 1. Water quality monitoring; 2. Protection, management and restoration of soil and vegetation; 3. Environmental Education integrating Schools and Communities; 4. Planning and management for economic sustainability; and 5. Formation of an Advisory Council through a democratic and participative methodology applied by NGO Ibase. The first mobilization of potential members of the Council occurred in 2005 and after several meetings it officially started working in early 2007. Based on the identification of problems, conflicts, sustainable activities and potential partnerships an action plan was conceived to attract local stakeholders to the project. As a consequence of the "Water in Conservation Unit" project some important achievements were accomplished in 2005 and 2006 such as restoration of the local ecosystem (vegetation, animals and water springs) and reforestation of more than ten hectares.

Pedra Branca State Park

Pedra Branca State Park contains the world's largest urban Forest spread along its 12.500 ha. Its extension and central location in the city creates borders with 17 districts of Rio, some of them growing at fast pace towards the park limits. The agency responsible for planning and managing the park is the State Forest Institute (IEF) which delegates local functions to the park manager and its team. The main threat to the park ecosystem comes from six mining companies that illegally extract stones from the park, since SNUC Law does not allow the direct use or extraction of natural parks resources. They are being prosecuted, but three of them keep expanding their operations. Based on SNUC Law, recent funding mechanisms were created for state parks to maintain their infrastructure ecosystems. One of them is the Conduct Adjustment Term (TAC) through which any company, having caused damage to the state, might compensate for it by ceasing the damage and paying a fine that may be applied directly on any conservation unit. Pedra Branca had already benefited from TAC receiving a US\$ 2 million compensation from Company Eletrobolt from 2001 till 2003. The amount was invested in the park by means of a multiple partnership formed by IEF, Roberto Marinho Foundation, Enron and NGO WWF-Brasil. The main objectives were to revitalize the park main attractions, rescue the environmental and cultural values and preserve the park ecosystem. The infrastructure works were accomplished but WWFBrasil failed to develop the Park Management and Ecotourism Plans, due to the fact that its headquarters were located in Brasilia, creating a series of operational and structural difficulties that acted as barriers to collaboration, as identified by Wondolleck and Yaffee (2000). Nevertheless, the partnership was partially successful in restoring the Park main site and making it possible to initiate environmental education activities inside it. This partnership was still operational at the end of this research.

CROSS CASE ANALYSIS AND CONCLUSIONS

The situation regarding the majority of municipal parks is troublesome with respect to the objective of recuperating and conserving their ecosystems, as had already been noted in the Municipal Audit Court in 2005 (TCMRJ, 2005). The persistent lack of financial and human resources, combined with excessive bureaucracy for new contract tenders or renewal of existing contracts makes the efficient management of municipal parks

excessively difficult. Common to almost all of the municipal parks studied were complaints by businessmen predisposed to collaborate regarding an apparent lack of interest or excessive bureaucracy on the part of government central agency to approve partnerships. With few exceptions, partnerships with private companies are ad hoc and decentralized affairs, usually amounting to providing park managers with supplies or minor repairs to infrastructure – yet always on a reactive basis. However, this does not occur in a consistent way, since it depends on the initiative of the managers themselves, the quality of their communications with the community, and their degree of familiarity with environmental problems (since some of the municipal managers are not specialists in this area). On the other hand, the experience with the adoption of Prof. Mello Barreto Park is very promising and shows a new path to be followed in order to include private or public companies in the sustainable management of natural parks. Both federal and state parks here studied also present a partnership pattern better tuned with modern trends in managing natural parks in a participative and professional way. Another aspect common to all seven cases is the extremely low utilization of the enormous ecotourism potential of municipal parks through partnerships with the private sector.

In relation to which collaborative strategies are used by the responsible agencies and by the seven park managers to attain the SNUC objectives, it was seen that, with the exception of the cases of Tijuca National Park and Pedra Branca State Park, where multiple partnerships were formed, and MNP Professor Mello Barreto, where a permanent simple partnership was implemented, all of them in a centralized way, in the remaining cases collaborative strategies are almost always decided upon in a decentralized/ad hoc way by the parks' own managers. In general, the simple partnerships formed are intended to supply the manager with small infrastructure repairs and supplies or to organize events of a recreational or educational nature. This kind of strategy is reported as very common by Wondolleck and Yaffee (2000) and Presas (2001). As a function of the reports, interviews and observation, it is understood that the lack of human resources, in both the central agencies as well as in the parks, slows down the decision-making processes, except for Tijuca National Park. On the other hand, the existing bureaucratic mechanisms in the government level impede the search for more flexible management instruments. And when such instruments do exist, there lacks the personnel to implement them, making a vicious circle. The bureaucracy and the cultural differences between government and private companies constitute barriers to collaboration, as identified by Wondolleck and Yaffee (2000). In this sense, Tijuca National Park appears as the successful model to be copied. This is due to its partnership with an environmental NGO supported by a large public company that led to the implementation of a series of infrastructural improvements as well as the establishment of a democratic and fully participative advisory council. A more sophisticated form of partnership should be studied and should include ecotourism, underexploited in all parks of the sample. In relation to the attitudes of the companies vis-à-vis park management and partnerships, an ambiguous attitude can be discerned in the business community. Such ambiguity ranges from a serious commitment to the concept of park conservation to utterly criminal responsibility, threatening the very parks themselves, a point confirmed in the literature (Richers, 2000, Barbieri, 2004). But perhaps the most common attitude is indifference to the issue, an attitude which points to the need for a centralized strategy for promoting the nature parks and their importance to the Rio de Janeiro business community. In relation to the strategic configuration resulting from the interaction between companies and park managements, this has varied from full cooperation (MNP Mello Barreto, Tijuca National Park and Pedra Branca State Park) to more or less continuous partial collaborations (MNP Bosque da Freguesia and MNP Bosque da Barra) or non-collaboration (MNP Chico Mendes and MNP Marapendi) – partly due to the difficulties of businessmen in dealing with the government's bureaucracy – and partly due to their own lack of awareness.

As another common point to most parks in Rio is that their financial resources are few. But, perhaps, more importantly, they lack personnel. On the other hand, since many of the parks are highly visible to the population, there is a greater possibility for them to be the object of partnerships with local companies or NGOs. We strongly recommend a broadening of the strategy of adoption and the search for partners with Civil Society Organizations in the Public Interest - OSCIPs. Also, the search for partners across other spheres of government could help to strengthen the position of governmental agencies in negotiations with companies. At the same time, for the management of the parks to be successful we recommend that the collaborative strategies with companies be based on a combination of environmental education with ecotourism and recreation, following successful cases reported by several authors mentioned above.

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AN EXAMINATION OF A FIRM-LEVEL MODEL OF GREEN MARKETING STRATEGIES

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ABSTRACT

Businesses are increasingly concerned with their strategic options in effectively meeting the challenges of a global environmental crisis. Marketers, in particular, are addressing these issues by formulating product and marketing messages (i.e., green marketing strategies) that communicate their responses to the environmental dilemma. In response to this challenge, this paper presents the findings of an exploration of the Ginsberg and Bloom Matrix Model of Green Marketing. Based on a global sample of online postings of professional marketers, the research reveals that the online discussions of marketers fit or match three of the four strategic categories proposed by the Ginsberg and Bloom Model.

INTRODUCTION

Concurrent with a nearly global economic crisis, businesses are also facing global environmental issues created by excessive and unsustainable consumption and a disregard for the global environment. For their own benefit, as well as in response to a sense of their social responsibility, marketers from all over the world are increasingly responding by exploring their options in search of suitable *Green Marketing* strategies (Marketingcharts.com 2008).

Apropos to this crisis, Ginsberg and Bloom (2004) have proposed a matrix of green marketing strategies that provide a typology of how firms may differ in terms of the degree and nature of their embracing green marketing. More specifically, their typology is based on high and low differentiability on greenness, as well as high and low substantiality of green market segments. Inspired by Ginsberg's and Bloom's Green Marketing Strategy Matrix, our research sets out to examine whether their Matrix model accommodates and/or represents the current or proposed green-related marketing strategies or commitments of businesses.

In terms of organization, we will first present a brief review of the green marketing strategy literature. Second, we will set out and discuss our research methodology and procedure. Next, we will present and discussion our findings. We will end the paper with conclusions focusing on the examination of the marketing and global managerial implications of our research.

LITERATURE REVIEW

While it is unrealistic that all firms would achieve a competitive advantage by implementing a green marketing strategy; it is nevertheless realistic, that some firms will elect to be entirely dedicated to being "better corporate citizens," by "silently" implementing a strong internal green or environmental business policies, *without* incorporating this strategy as part of their consumer marketing communications strategy. They might rightfully be convinced that some other positioning strategy (e.g., "high value for the price") might better differentiate their products and services within the minds of their target consumers. Along these lines, Reinhardt (1998) suggests that external contingencies, such as the structure of the industry and characteristics of the market, as well as the nature and scope of competition will contribute to whether a firm can be successful with a green marketing

strategy. Similarly, Ginsberg and Bloom (2004) suggest that the size of the market and the ability to differentiate based on aspects of being green determine a company's success with green marketing. Furthermore, a firm needs to take into account its own resources and capabilities in order to gain competitive advantages from a green marketing strategy (Christmann 2000).

The Ginsberg and Bloom Matrix of Green Marketing Strategies

Ginsberg and Bloom (2004) suggest (but do not test) a matrix of four types of Green Marketing Strategies. These strategies vary by the size of the firm's green consumer segment and the ability to differentiate their products/services based on green strategy.

The four types of firms in the Ginsberg and Bloom Green Marketing Strategies Matrix are outlined in Table 1. They point out that firms must ask themselves questions about the sustainability of the market, as well as whether the brand can and/or should be differentiated based on in terms of a specific green strategy before deciding on their level of commitment to green marketing. To this end, Extreme Green firms fully integrate environmental issues into the business and its product life-cycle processes. Still further, being green is seen as a major driving force behind the company; a force that is sometimes emanating from the founder of the business. Moreover, it can be said that companies that are Extreme Green are passionate about their "greenness." In contrast, Ginsberg and Bloom (2004) envision Shaded Green firms that "invest long-term, in system-wide, environmentally friendly processes that require a substantial financial and non-financial commitment." Although they can differentiate themselves in terms of a green strategy, they choose **not** to because they expect that they can be more successful stressing other product benefits. Defensive Green firms begin greening their position as a precaution or a response to government, competitors, or a crisis. Finally, Lean Green firms are aiming to be good corporate citizens by being green; however, they are reluctant to publicize their greenness for fear of being held to a standard that they are not going to be able to achieve.

In recent research, Wong (2008) applied the Ginsberg and Bloom matrix to a case study of a software firm and recommends that the firm implement a Defensive Green strategy. Inspired by the Ginsberg and Bloom (2004) Green Strategy Matrix, our goal is to examine and further delineate characteristics of these four types of firms. Moreover, we seek to determine whether marketing strategists are examining their own commitment to green, and if their marketing strategy choices can place them into one of the four matrix cells.

RESEARCH METHOD

We sought to identify an online forum or discussion group where marketing practitioners talk to each other on a variety of strategic topics, including their green marketing strategy. As a source of researchable insight from marketing practitioners, it is reasonable to assume that forums and discussion groups provide advantages to researchers over other forms of computer mediated communication (e.g., email and chat rooms). In particular, we anticipated that online forums and discussion groups, where marketing strategists come together to examine aspects of their marketing challenges would provide us with a great deal of available and preserved material to analyze, for it is common that such postings are archived for days, weeks, months and even indefinitely (e.g., Ridings and Gefen, 2004; Nelson and Otnes, 2005; Tsang and Zhou, 2004). Given these characteristics, we elected to review and analyze message board posts. Our research method follows, in part, the convention of Netnography (Kozinets, 2002) that was utilized in previous qualitative message board research (e.g., Nelson and Otnes, 2005; Schiffman, Cohn and Sherman, 2006). In particular, we employed a systematic content analysis framework that stresses recurring themes and issues. Furthermore, this method is an unobtrusive, passive observation method, making it unnecessary to notify and obtain consent from the participants (Gavin, Rodham, and Poyer, 2008).

Selecting Data Source and Collecting Our Sample

First, we sought to identify an appropriate marketing practitioner forum or Web site. After a search and a systematic examination of the content of various marketing practitioner discussion groups or forums, we decided on the "MarketingProfs" (<http://www.marketingprofs.com>). It is important to note that MarketingProfs is a reference to "Marketing Professionals," and **not** "Marketing Professors," as the name could be confusing. It was

our sense that the MarketingProfs range of discussion of green marketing would make this site a suitable option for our investigation.

In terms of its profile, the MarketingProfs website had 3,164 members from across the world listed in the membership directory. Furthermore, the MarketingProfs media kit suggests that there are more than 300,000 marketing professionals who visit the website. Still further, the media kit breaks down the international reach with 71 percent of the readers in North America, 10 percent in Asia, 9 percent in Europe, 6 percent in Australia and New Zealand, and 4 percent listed as "other." We have found on this forum a rich discussion about green marketing strategies. We sought to unobtrusively examine these discussions in order to identify and classify marketers and their thoughts and actions in terms of Ginsberg's and Bloom's (2004) Green Marketing Strategy Matrix.

After deciding on the Marketing Profs site we set out to develop our procedure for capturing and analyzing our data (i.e., relevant posts) from the MarketingProfs forum. More specifically, our first step was to identify all discussion topics or postings that dealt with "green marketing." We used the Google search tools in the MarketingProfs forum. We chose the key term "green" for our search. On November 17, 2009, the search returned 411 results. We examined the 411 hits for relevancy to our question. We determined that 116 threads were relevant. In these threads there are a total of 1,152 postings included in the qualitative data set. The discussion forum was launched in January 2004. In terms of the date range of the data, the first relevant post is dated May 3, 2004 and the most current post is dated November 17, 2008.

FINDINGS

Our systematic examination of the compiled threads on green marketing reveals that marketers can usefully be classified into Ginsberg's and Bloom's (2004) Marketing Strategy Matrix. The following is a discussion of the green strategy categories and corresponding verbatim examples in the form of contributing marketers' posts, and a designation of the particular cells of the Ginsberg and Bloom (2004) model that is being illustrated.

Extreme Green

As stated above, Extreme Green companies are passionate about their green positioning. They often start out with a green vision that they infuse into all aspects of their marketing strategy. The following two verbatims from a PVC manufacturer and a store that sell used children's clothing were chosen to illustrate this category from the pool of marketers' responses in the database:

As a manufacturer of...flexible PVC we are looking for a "green" tag line. It seems like an oxymoron since PVC companies have such a poor reputation but as a company we truly do care about the environment.

I am opening a children's clothing store. All the items are slightly used, but I want to incorporate the whole REDUCE, REUSE, RECYCLE. My store is very "GREEN".

I need to come up with a name that introduces the kids, slightly used clothing, helping the environment with the whole "REDUCE, REUSE, RECYCLE."

Both of these marketers can be classified as Extreme Green because green is explicitly and fully integrated into their business vision. In the case of the PVC manufacturer, the poster implies that the firm has always been green. In contrast, the retail clothing marketer is green; in fact, green from the start, and she is passionate about her green position.

It is interesting to note that not all the marketers' postings agreed that the woman starting the green clothing store should promote the business in terms of a green strategy. For instance, one poster suggested that she should focus on the core benefit (i.e., savings) and keep green in background and therefore following a Shaded Green Strategy:

I don't know how to tell you this, but most people put in the position of having to buy even slightly used children's clothing couldn't care less about how doing so might slightly and coincidentally save the environment...My suggestion: Focus on building your resale business and let others take care of the environment.

Another response, agrees, when he/she suggests:

Promise and deliver against the primary benefit and let the secondary benefit just "be there."

As these two responses suggests, the used children's clothing retailer might be more profitable adopting a Shaded Green strategy for her new business. In contrast, another poster recommended that she should stay with her Extreme Green Strategy choice:

People do buy recycled clothes because of reuse. There are many—MANY people striving toward zero or lessened waste. Don't let anyone tell you otherwise.

Are there really "many many" consumers who are making consumption choices based on environmental concerns? As an Extreme Green marketer, this clothing store, as suggested by Ginsberg and Bloom (2004) would be appealing to a niche market of consumers who are "*striving toward zero or lessened waste*".

Shaded Green

As already defined, Shaded Green firms actively pursue and are committed to comprehensive environmentally friendly policies; however, they elect to use a business positioning strategy that stresses customer benefits other than their comment to the environment.

The following posting represents the thinking of Shaded Green strategy:

I started a new real estate company in February. Our name is Cascadia Homes. We are in Portland, Oregon. We like to work with people who share our progressive or green (eco-friendly) values. We want them to recognize themselves in our tagline, to say, "oh--their talking about me." I probably don't want to use the word "green" in the tagline, because some people don't understand it. We have lots of experience and we are very good listeners. We are never pushy and pride ourselves on following the client's lead in terms of timing and process. We give a percentage of every dollar earned to progressive organizations, like Friends of Trees, KBOO Community Radio, Oregon Natural Resources Council, the Human Rights Coalition, etc. We feel that building a relationship and rapport with our clients based on mutual respect and shared values means the client will have a better experience and better results. And we and the client will both enjoy the process more. We frequently work with urban clients who love city life, and they often prefer older homes with character. We also like to work with newer homes if they have charm or beautiful settings. We also would like to link up soon with a green builder whose homes we could list and sell. Our clients like bicycles, gardening, recycling, etc. They are offended by aggressive or obvious sales techniques.

We do a newsletter that is mostly about community events, arts, music, with a little bit of real estate news and information thrown in. We need a name for the newsletter, as well as a new tagline for the company.

Although it was suggested that company's executives viewed the company as green (e.g., working with green builders, giving money to green charities), they did not want a tag line that used the word "green." One suggestion for their newsletter was, '*The Neighbourly News.*' They are shaded green because they are green, but their promotional efforts will not stress green.

Defensive Green

While intuitively, we are quite certain that a good number of firms follow a Defensive Green strategy; that is, they elect a greening positioning strategy as a safety measure or safeguard against actual or potential response to government, competitors, or a crisis. Nevertheless, the current database failed to reveal any examples of firms following this strategy. We expect that a likely explanation for the failure to identify any examples corresponding to the Defensive Green strategy in our database of postings is that posters are unintentionally

failing to describe their proposed green strategies as **temporary in nature**---which is a defining characteristic of a Defensive Green strategy. Instead, they are leaving the inappropriate conclusion that they are proposing a dedicated and sustainable long-run strategy. Following this line of thinking, it is reasonable to imagine that some other research methodologies, such as cases histories, or focus groups would provide more insights about Defensive Green strategies.

Lean Green

The fourth and final green strategy that is part of the Ginsberg and Bloom model is the Lean Green strategy. Firms that adopt this strategy are aiming to be good corporate citizens by being green to a limited degree, or in a specialized domain, of their business activities. An example of a Lean Green strategy follows:

We are working with a client that manufactures collapsible, reusable shipping crates designed as an alternative to traditional, one-way shipping systems. The crates are made of wood and each is customized to the customer's specifications (whether they order 1 or 500)...Features and benefits of the product include: Reusable – financial and labor savings.

This marketer is looking for a tag line and marketers suggest a green promotion because the crates are reusable. The shipping crate manufacturer responds that they do not want to focus on a green promotion:

I'd explore the environmental angle a bit more. Aside from those benefits you mentioned... being "GREEN" is obviously something that their marketers have found to be a talking point and others might take note...An additional selling point to that marketing concept is that it gives whoever buys the product 'green bragging rights'. Value added... You might also tell customers that you will include them in your press releases about who is shipping green these days, and let them display some sort of "We're GREEN" seal of greenness. It could be quite a marketing coup to have the buyers actually advertising for their suppliers.

The response from the shipping crate marketer about the green idea:

We actually mention the fact that it is recyclable in the marketing materials. However, (we)... did not think this was a major selling point and none of the customers mentioned it as a benefit...I think the...product strengths lie in customization, easy of use and labor/space savings...

Although the marketer could create a green promotion, the major benefits of the shipping crates are that they are cost effective and efficient. As suggested, marketers that are good corporate citizens (e.g., market a reusable product) but choose to focus their promotion on their cost savings and efficiencies (which may stem from a greener product) are classified as Lean Green. This firm is just one example of the many that we found evidence of choosing a lean green marketing strategy.

CONCLUSIONS AND FUTURE RESEARCH

This paper represents an effort to empirically examine whether each of the cells in the Ginsberg and Bloom Matrix Model of Green Marketing exist in the world of business practice. In this paper we have considered all postings on the marketingprofs.com discussion forum dealing with the topic of *green marketing* (corresponding to the beginning of the forum in 2004 until November 17, 2008, when we stopped the data collection phase of the research). The postings on green marketing collected during the specified period served as the data to examine whether or not the Ginsberg and Bloom Matrix Model of Green Strategies could be empirically substantiated. The research revealed that the postings of both established and new or start-up business executives indicate that there are participants who are currently following or are interested in evolving green marketing strategies that correspond to three of the four cells of the Ginsberg and Bloom Matrix Model of Green Marketing. The exception is the Defensive Green strategy. In the case of the Defensive Green strategy, none of the postings seem to adequately substantiate the occurrence of this green strategy. It is our feeling that in the case of this particular strategy, it would be necessary for posters to explicitly state their motive for the strategy (i.e., as a safeguard or response to government, competitors or a crisis), rather than “simply” describing the elements or nature of the green strategy (e.g., establish the firm's green orientation, or to be green, or some other green orientation). However, although the postings do not reveal a Defensive Green strategy, we are

nevertheless quite confident that this strategic option exists; and that some other research gathering approach (e.g., surveys or focus group research, in-depth case histories), would reveal applications of the Defensive Green strategy.

Overall, the findings are encouraging. First, the results suggest that additional research is needed to ascertain whether the current findings can be replicated. Second, it would be important to extend the current research by identifying any additional green marketing orientations that build-on the Ginsberg and Bloom model. As we see it, additional research should, in part, consider more “micro” issues of how business executives evaluate the options of green vs. non-green strategies, as well as two or more alternative green strategies. We need to know more about the motivations of business executives when it comes to embracing one particular green policy over other green policies. As part of such research, we also imagine examining when a particular green strategy comes from inside the firm (e.g., the conviction of top management), and when it comes from outside the firm (e.g., pressure from the marketplace that want greener options). As already touched on, we also see the need to expand the study to use a wider range of research methodologies; including surveys, depth interviews and focus groups, experimentation, and a systematic approach to capturing in-depth insights by preparing case studies. Still further, it has been suggested that green marketing strategy employs these marketing mix variables: (1) green product design, (2) distribution with green criteria, (3) pricing of green products; and (4) green publicity and green sponsoring (Rivera-Camino 2007). Our findings indicate that marketers are concerned with these marketing mix variables and seek advice on how to implement green strategies within each of these variables either individually or as a whole. Future research can examine ways in which the Green Four P’s are developed by marketers in each of the cells of Ginsberg’s and Bloom’s (2004) Green Marketing Strategy Matrix.

Finally, it is our expectation that such a systematic approach to examining firms’ consideration of and employment of green marketing strategies will provide important new insights as to how to encourage businesses to identify and adopt appropriate green strategies.

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Table 1
The Green Marketing Strategy Matrix
Adapted from Ginsberg and Bloom (2004)

		Differentiability on Greenness	
		Low	High
Substantiality of Green Markets	High	<p>Defensive Green</p> <ul style="list-style-type: none"> <input type="checkbox"/> Green marketing is precautionary <input type="checkbox"/> Enhance brand image and mitigate damage <input type="checkbox"/> Green marketing is sincere and sustained <input type="checkbox"/> Efforts to promote green are sporadic and temporary 	<p>Extreme Green</p> <ul style="list-style-type: none"> <input type="checkbox"/> Green is fully integrated into business <input type="checkbox"/> A major driving force since day one <input type="checkbox"/> Niche markets <input type="checkbox"/> Specialty store <input type="checkbox"/> Green promotion
	Low	<p>Lean Green</p> <ul style="list-style-type: none"> <input type="checkbox"/> Good corporate citizens <input type="checkbox"/> Do not promote green efforts <input type="checkbox"/> Focus on reducing costs and improving efficiencies <input type="checkbox"/> Lower cost competitive advantage 	<p>Shaded Green</p> <ul style="list-style-type: none"> <input type="checkbox"/> Invest in long-term processes <input type="checkbox"/> Financial and non-financial commitment <input type="checkbox"/> Green competitive advantage <input type="checkbox"/> Stress other attributes and do not differentiate based on green <input type="checkbox"/> Mainstream channels

Source: This table was prepared by the current authors from information gleaned from: Meredith Jill Ginsberg and Paul Bloom (2004), "Choosing the Right Green-Marketing Strategy," *MIT Sloan Management Review*, 46 (October), 79-84.

DIRECT AND INDIRECT EFFECTS OF BRAND KNOWLEDGE ON PURCHASE PREFERENCES: A CASE IN DÜZCE

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ABSTRACT

Today's 'companies' are competing with their brand rather than their products in the light of understanding of global marketing. Here, the term "brand" is used because the product gains its meaning together with the brand. Product is considered with its name, logo, identity and image, a slogan which displays its difference and company's reputation. The existence of each part of this inseparable whole is based on a long term strategical decision. So we can say that, brand is a formation and all necessary equipment must be ready in company to build it.

When we look at the consumer's side of the concept "brand", it can be argued that whatever a company explains about itself is just what a consumer can understand. Perceptions which are mainly based on human psychology but differ according to the age, education, career, region, hobbies and culture of an individual make brands change according to target consumers.

In this study, the effect of brand knowledge on consumer preferences in the direction of consumers perception of brand. It is shown that to what extent brand image, its subcomponents and brand awareness which are components of brand knowledge have an effect on brand trust and brand satisfaction and moreover it shows that to what extent these elements have an effect on preferences.

In this study the sample is composed of 400 consumers who live in Düzce and are chosen by random sampling method. In the research of a group of people who wears sport shoes. Adidas is handed as the most known brand from this product group by pre-testing with 50 people in Düzce. In the study, SPSS 15.0 and AMOS 7.0 programs are used to bring out the effects of brand knowledge on preferences.

INTRODUCTION

A product is a whole with its name, logo, specific identity and image, its slogan which demonstrates its uniqueness and the reputation of the enterprise. Each part that constitutes a whole requires strategic decisions that are planned over the long period. One of these decisions is brand. Brand is a promise of differentiating a product from a competitor product and provide a guarantee to the consumer about certain characteristics, decisions and continuous quality. Brand is a vague symbol and formation (Kotler, 2000:404). Elements of brand knowledge comprise of two main pieces, brand awareness and brand image. Brand Awareness is the existence of the name of the brand during brand perception in the short-termed memory and the process of retrieving such memory (automatic/assisted remembering) and transfer of such knowledge from long-termed memory to short-termed memory (Franzen, 2005: 49) Whereas this awareness provides a supportive competitive differentiation, in some cases this has a long-run remembrance of the brand and a dimension of proximity (Aaker, 1995: 2008). Brand Image is the perception of the brand involving all identifying elements such as persons, emotions and associations formed in the memory. As a result of experienced lived directly or indirectly linked to the brand these perceptions occur over time (Perry and Wisnom, 2003:15). Brand image undertakes a significant role in the market where it is hard to create service or product awareness depending on the physical quality

characteristics (Cretu et al., 2005). Brand image comprises of the perceived quality, perceived price, brand identity, symbolic and functional characteristics and attitudes of consumers against the brand (Aaker et al, 1992: 204).

As a result of the awareness and image of the elements of reliability and satisfaction arise in from consumers brand. Trust to the brand is the guarantee expectation of the consumers. Brand satisfaction inclines makes the consumers, who is satisfied from the brand he/she used, inclined to purchase the brand again.

Brand loyalty and the long time brand success depends the number of customers who purchase the brand regularly not on the number of customers that purchase the brand for the first time, (Jacoby and Chestnur, 1978: 149). Attitudes towards the brand is a general assessment of the consumers towards the brand and a view of the brand as the main target of impressive communication efforts. The concept of attitude, which is directly related to marketing communication, advertising in particular, is a broad and abstract interpretation and a brief assessment related to cognitive, emotional and behavioral elements (Engel and Others, 1995: 83). Three types of assessment could be mentioned of in the minds of the consumers. One of these is the emotional reaction that expresses the emotional orientation towards the brand. The second is the cognitive assessment which comprises of beliefs and derivations about the brand. The third is the, behavioral intention that defined together with habits (Cretu et al. 2005: 3).

Consumers develop an attitude towards the brand based on, inter alia, brand awareness and brand image. Consumers assess and use the brands and products by taking into account the experiences they have obtained from the brands throughout their lives, and this creates an attitude towards the brand.

Briefly, brand knowledge comprises of the union of brand awareness and brand image elements. Knowing the brand recalls the brand name when encountered with any of is elements (logo, slogan, quality, price, identity..).

LITERATURE, METHOD AND IMPLEMENTATION

Author	Place and Date	Product	Subject	Method	Hypothesis (→: Impact)	Results
Anca E. Cretu and Roderick J. Brodie	New Zealand 03.08.2005	Shampoo Producer Brands and Hair Coiffeur Brands	All impacts of enterprise reputation from product markets to small firms.	Face to Face Survey	Brand Image → Perceived Quality	Accepted
					Brand Image → Consumer Value	Rejected
					Brand Image → Consumer Loyalty	Rejected
					Enterprise Reputation → Perceived Quality	Rejected
					Enterprise Reputation → Consumer Value	Accepted
					Enterprise Reputation → Consumer Loyalty	Accepted
					Perceived Quality → Consumer Value	Accepted
					Price and Cost → Consumer Value	Accepted
					Consumer Value → Consumer Loyalty	Accepted
Haemoun Oh	U.S.A. 07.11.1999	Hotel brands	Impacts of Brand Class, Brand Awareness and Price on Consumer Value and behavioral intentions	Face to Face Survey	Perceived Brand Class → Perceived Quality	Accepted
					Perceived Brand Awareness → Perceived Quality	Accepted
					Price → Perceived Quality	Accepted
					Price → Price Promotions	Accepted
					Brand Awareness → Price Promosyonlen	Accepted
					Perceived Quality → Price Promosyonlen	Accepted
					Perceived Quality → Perceived Value	Accepted
					Price → Perceived Value	Accepted
					Price Promotions → Perceived Value	Accepted
					Consumer Value → Purchasing Intent	Accepted
					Consumer Value → Searching Intent	Accepted
					Brand Class → Price Promotions	Rejected
					Brand Awareness → Consumer Value	Rejected
					Brand Category → Consumer Value	Rejected

Angel F. Villarejo, Mamel J. Sanchez	Australia 05.08.2005	Dish Washer Brands	Impacts of Marketing Communication and Price Promotion on Brand Value	Face to Face Survey	Perceived Advertisement Expenditures → Brand Value	Accepted
					Price → Brand Value	Accepted
					Perceived Advertisement Expenditures → Perceived Quality	Accepted
					Perceived Advertisement Expenditures → Brand Loyalty	Accepted
					Perceived Advertisement Expenditures → Brand Awareness	Accepted
					Perceived Advertisement Expenditures → Brand Image	Rejected
					Price → Perceived Quality	Accepted
					Price → Brand Image	Rejected
					Brand Awareness → Brand Image	Accepted
Ravi Pappu and Pascale Quester	Australia 01.11.2006	Multi-Storey Shops and Special Product Shops	Impact of consumer satisfaction on development of Consumer Value	Face to Face Survey	Brand Satisfaction → Brand Awareness	Accepted
					Brand Satisfaction → Perceived Quality	Accepted
					Brand Satisfaction → Brand Relations	Accepted
Emma K. Macdonald and Byron M. Sharp	Australia 05.11.2000	Orane Liquor Brands	Impact of Brand Awareness on consumer purchasing decisions	Test Retest Method	Price → Brand Preference	Accepted
					Perceived Quality → Brand Preference	Accepted
					Brand Awareness → Brand Preference	Accepted
					Brand Awareness → Perceived Quality	Accepted
Franz Rudolf Esch, Tobias Langner, H. Bernd Schmitt and Patrick Geus	Germany 15.02.2006	Sneakers and Chocolate Brands	Impacts of brand knowledge on current and Future Purchase preferences	Face to Face Survey	Brand Awareness → Brand Image	Accepted
					Brand Awareness → Current Purchasing	Accepted
					Brand Image → Current Purchasing	Accepted
					Brand Awareness → Future Purchase	Rejected
					Brand Image → Future Purchase	Rejected
					Brand Awareness → Brand Satisfaction	Rejected
					Brand Awareness → Brand Reliability	Rejected
					Brand Image → Brand Satisfaction	Accepted
					Brand Image → Brand Reliability	Accepted
					Brand Satisfaction → Brand Matching	Accepted
					Brand Reliability → Brand Matching	Accepted
					Brand Matching → Current Purchasing	Accepted
					Brand Matching → Future Purchase	Accepted
Current Purchasing → Future Purchase	Accepted					

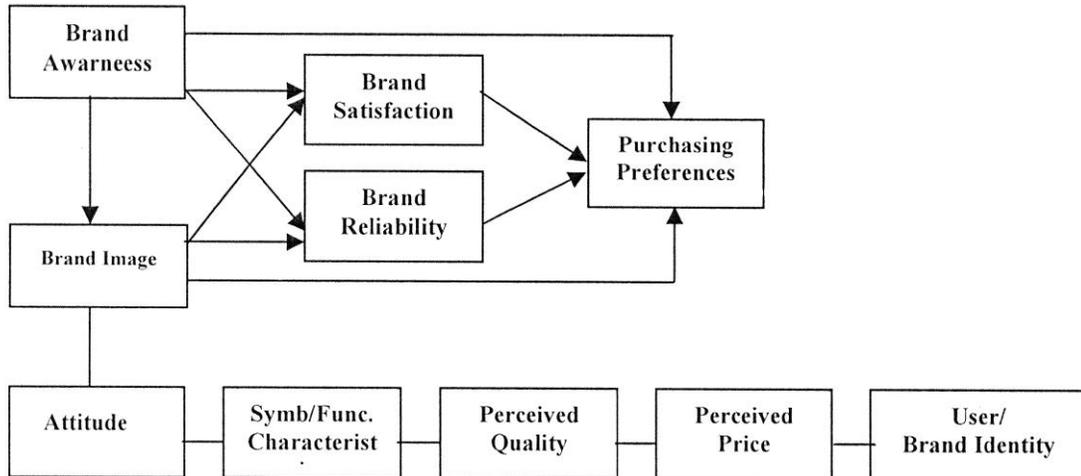
IMPLEMENTATION

Brand has undertaken a significant role in the life of enterprises in terms of enabling them to survive under the strict competitive environment brought by changing economies. This study deals with the sneaker products as the scope of the research. The study tried to emphasize the points of view of consumers towards brand knowledge elements, brand reliability and brand satisfaction elements, namely their perceptions towards sneakers, and to identify which of these factor is more effective and to what extent important in the preferences for sneakers. From this, a brand knowledge and brand relationship model has been created. It has been assumed that brand knowledge is more impressive in purchasing preferences.

The purpose of the study is to investigate degrees of direct and indirect impact of brand image and brand awareness on brand preferences, which have been demonstrated in previous studies as brand knowledge elements, and to create a model by demonstrating the perceptions of consumers towards brand reliability and brand satisfactions which are affected from brand knowledge elements as well as sub-elements of brand image such as brand identity, brand attitude, perceived quality, perceived price and symbolic characteristics.

The significance of this study is presenting the issues to be focused on in terms of consumer perceptions in creating awareness and brand image for the enterprises under the light of new data obtained, and to assist the enterprises in their strategic decisions by showing them the direct and indirect ways of being impressive in order to be a preferred brand. The main target comprises of individuals residing in Duzce, a province that located in the north-west part of Turkey.

Study Model



Main Problem

What is the direct and indirect impact of brand knowledge on purchasing preferences?

Sub-Problems

- H1:**Brand Awareness is effective on Brand Image .
- H2:**Brand Awareness is effective on Brand Preference .
- H3:**Brand Image is effective on Brand Preference .
- H4:**Brand Awareness is effective on Brand Reliability .
- H5:**Brand Image is effective on Brand Reliability .
- H6:**Brand Awareness is effective on Brand Satisfaction.
- H7:**Brand Image is effective on Brand Satisfaction.
- H8:**Brand Satisfaction is effective on Brand Preference .
- H9:**Brand Reliability is effective on Brand Preference.

Before testing hypotheses using maximum probability method in AMOS program, frequency charts are formed regarding the demographic characteristics of respondents who participated in our survey. The existing factors are also analyzed in order to establish a healthier model.

METHOD

The survey has been carried out through face-to-face survey method carried out with 400 people living in Duzce. All survey questions comprises of brand knowledge elements that are effective on the brand preference of consumers, and the close ended questions demonstrating the perception impacts of brand reliability and brand satisfaction elements which are influenced by these elements.

This study, which aims to develop a model by demonstrating direct and indirect impacts of brand knowledge elements (brand awareness and brand image) on brand preference, involves a small pre-test work. "Adidas"

which is accepted to be the best well-known brand as a result of pre-test survey is considered as the brand name in the next main study.

Maximum probability method is applied under AMOS program in order to demonstrate what kind of way the brand knowledge elements follow in product purchasing preferences of consumers. Factor analysis has been implemented in SPSS program in order to create a correct model for AMOS application, and factors of the research model are determined.

FINDINGS

Factors that are effective on brand preference are listed under eight titles. These are brand knowledge factors (brand image and brand awareness), brand image factor satisfaction, user/brand identity, attitudes, awareness, symbolic and functional characteristics, reliability, perceived quality, perceived price and brand reliability and brand satisfaction factors. There are 21 questions about these factors; Cronbach Alpha reliability test has been applied in the study. According to the result of this test, the reliability of data was found at a high value such as 0,80.

One by one reliability and covariance of factors are as follows:

Table 1: Factor Reliabilities and Covariance Matrix

FACTOR	ALPHA	ATTIT.	PER.Q UAL.	PER.PRICE	IDENT.	RELIA.	AWARE.	S. / F. CHAR.	SATIS.
ATT	0,67	0,629							
PER.QUALITY	0,52	0,337	0,841						
PER.PRICE	0,56	0,086	0,028	0,454					
IDENTITY	0,78	0,188	0,056	0,099	0,815				
RELIABILITY	0,66	0,158	0,038	0,075	0,189	0,905			
AWARENESS	0,62	7,695	1,627	3,045	7,363	5,574	963,317		
SYM. / FUNC									
CHAR.	0,76	1,632	0,088	0,336	1,297	1,76	47,481	24,702	
SATIS	0,82	1,576	0,66	0,487	1,043	1,809	56,187	16,869	30,053

In order to implement the factor analysis, the adequacy of the sample should be measured. KMO Barlett's test has been applied to measure the sample adequacy. The result of KMO 0,82 Barlett's test is 0,000.

The following elements accrued as a result of factor analysis:

Satisfaction factor: This expresses the satisfaction that consumers feel against their expectations from the brand they purchase.

User/ Brand Identity Factor: Each brand has a unique identity. Consumers have some accusations against the brands within their own mental perceptions and this places the brand in a position in the mind of the consumer. Consumers decide on whether the brand is suitable for them or not according to this brand identity they perceived.

Attitude Factor: This is the first preference of consumers against a brand, which is related to what they think about that brand.

Awareness Factor: This is explained by the ability of the consumers to remember the brand when they see the logo or slogan of that brand or to differentiate this brand from other brands.

Symbolic /Functional Characteristics Factor: Each brand has some functional characteristics presented to the consumer. When we consider the sneakers product group, characteristics such as the footbed of the sneakers being in good condition orthopedically, having ventilation holes against sweating of the feet etc. are considered

as functional factors. Using the brand sneakers by providing a unique image, social class or prestige to the consumer constitutes symbolic characteristics.

Reliability Factor: This is explained by the facts that consumers find the relevant brand in any place they go or every shop they visit, and that they show that the price of the product will be the same everywhere.

Perceived Quality Factor: Quality is expressed as satisfying needs and desires of consumers in line with their requirements.

Perceived Price Factor: Price perception is a factor that changes depending upon the income level of consumers or the importance they feel about quality. Price of each brand is assessed by consumers as being worth or not worth the characteristics it presents.

Factor loads of questions asked in factor analysis and under which factor these loads are complied are explained below:

QUESTION	FACTOR							
	SATIS.	C/B IDENTITY	ATTITU DE	AWAREN ESS	S./F. CHAR.	RELIABIL ITY	PER. QUALITY	PER. PRICE
This brands satisfies all of my expectations functionally	0,796507							
I recommend this brand to people around me	0,785241							
This brand satisfies customer expectations all the times	0,691615							
People tend towards brands that would reflect their personality		0,856845						
There is a similarity of personality between the brand and those who use the brand		0,852825						
For each brand, there are special characteristics unique to the user of such brands		0,698825						
I would have preferred this brand even if other brands had had identical characteristics with this brand.			0,817876					
This is the only brand that I will prefer.			0,706218					
I would have preferred this brand among competitive brands			0,641747					
I recognize the logo of this brand wherever I see it				0,80379				
I could easily distinguish this brand from competitive brands				0,70932				
I recall this brand wherever I hear the slogan of this brand				0,64231				
This brand is suitable for every type of feet					0,72917			
Footbed of these sneakers is comfortable					0,677795			
This is suitable for every use (running, volleyball, jogging etc..)					0,585145			
I am sure that I could find this brand in any store I visit						0,84102		
I am sure that the price of this brand will be the same in any place I visit						0,820243		
Sneakers' brands are almost the same in terms of quality							0,85837	
There is no continuous progress in brands of sneakers products							0,657	
There is an excessive price difference among sneakers brands.								-0,8273
The fact that the prices of sneakers' brands are different is acceptable considering the characteristics of the brands								0,61632

Structural Modeling Analysis

This study which examines direct and indirect ways that the brand knowledge trace on purchasing preferences has been analyzed with maximum probability method using AMOS 07. program.

Model estimation results in the following adequate statistics :

Table 2: Model Adequacy Values

Model Assessment Criteria	Our Model	Independent Model
Chi-square (χ^2) value (CMIN)	76,526	666,78
Degree of Freedom (SD)	22	45
p-value	0,000	0,000
χ^2 / SD (CMINDF)	3,478	14,817
Normalized Fit Index (NFI)	0,885	0,000
Relative Fit Index (RFI)	0,765	0,000
Incremental Fit Index (IFI)	0,915	0,000
Comperative Fit Index (CFI)	0,912	0,000
Tucker-Lewis Index (TLI)	0,821	0,000
Root Mean Square Error of Approximation (RMSEA)	0,079	0,186

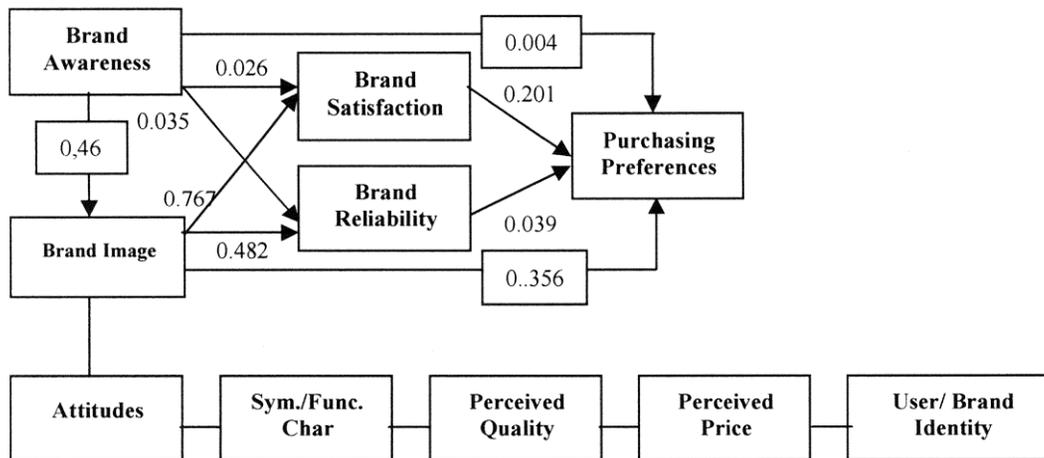
According to the above table, the chi-square fit value derived is 76,526. This value was small since the sample of the research was large. Whereas the fact that the figure which is obtained by dividing the ki-square fit value to degree of freedom is higher than 3 demonstrates a good fit, those which are higher than 5 demonstrate only a sufficient fit. The value obtained in ,478 and the data is in compliance with the model, that is, our model is a valid model. Another assessment criteria, Root Mean Square Error of Approximation (RMSEA) has been found as 0,079. RMSEA value being smaller than 0.05 demonstrates a perfect fit, and value up to 0.08 demonstrates that there is only a good fit. Again according to this result, the model is in good fit with the data. RFI, IFI, CFI, TLI and NFI values range between 0 to 1, and the perfectness of fit increases as these values approach 1.

Table 3: Standard Regression Rates

Hypothesis	Factor	Relation ship	Factor	Standard Coefficient	Meaningfulness
H1	AWARENESS	→	IMAGE***	0,464	P < 0,001
H6	AWARENESS	→	SATISFACTION	0,026	P=0,629
H7	IMAGE	→	SATISFACTION ***	0,767	P < 0,001
H4	AWARENESS	→	RELIABILITY	0,035	P=0,532
H5	IMAGE	→	RELIABILITY***	0,482	P < 0,001
H8	SATISFACTION	→	PREFERENCE	0,201	P=0,024
H9	RELIABILITY	→	PREFERENCE	0,039	P=0,46
H2	AWARENESS	→	PREFERENCE	0,004	P=0,943
H3	IMAGE	→	PREFERENCE	0,356	P=0,006

*** P<0,05; H₀=Rejected

According to the results of regression, demonstration of the model is as follows together with the Standard rates of hypothesis:



When we consider the model in terms of standard total effects, whereas, according to the result obtained, the direct impact of brand image on purchasing preferences is 0.356, direct impact of brand awareness on purchasing preferences is 0.004. Impact of brand awareness on purchasing preferences through brand image is 0.82. A high portion of this arises from the impact of brand awareness on brand image.

Whereas the indirect impact of brand image on purchasing preferences through brand reliability is 0.52, its indirect impact on purchasing preferences through brand satisfaction is 0.968. Whereas the indirect impact of brand awareness on purchasing preferences through brand reliability is 0.074, its indirect impact on purchasing preferences through brand satisfaction is 0.227. This being the case, direct and indirect impact of brand image on purchasing preferences is higher than the direct and indirect impact of brand awareness, that is, brand image plays a central role on the purchasing preferences of the consumer.

CONCLUSION AND RECOMMENDATIONS

This study, carried out based on the impact of brand knowledge on purchasing preferences, demonstrates how consumers perceive the elements of brand knowledge. Adidas brand, which has a high level of brand reputation among sneakers, was analyzed as a case study.

According to the results of structural modeling analysis, it has been demonstrated that brand awareness and brand image, which are considered as brand knowledge elements, have direct and indirect impacts on purchasing preferences. However, considering the quantitative values of the existing impacts, it is determined that the impact of brand image on purchasing preferences is higher compared to brand awareness.

Enterprises which act on sales strategies focused on growth with an understanding of marketing should emphasize and develop brand images for a successful sale. As it became apparent from the results of this analysis, the enterprises should be careful in terms of taking into account the needs and requests of the customers while determining the identity characteristics to the products in addition to their symbolic and functional characteristics, perceived quality and perceived prices, and to have an attitude that would address the personal characteristics of their customers. Because, brand image is a whole with its sub-elements and plays a significant role in purchasing preferences.

Knowing the brand, trusting in the brand or being satisfied by the brand are very important in brand preference. According to the results of the analysis, it could be seen that preference could not be created only by ensuring brand reliability or brand awareness. It is also not possible to create brand satisfaction and preference without first having brand awareness.

There are two decision categories in the way of purchasing preferences in the decision course of consumers. One of these is brand satisfaction, and the other is brand reliability. While purchasing a product for the first time, the consumer makes a decision based on the feeling of reliability. The ability of enterprises to create a brand that is worth trying is a significant precondition for shifting to brand loyalty and brand dependence stages. The only way to satisfy the reliability condition is a good brand image to be created. Taking into account the regression results of the study, it could be seen that brand image has an impact on brand reliability more than that of brand awareness.

In order to ensure that the consumer purchases the same product or brand following the first one accomplished with brand reliability, the feeling of satisfaction should be created as a second reason for preference. Brand satisfaction is related to the ability of the brand to fulfill what is expected from it.

According to the results of the study, whereas brand image creates a direct reason on purchasing preference, it also is an indirect reason for preference with the impact it creates on developing the brand reliability. With a good brand image, enterprises may have an advantageous position in purchasing preferences of consumers.

The first step in creating a brand image is to create a good awareness. The consumer will not prefer a brand which he/she does not know, has not seen or has no knowledge about. Whereas brand awareness is not effective on its own in product preference, it has an indirect impact on consumer's purchasing preference. Whereas brand image has a very high direct and indirect impact on purchases, brand awareness does not have direct impact on preferences and its indirect impact is on brand image. Enterprises should identify in the best way the targets and ways to create a brand that could mobilize the purchasing preferences of consumers in line with their intentions within this interconnected chain of concepts.

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STRATEGY & TRUST

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ABSTRACT

There is a growing consensus that strategy implementation partially fails because of poor communication at lower levels in the organization. However, successful communication can only succeed when there is trust between all parties. When trust is absent, parties are perceived as attempting to exploit others vulnerabilities. Furthermore, when trust is absent, expectations regarding acceptable behavior are eroded and unfairness becomes a surrogate for more honorable principles. Information asymmetry and low levels of trust are bedfellows, without trust even the best communication will encounter a deaf ear. Trust is the confidence between everybody in the organization that the intentions of others in the organization are good and that there is no reason to be protective or fearful in the organization (Lencioni 2002).

INTRODUCTION

Why is it that employees feel management do not trust them? In 2007 the U.S. National Retail Federation (Grannis 2007) reported that the majority of retail shrinkage in the previous year was due to employee theft (\$19.5 billion). This represented almost half of all retail theft. Retail shrinkage is not only a North American phenomenon. The Global Retail Theft Barometer (Bamfield 2008) reports that in the 32 countries studied, shrinkage costs 98.6 billion dollars per annum. Furthermore, disloyal employees accounted for 32.5% of losses (employee theft levels are lower in Europe). According to the United States Association of Certified Fraud Examiners (ACFE 2008) the incidence of occupational frauds occurs more by employees (rather than managers, executives or owners). ACFE estimate that the typical organization loses 7% of its annual revenues to occupational fraud. It's no wonder that employees perceive that management do not trust them (Cardone 2003).

Should employees trust management? A recent study on employee trust in management reported that less than half (49 percent) of employees said they have trust and confidence in the job senior managers are doing (Watson Wyatt 2007). Furthermore, a study by Mercer Human Resource Consulting (2007) in the UK and USA found that fewer than 40% of employees had high levels of trust in management. The ACFE (2008) report quoted earlier found that management, executives and owners are responsible for a higher value of fraud cases than employees. Over 50% of financial statement fraud, 37% of corruption cases and 22% of asset misappropriation cases are directly linked to executives and owners. The median loss caused by fraudulent financial statement schemes was \$2,000,000. The Edelman Trust Barometer report (Edelman 2009) showed that a global average of 62% of those surveyed in 20 countries said they trust corporations less than in 2008 (77% in USA, 73% in Germany)

Positioning Of Paper

Breaking the viscous circle of mistrust is the first major hurdle when attempting to build trust. The responsibility lies with senior management. However, there are risks when taking this first giant step towards building trust. Penalties rather than benefits may be the outcome. *Can we trust in trust?* However, trust based management should not start with the assumption that all parties can or should be trusted. The opposite is true! Trust should be constructed brick by brick. Building trust brick by brick results in trust which is supported by a foundation of shared experiences along with confidence in the skills and willingness of others (Hagel and Brown 2002).

Has management's altitude in the organizational hierarchy influenced their attitude? (Neilson and Fernandez 2008). This altitude might explain senior managements focus on building safeguards against the abuse of trust. Furthermore, management seem to be preoccupied with auditing performance against objectives, possibly

because management find it difficult to manage a group of individuals who make multiple trade-offs every day, some of which are not aligned with the overall strategic goals of the corporation. Thus, the current architecture of trust does not support the emotional or cognitive engagement of employees. Therefore, management must recognize that they cannot dictate strategic success. They can only create the necessary conditions for success. How well management execute a given strategy in combination with the buy-in of every employee will determine the outcome.

The good news is that the mind-set of expectations regarding trust can be altered. Over a considerable amount of time, as each party shares experiences and develops confidence in the will and capability of others, the fruits of trust will be harvested (Hagel and Seeley Brown 2002). Trustworthy behavior is the antecedent of trust, however this reciprocal relationship is not balanced. Therefore, trust must be continuously demonstrated and supported. Building trust is a mutually reinforcing process during which each party has expectations about another's behavior. During this process internalized norms and principles emerge and over time these are embedded in the organization. Thus, management needs to move from a fixation on compliance towards a fixation on building commitment. Information should be used to teach rather than to control, intimidate and manipulate. Higher levels of trust lower the need for governance mechanisms.

Trust and Strategy

Trust can be defined in two ways (Chua, Morris and Ingram 2009). Affect-based trust is built on experiences with others. Socio-emotional exchanges and mutual support are the building blocks of affect-based trust. Affect-based trust is associated with friendly relationships. Measures of affect-based trust might include: comfort in approaching another party, sharing problems with another party and expressing hopes and dreams to another party (McAllister 1995). These measures are emotion-oriented and suggest a willingness to be dependent and vulnerable to another person. Cognition-based trust is built more on competence, dependability and reliability. Measures of cognition-based trust might include: level of reliance on another to carry out an agreed task and the belief that another has the knowledge and competence to complete an agreed task.

Regarding strategy, research has demonstrated that most employees feel they do not know the decisions and actions for which they are responsible. '95% of a company's employees are unaware of, or do not understand, its strategy' (Kaplan and Norton 2005). Therefore, for those employees at a distance, the value and meaning of strategy is blurred and often irrelevant. However, the root causes of failed strategic communication and strategy execution are invisible to management. Senior management understands strategy because they are the architects of strategies. However, strategy myopia is prevalent in many levels of an organization.

Strategy has witnessed a Moore's (Moore 1965) type curve in its complexity trajectory. As the everyday language and tools of the strategist advance on this complexity trajectory, the alignment between employee and organizational objectives are eroded. The result is that individual employees do not understand the big picture, their roles and performance goals. This is due to a lack of clarity and understanding. A shared mindset, capacity for change, motivation, satisfaction, responsibility, and recognition do not result from strategy myopia thus a lack of trust by employees and strategy monologue prevail (Saks 2006).

Monologue is the predominant form of strategy communication because the architects of strategies encourage non-facilitative authority structures (Smythe 2007). Because engagement in the strategy process is necessary but voluntary, strategy monologue does not support voluntary engagement. Strategy monologue is a process whereby strategists craft the strategy message of the few and support this messages propagation and replication, however, creating a shared mind-set within every employee and supporting their capacity for change is the responsibility of management. Monologue does not support that goal. What is missing is a common definition of strategy which is shared and understood by everybody in the organization. For the purposes of this paper that definition of strategy is: *knowing where we are going, why we are going there, how we are getting there and what is different about how we are getting there*. This definition also incorporates mission statements, vision statements and corporate values. A great strategy in the absence of trust is fruitless.

The Fateful Road to Moscow

Throughout history there are many examples of strategic failure due to a lack of trust. Napoleon Bonaparte fought, conquered, and dominated much of continental Europe during the end of the eighteenth century and the beginning of the nineteenth (Chan, Mauborgne and Van Der Heyden 2006). Napoleon is credited with being the greatest military strategist of his time. One of the greatest innovations by Napoleon was the creation of corps units. These units were coordinated and controlled by Marshals who were the primary and direct link with Napoleon. Marshals were rewarded for loyalty. Each corps had a clear mission defined by Napoleon. Due to the enormous flexibility of this system, Napoleon was able to implement a more dynamic and evolutionary battle strategy.

Napoleon recalled his ambassador and declared war on Russia in 1812. When the French army crossed the French-Russian border, however, problems began to take place. Soldiers began throwing away supplies, including ammunition. Napoleon had overestimated his soldiers' commitment and limits. Furthermore, all of Napoleon's marshals argued against the campaign. Confident in his intellect and vision, Napoleon persisted with his strategy and refused to trust anyone. Not even the smallest decision or order was made without his approval. Power and success had increasingly corrupted Napoleon's leadership. One of Napoleon's mottos was "there are only two levers to truly move people: fear and interest; every great revolution must proceed through fear, as interest is insufficient to yield great results"

Trusting Communication

Many strategies deliver sub standard financial performance because of poor communication, unclear actions for execution, and lack of accountability. In the Mercer survey referred to earlier (Mercer 2005) only 49% of workers agreed with the statement that "senior management communicates a clear vision of the future direction of my organization." . Furthermore, only 43% of employees reported that their firm's senior management takes an active, visible role in communicating to employees, It appears that a common language for successful dialogue is absent. Highly abstract concepts and confusing language go hand in hand with mistaken priorities. Therefore, management need to recognize that better articulation and reinforcement of important values, such as trust, can support the communication agenda and effective strategy implementation. Such efforts should not only be seen as transitory public relations reactions to contemporary scandal ridden business behavior (Boswell and Bourdreaux 2001).

Communication is one key organizational characteristic explaining employee satisfaction. Furthermore, there is a direct link between employee satisfaction, customer satisfaction and financial performance (Yankelovich 2005, Sako 1997). Furthermore, employee satisfaction and organizational culture are drivers of engagement. Without trust, non-reciprocal information sharing is present. Therefore, information transparency needs to be harnessed in order to gain and sustain trust. To communicate successfully organizations should open up businesses practices to scrutiny and discussion. Doing so means more than supporting a system based on compliance. Strategic dialogue, training, counselling, and appraisal help in building trust. Moreover, clarification and feedback during the trust building process accelerates learning. Thus, management need to develop trust metrics which reflect the drivers of business performance. The outcome of the above efforts should be a stronger sense of psychological ownership by every employee to the strategy.

When building trust, communication should not only reflect the personal preferences and personalities of top management. Furthermore, communication should clearly explain the invitation (opening up of power sharing) which is being extended to all employees. In addition, management should think like marketing professionals and communicate in a way which the audience understands, and is credible. Companies who communicate effectively have been shown to achieve superior financial returns and higher levels of employee engagement (Luthans and Petersen 2002).

The Unknown Soldier

Vino Linna (1954) is best known for his portrayal of trusting relationships during war in his bestselling novel *Tuntematon sotilas*. This novel tells the story of a machine gun rifle company fighting between Finland and Russia in World War Two (1941-1944). The soldiers are tough and cynical; they hold their own officers in

nearly as much contempt as they do the Russians. Few have any clear idea regarding the aims of the war, and most fight merely because they have no alternative. Yet there is always a consciousness of their own worth.

Unlike Napoleon (*The Fateful Road to Moscow*) second lieutenant Koskela (the main character in the novel) speaks to his men as equals. At first the enlisted soldiers find it strange that an officer should deal with them on such terms, as most officers kept their distance as a means of retaining their authority. Feeling closer to the man on whom they all depended for the answers to all the problems ahead, lowered their level of anxiety. Koskela had the unbounded admiration of his men. Throughout the war Koskela's platoon were growing ever closer together. The taciturn second lieutenant's authority over his men had become so absolute that he had only to hint at a task for it to be done. His platoon had very few casualties. Not once did he expose a machine gunner to danger unless absolutely necessary, and when he did so, he was there himself to instruct and advise. When the platoon was not in action, no one would have taken him for an officer unless they happened to see his stars, so completely did he identify himself with his men down to the smallest detail. Says one exhausted survivor when the fighting is over and the politicians take command: "Speeches aren't going to help anything".

Some corporations have recognized the value of trust in their organizations. Novo Nordisk (Novonordisk.com) understand that trust is an essential ingredient. Due to this recognition managers regularly communicate with employees about the company's direction and future plans. Furthermore, they solicit employee ideas. The role of communication in Novo Nordisk is to clarify how each employees work relates to the companies goals. All communication is supported by action. Trust in Novo Nordisk is also built on respect. Respect means that each employee is supported in order that they can do their job efficiently and effectively. Collaboration within a safe and healthy environment is part of the respect expressed by management. Novo Nordisk also recognize that work/life balance is also an important ingredient in building respect. Furthermore, fairness is practiced through individual recognition and treating every employee justly.

Trust ROI

Senior management must demonstrate that they care as much about their employees as they care about themselves. When there exists a consensus on the principle of fairness, trust is present. The rewards for trust (return on investment) are less vertical integration and lower transaction costs in the organization (Loren 2003). Collaborative processes also support learning, innovation and efficiency. Commitment levels, caring for the future of the organization and a will for the organization to succeed are enhanced when trust is present. Furthermore, employee retention rates can also be improved. Because trust multiplies with use, it is a renewable resource. Therefore, trust can be the base for sustainable competitive advantage. Organizations who value and practice trust-based management achieve superior financial performance. However, one should recognize that there are limits to the levels of trust which can be achieved:

- *Absolute trust is not possible*
- *Management must be clear about what is and is not negotiable*
- *Belief may be more attainable than trust*
- *Expressions of trust will vary by culture, individual, functional area, and level in the organization.*
- *Levels of trustworthiness and trust are socially and historically grounded at the individual level*
- *Everybody will not have the same understanding of success, achievement, satisfaction, responsibility, recognition and motivators.*

The successful execution of a strategy lies within the hundreds, even thousands, of individual decisions made by employees every day. Collectively these decisions drive execution. Therefore, building organizational capability to support decisions from the inside out is essential. The result of doing so can achieve a better alignment between employees and the organizations strategic objectives. Perceived alignment and role clarity positively influences employee attitude (Wildermouth and Pauken 2008). However, management should recognize that job engagement and organizational engagement are distinct. Top management should establish the minimum benchmark levels for trust at the organizational level. Unfortunately, it has been estimated that up to 70% of employees are checked-out, sleepwalking or present-but-absent from their job (Yankelovich 2005). A minority of employees are even acting out their unhappiness or undermining the good intentions of others. It is important,

therefore, that every employee understands how they contribute to the strategic objectives and goals. Moreover, every employee should be aware of their decision rights (actions for which she/he is responsible).

Employees are motivated by the need to achieve, intrinsic satisfaction, responsibility, and recognition. The outcome from deeper engagement is greater psychological presence in tasks and a complete focus on tasks. Employee commitment, productivity, and safety lead to growing revenues and increased profits. Greater customer satisfaction is the reward from employee engagement. Engaged employees feel that they can positively impact quality, customer satisfaction and costs (Neilson, Martin and Powers 2008).

Engaged employees are even rarer than trusting employees. In many organizations fewer than 25% of employees are fully engaged (Yankelovich 2005). No organization can rely on only a subset of brainpower while ignoring the thought and abilities of the majority. However, the dilemma is that employees cannot be ordered to engage. Furthermore, an individual's level of engagement varies from one role to another. The alignment of individual's roles during the strategy development process will support greater employee engagement. However, in order to achieve this alignment, employees need empathy towards and awareness of their individual role and mission. Furthermore, empathy and awareness from management creates a positive spiral within the attitudes of employees. Moreover, the result of greater strategy/role alignment is increased psychological ownership for the outcomes of an individual's work/task. However, four conditions for greater employee engagement must be addressed (Thackray 2001):

- How can we grow: Opportunities to learn and grow
- Do I belong: My opinions count, Mission and Vision of company fit my values
- What do I give: Do what I do best every day
- What do I get: I know what is expected of me at work

Building The Strategy Dialogue

Realizing the benefits of trust during the strategic development and implementation processes will not be achieved before everybody in the organization understands the meaning of strategy. A dialogue on strategy will not occur before there is a common vocabulary. Therefore, strategy education for everybody in the organization is essential. Framing the strategy concept in terms that everybody understands is crucial. Not doing so will only support strategy monologue. The trust mind-set can be altered, however, management needs to recognize that actions must be taken at the organization and job level (Townsend and Gebhardt 2008. Hagel and Brown 2002).

Organizational Level Actions

- Top management commitment to trust
- leadership (share power)
- Information & communication
- measurement (early warning systems)

Job Level Actions

- training (capability building)
- communication (expectations of each individual must be shared by all)
- 100% employee involvement (authority) within a structure
- motivation, recognition, gratitude and celebration

Managerial Implications

This article began with a definition of trust. Trust was defined as 'the confidence between everybody in the organization that the intentions of others in the organization are good and that there is no reason to be protective or fearful in the organization'. The basic premise of this article was: strategy implementation partially fails

because of poor communication. However, it was argued that successful communication only succeeds when there is trust on the organizational level and the job level.

“The leaders who work most effectively, it seems to me, never say "I." And that's not because they have trained themselves not to say "I." They don't think "I." They think "we"; they think "team." They understand their job to be to make the team function. They accept responsibility and don't sidestep it, but "we" gets the credit. This is what creates trust, what enables you to get the task done” (Wisdom Quotes).

The late Mr. Drucker's writings are marked by a clear focus on relationships among human beings. His many books and articles were filled with lessons on how organizations can bring out the best in people, along with how workers can find a sense of community and dignity in large institutions. Leaders, managers and employees should never say 'I'. Through building trust everybody should begin to think in terms of 'we'. Everybody should understand their primary role, which is to support the organizations strategy and make it function. Everybody should accept responsibility for strategy implementation and everybody should get credit for success. When trust is embedded in the DNA of the organization, there will be greater harmony between organizational goals, individual goals and strategy.

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AN EMPIRICAL INVESTIGATION OF AGRICULTURAL PRODUCE CLUSTERS IN TURKEY

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ABSTRACT

A recent scan of literature reveals four main stages regarding the emergence and development of clusters both in the developed and developing countries. These are respectively, the significance of entrepreneurs at cluster formation stage, the spontaneity of collective efficiency coming up later on, the voluntary sharing financial hurdle as the cluster grows and finally the magnetic power of a mature cluster as it draws new firms into the region. Gödence, Bademli and Gedelek, three different regions in Turkey are examined in this paper via in depth interviews with residents. Gödence and Bademli are found to be growing clusters and Gedelek is deemed as a mature cluster. This exploratory study reveals that astonishing success stories are witnessed in rural areas in Turkey simply due to the formation and development of clusters. Yet, this study presents the void in the literature in this area and poses further research questions that should be studied in order to learn more about the matter.

INTRODUCTION

A recent scan of literature reveals four main stages regarding the emergence and development of clusters both in the developed and developing countries. These are respectively, the significance of entrepreneurs at cluster formation stage, the spontaneity of collective efficiency coming up later on, the voluntary sharing of financial hurdle as the cluster grows and finally the magnetic power of a mature cluster as it draws new firms into the region. The aim of this paper is to identify some agricultural produce clusters in Turkey following these four marks depicted in the literature as stages of cluster development.

In the first section, a review of the literature regarding each of these concepts will be presented. The second section will cover the methodology and data collection. Research results will be presented in the third section. The fourth section will present an analysis of the data and the conclusion will follow in the final section.

Literature Review

Khan (2004) attributes the emergence of clusters to local demand, prior existence of natural resources, innovative firms and chance events. On the other hand, Ritvala and Leyman (2007), Nadvi (1999), Anderson and Schmitz (1997) claim entrepreneurs play a vital part in the emergence of clusters. Sometimes as visionary individuals, sometimes as private firms and at other times as mere business associations, entrepreneurs are observed in numerous cases as the triggering force of the cluster formation. Mangematin et. al. (2005) attribute the rise of certain clusters among others to the efforts of cluster-institutionalizing-entrepreneurs who 'redefine tactics and rephrase the formulation of existing activities to nurture the cluster and increasingly validate its constitution through progressively enrolling and locking partners in'.

McCormick(1999), Altenburg & Stamer (1999), Weijland (1999), assert that there is a core individual that starts a business around which the cluster forms. Feldman and Francis (2006) cite Kargon, Leslie and Schoenberger (1992) indicating the influence of Frederick Terman in the foundation of Silicon Valley. "He orchestrated the creation of a world class research institute with strong ties to the business community and an environment that encouraged students to become entrepreneurs or at least be actively involved in corporate research programs." George Kozmetsky is reported as being instrumental in the development of Austin Texas. "Georges Freches's vision is found to be the driving force of the high tech development of Montpellier, while Neel, Merlin and Dubedout played the same role in the development of Grenoble". (Voyer 1998)

Sturgeon (2001) provides a historical view of the development of firms well in advance of the renowned spinoffs originating from Fairchild Semiconductor and argues that the strength of aeronautical and electronics industries championed by a small group of people with a vision for the development of the region created the high technology conurbation. Nadvi (1999) describes the role of 'business associations' in the strengthening of clusters as lobbying on behalf of their members, performing coordination and regulation within the cluster and providing services such as technical and managerial advice, information on markets, prices, competitors, and linking members to research and development institutions. Furthermore Nadvi (1999) claims that joint action of business associations is a must for developing countries that are heavily populated with SMEs to confront the increased global competition. Citing the example of the Association of Fruit Producers as the driving force behind the agricultural cluster in Eastern Poland, Szymoniuk (2003) emphasizes the importance of co-ops in the development of clusters. Seeing 'farmer associations' as a means towards employment generation and poverty alleviation, Birchall (2008) asserts that clusters provide an environment for the prospering of these associations.

Altenburg & Stamer (1999) point out three passive benefits in locating in a cluster: Semi-skilled labor force availability, easy access to raw material and machinery and lower search costs for customers. However, Schmitz and Nadvi (1999) indicate, the significance of 'shifting gears from passive to active collective efficiency' when a local area turns into a cluster. Examples of active joint action could be counted as search of international markets, attendance to trade fairs, establishing links with several research institutions in order to move up in a value chain. Schmitz and Nadvi (1999) cite Knorringa (1999) proposing joint action is a distinguishing characteristic of clusters. Knorringa (1999) specifies the sharing of market information with residents of the cluster as a form of joint action. Weijland (1999) states that a significant feature of rural clusters is the 'sharing of financial hurdle' in the cluster. Gertler and Wolfe (2006) underline the interesting structure of financial relationships in Canada. The biotechnology firms in Canada are reported to rely heavily on local sources of investment capital from private sources (angel investors, family, friends) and are likely to have been born from another local company or research institution at some time in the past.

Gertler and Wolfe (2006) cite Maskell 2001 indicating that following the emergence of a cluster in a region, the cluster acts like a magnet drawing other firms to the region either due to their need to access existing knowledge base or to complement it in a certain way. The drawing of firms into the region is a sign of maturity of the cluster, because in order for these firms to be coming to the region there must be increased specialization needs and a ready market for these needs. Thus it is the opinion of this author that a cluster that is able to draw new investment into the region is a mature one.

Methodology and Data Collection

Using different Internet media sources to select candidates for potential, developing and mature clusters three regions in Turkey were decided upon. These regions are Gedelek, Gödençe and Bademli. After collecting the available material on the Internet for contact details on significant leaders such as co-operative founders or entrepreneurs in these regions, telephone interviews were conducted with them. The interview questions consisted of open ended ones. With the permission of the interviewee, the interviews were recorded on tape and also notes were taken during the telephone interviews to back up the tapes in case recording failed to take place for some technical reason.

Findings

Gödençe, a village of Izmir, western Turkey is renowned for its branded products of olive oil, and olives. They have started the branding process in 1993, but the president of the Gödençe Agriculture Cooperative indicates that it took 10 years to establish the brandname. Today their brand is known from Gümüşhane, a province in northeastern Turkey to as far away as Finland (Tuduk 2008). The distinguishing feature of Gödençe is their joint action with several research institutes and Ege University for research and development. They employ an agricultural engineer as a manager in-charge. In 2005 they invested heavily in a project partially financed through a loan from the ministry of agriculture. They do not use bank loans as they see them too risky. The first collective action of this village has been the foundation of the cooperative under the leadership of Mr. Abdullah Duran. The goal was to end the monopoly power of two olive oil mills in the village. Although the

cooperative enabled them to bypass the mills, their next confrontation was with wholesalers in the industry. To fight this bigger battle in 1993, they founded their own brand to reach the final consumer directly. But this time, they faced challenges such as finding the right customers, using the right packaging, warehousing, and right amount of working capital. Having no prior professional managerial experience, they learned through trial and error and created their own goal in the form of five years' development plans.

People of Gödence believe that trust is an essential element in running a cooperative. In Gödence's agricultural cooperative trust is established via wide participation in decision making. A decision is made by the consent of the majority of the administrative board members and once the decision is agreed upon, no one defies the decision. However, the people in the board are specially selected for their knowledge and wisdom so their contributions to the decisions are much valued and respected. The wider the expertise of these people, the better decisions are made and disputes minimized.

Gödence enjoys semi-skilled labor power because children are born into a world of olives. In 1992-1996 the cooperative held training in the villages in cooperation with Ege University. Gödence residents value both vocational training and traditional training. By traditional training they mean instilling local values and tacit rules to the youth. They resort to peer pressure to instill these tacit rules and they believe in open communication in the resolution of disputes between both the elderly and the young or any conflicting group for that matter. (Personal Interview with Özcan Kokulu, 2008)

Bademli, a village of Izmir is famous for its ornamental plants, and fruit saplings. Their local co-op has been founded on 1.1.1971 and the founding president M. Selçuk Bilgi has been in charge ever since. Bademli is quite an innovative village. Mr. Bilgi proudly states that Bademli is the first village in Turkey to establish an olive oil processing plant in the year 1975. They are again the first to apply budding. Towards the end of the 1970s they initiated a relationship with Ege University and applied the technology of budding developed by the university researchers. In 2001 they have organized the first National Sapling Conference. The co-op has 300 members, and produces 10 million saplings a year and employs about 10 agricultural engineers. The members have a cellular phone network upon which they receive market information from the co-op. Almost all the members have personal computers and they are planning to communicate over the Internet in the coming years. (Personal Interview with M. Selçuk Bilgi, 2008) Mr. Bilgi claims that they provide employment to 500-600 people every day. (Tuduk 2008)

The main role of the cooperative is to do the marketing of sapling and olive products. Bademli and Potemia are the two patented brands of the co-op. The co-op attends international trade fairs to find new markets. Among their consultants and research partners are agricultural faculties of various universities. One interesting feature of Bademli is their preference of commercial loans rather than governmental loans. A distinguishing feature of Bademli is that Bademli sends 45 individuals every year to France, Italy and Holland for agricultural training. Mr. Bilgi states that they have tremendously benefited from these training trips. The international links of Bademli is not limited with Europe. Every year Bademli hosts students from Arizona University in the U.S.A who visit the village to observe production techniques and local products. The co-op also provides scholarship to the children of the members, but those who attend agricultural studies are supported more than the others so that an incentive mechanism is initiated to lead the coming generation to agricultural studies. The current aim of Bademli is to invest in Bulgaria in order to overcome the customs barriers.

Gedelek, a village of Bursa, Northwestern Turkey is famous for its pickles. Gedelek's story dates back to 1929 when an entrepreneur has brought pickling business to the region. After seeing this entrepreneur's success in selling pickles to luxury hotels, a local resident has started his own firm. Later on, the villagers have followed suit in the pickling business. Today rather than raising vegetables for pickle production themselves, Gedelek residents organize surrounding villages as suppliers for their pickle production. More than 50 villages in the region work as suppliers to Gedelek producers generating about 50 million YTL per year. (Tuduk 2008)

Gedelek residents claim their local spring's water is especially suitable for pickling. Besides this natural competitive advantage, specialization and generation of a value chain is what enables Gedelek to command more than 50% of the domestic pickle market in Turkey. Two tin manufacturing plants owned by local residents provide for the packaging needs of the pickle producers. Established as a partnership between an investor from

Istanbul and one from Switzerland, Zeytursan, is a company that directly exports pickles to fast food giants such as Burger King in Europe, and Middle Eastern countries.

An interesting feature of Gedelek is that the residents claim they do not need to work with research institutions or universities to generate innovation because innovation demand comes into the region through hard-to-please foreign customers. Those who comply with the demands of these customers do perform remarkably innovatively. As far as financial sources needed for innovation or production are concerned Gedelek residents prefer to use commercial loans rather than governmental loans.

Analysis of the Findings

It is the opinion of this author that Gödençe is a true cluster because the cooperative acts as the founding father that sets the rules of the olive oil business in the region. The collective efficiency is observed via the patented brandname: 'Gödençe'. The financial burden of new investment is shared by all members of the co-op while government aid and training are also facilitated by the co-op. Research and development efforts are undertaken in cooperation by the universities and other research institutes. The distinguishing feature of the Gödençe co-op is its trust-based relationship with all the residents in the village. It seems that the governing board of the cooperative is made up of much respected individuals of wisdom who are consulted in all matters in the village. These people are so powerful that they can even lay new rules without facing much resistance. Gödençe also boasts to host the annual Agricultural High Achiever competition which has been expanded to a national scale this year.

The founding father of Bademli is the local co-op which in a sense is a business association. Throughout a history of 37 years, this co-op has established two brandnames in the market, and now is in the process of helping its members' brands to be launched. The co-op finds international markets and allows its members to serve these markets. The relationship of the co-op with various universities provides the members the advantage of benefiting from the research outputs of these institutions, which is certainly a result of collective efficiency. Training trips to European countries are also a distinguished service of the co-op, without which the Bademli residents cannot make on their own. Ownership of the olive oil and hygienic milk processing plants, the efforts to make direct investment to Bulgaria all indicate sharing of the financial hurdle by the members of the cluster. The fact that the co-op is now targeting region-specific sapling raising is a sign of specialization which is another feature of clusters frequently mentioned in the literature. The lobbying activities at the capitol and the provision of higher amounts of scholarship to the children who study agricultural science is a strategic investment in the future of the cluster. As such, the co-op acts as a local strategic business association which has turned Bademli from a small village to a growing cluster with quite a promising future.

The cluster in Gedelek was initiated by the efforts of an ordinary entrepreneur who realized the suitability of the local spring's water for pickle production. Upon his success local residents followed suit and thus was born the Gedelek pickle cluster. Later on through collective action, villagers started organizing other villages in the vicinity to produce vegetables for them and eventually the number of villages depending on this business reached about fifty. In terms of number of heads making their living in this cluster, an estimated figure is 10,000. Half of Turkey's pickle consumption is provided by Gedelek. The demanding customers are a motivating force for producers in Gedelek to move upwards along the value chain. They do not feel the need to establish relationship with research institutions simply because keeping up with the international demand is enough for them as a source of research and development.

The presence of Zeytursan, a large exporter established by an investor from Istanbul distinguishes Gedelek from the other clusters, as Gedelek is able to draw investment to the region. Furthermore the presence of two packaging plants also indicates specialization that has taken place in the cluster. Thus Gedelek deserves to be called 'a mature cluster'.

Conclusion

In this exploratory work, we looked for signs of clustering in three regions of Turkey. While Gödence and Bademli seemed to be growing clusters, Gedelek with the oldest history and established forward and backward linkages to the market and suppliers and power to attract investment into the region seemed to be a mature cluster. A common point of concern mentioned in all regions except for Gedelek was the problem of finance. Notwithstanding the undisputed success of some of these clusters, the interviewees complained from the high risks involved with bank loans and the ignorance of the government officials when approached for financing request. As far as crisis management and financial growth is concerned these clusters are literally on their own and as crisis insurance they have only accumulated savings.

Another significant factor that was present in all the studied regions was their links with international markets. Except for Gedelek, the other regions were quite positive in attempting to cooperate with universities but Bademli seemed to be the champion in this respect. There seems to be a reluctance in creating relationship with universities and other research institutes.

What is revealed as a result of this research is that there is a need to work on these clusters and present their potential capacity and problems to the policy makers. In that sense a follow up work could include a quantitative survey in these regions. Some of the research questions to be pursued could be :

How can these clusters be facilitated so that horizontal cooperation between similar ones can be generated? How come Gedelek never felt the need of a co-op all these years until last year while Gödence and Bademli have been acting through their co-ops? Will the newly founded Gedelek co-op really add value to the cluster or will it merely be a nuisance? How similar or different are their ways of investing into the education and training of future generations so that the future of the clusters are ensured in safe hands? What are the reasons behind the reluctance towards cooperation with universities or other research institutions? There are many more questions that arise as we probe into the topic, but what is definitely certain as the outcome of this research is that this area in Turkey is totally untapped and calls for research, preferably both quantitative and qualitative.

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SOCIAL SUSTAINABILITY IN GROCERY RETAILING: PERSPECTIVES AND GUIDELINES FROM A TURKISH SAMPLE

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ABSTRACT

The aim of this study is to understand and to present a picture of food retailers' social sustainability practices. In order to analyze social sustainability indicators, data obtained from high level managers of Turkey's top 36 grocery retailing companies are used. Our findings indicate that, the majority of the firms recognize the impacts their businesses have on employees, customers and the community. Retailers are willing to collaborate with community actors; they are against allowing child labor in their organization; they do not pay attention to transparency issues; they are less willing to reshape their policies considering unions' ideas; only half of the retailers have inventories dealt with work accidents; labeling, service personnel and product variety seem to be the most important customer complaints.

INTRODUCTION

Although it remains difficult to express the concept of business sustainability in concrete operational terms, it can be defined as “adopting business strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future” (Labuschagne et al., 2005). Accordingly, sustainable development has been defined as “development, which meets the needs of the present without compromising the ability of future generations to meet their own needs” (Report of the World Commission on Environment and Development, 1987).

For many organizations, there is a strong desire for the comprehensive assessment of changes in economic, environmental, and social conditions. Businesses are increasingly paying more attention to the social dimension of sustainability (Böhringer et al., 2007; Holiday et al., 2002). Accordingly, socio-economic and socio-cultural linkages have become increasingly prominent (Lehtonen, 2004; Robert et al., 2002), and social concerns have crept into the terminology of policy makers (George and Kirkpatrick, 2006; OECD, 2001) To better understand and define sustainability, organizations should take into account – over and above their economic performances – their social and environmental performances. “However, far less work has been done on social sustainability, as it applies to business” (Viesser and Sunter, 2002).

Global vertical integration of the food chain and increasing environmental concerns, have raised critical voices towards the mainstream retailers. In this context, grocery retailing which is a crucial part international food chain has been blamed (See e.g. Scialabba & Hattam, 2002; Flora, 1995; Reganold et al., 2001; Allen, 1999) for causing various kinds of damage to the social welfare, for its failure to provide wholesome and nutritious and safe food, inability to supply food for low-income people, as well as for various other social problems (Nousiainen et al, 2005).

In grocery retailing, retailers need to respond to the varied, intersecting demands of many groups of society such as producers, consumers, competitors, shareholders and regulators. Each group concerns different environmental and social facets of a retailer's business activities and require measures, requests information and monitors company activities. Retailers also may need to respond to intra-firm demands of workers regarding sustainable development (Jones, 2005b). Therefore, social sustainability issues including labor practices, customer and societal concerns were the earliest and are now the most commonly reported set of sustainability agendas among the leading grocery retailers (Jones, 2005a).

Considering this importance of establishing a framework to evaluate the social sustainability performances of operational initiatives, the aim of this paper is to understand how food retailers operate social sustainability and establish such activities to respond to society's expectations. In order to descriptively analyze social sustainability indicators, data obtained from top managers of retailing companies are used.

THEORETICAL BACKGROUND

Although it is not possible to fully define the social dimension of sustainability, it is concerned with the company's impacts on the social environment, as well as the company's relationship with its various stakeholders. The essential point of the concept can be recognized in the voluntary undertaking of a commitment that goes beyond the legal obligations (Longo, 2005).

In 1997, the United Nations Environment Programme (UNEP) together with a United States nongovernmental organization, Coalition for Environmentally Responsible Economics (CERES) launched the Global Reporting Initiative (GRI) with the goal of "enhancing the quality, rigor and utility of sustainability reporting" (GRI, 2002). Reporting is therefore the strong focal point of the guidelines and the sustainability dimensions that should be considered at various levels within the company are indicated by stating reporting principles. These principles constituted a framework for the measures of social sustainability used in this study. Besides, the determination of these measures has also been achieved on the basis of studies and models already covered in existing literature, as well as on the basis of the analysis of social audit and sustainability reports drawn up by important businesses and associations (Labuschagne et al, 2003; Briassoulis, 2001).

According to many researchers, labor practices, customer and society concerns are the core of social sustainable development of an organization (Labuschagne et al., 2005; Longo et al., 2005). In other words, the social dimension of sustainability is about the impacts an organization has on labor practices, customers and society. In this study, these three dimensions are operationalised. First, twelve indicators are defined in terms of labor practices, namely training and career, employee participation, relationships with the unions, personnel turnover and layoffs, equal treatment, discrimination, harassment, violence, occupational health and safety, grievances, complaints and discipline, child labor, compensation management, performance management /performance related compensation, personnel recruitment and selection. Second, customer complaints, consumer awareness, consumer health/safety and private brands were the four measures of social sustainability related to customer concerns. Finally, in terms of society concerns, this study considers participation in local activities, local community, transparency, and supporting local communities as measures. The indicators to measure all three concerns of social sustainability are summarized in Table 1.

Table 1: Social indicators and references in question

Sustainability dimension	Selected Indicator	Author(s)-Source(s)
Labor Practices	Training and Career	DJSI and GRI
	Employee Participation	
	Relationships with the Unions	
	Personnel Turnover and Layoffs	
	Equal Treatment, Discrimination, Harassment, Violence	
	Occupational Health and Safety	
	Grievances, Complaints and Discipline	

	Child Labor	
	Compensation Management	
	Performance Management	
	Performance Related Compensation	
	Personnel Recruitment and Selection	
Customer	Customer complaints	Customer satisfaction-Choi and Sirakaya(2005) Listening to customers-Jones et al.(2005a)
	Consumer awareness	BRC
	Consumer health and safety	Choi and Sirakaya(2005) GRI Services for disabled customers -Jones et al.(2005a) Healthy living - Jones et al.(2005b)
	Private brands	BRC (2001)
Society	Participation in local activities	Jones et al.(2005a)
	Local community	Jones et al.(2005a)
	Transparency	Robert et al.(2002)
	Supporting local communities	BRC, Choi and Sirakaya(2005)
	Political support	Choi and Sirakaya(2005) Political contributions-GRI Political means- Robert et al.,(2002)

METHODOLOGY

The aim of this study is to present a picture of social sustainability performance of grocery retailers' in Turkey by analyzing labor practices, customer and societal concerns of each grocery retailer. Therefore this study is descriptive in nature. We used descriptive research design since to our knowledge, there is no research deeply exploring grocery retailing and environmental indicators by providing empirical support. Besides it determines the best research design, data collection method and selection of subjects by reviewing available literature and using qualitative and quantitative approaches such as informal discussions with consumers, employees, management or competitors, in-depth interviews, focus groups and surveys (Neuman, 2006).

PROCEDURE, QUESTIONNAIRE, AND DATA

Data for this study was derived from Turkish grocery retailing sector since it constitutes % 20.97 of GDP in 2007, and in the whole retail sector, the grocery retailing is growing rapidly in Turkish economy. The grocery retailing is also crucial in terms of employment. For example, the number of organized workers employed in the sector was 231,000 in 2001(Celen et al., 2005) and 300,000 in 2006 (TCSCR & PriceWaterhouseCoopers Turkey, 2007).

In this research, in order to assess the extent of social sustainability performance of retailers, a questionnaire containing three dimensions of social sustainability was constructed. In developing the questionnaire items, reference was first made to the researchers as mentioned in Table 1. The items in the questionnaire were then pilot tested on a sample of five retailers to ensure that these items meet required criteria regarding selected indicators. The conclusions presented in this study are based upon this questionnaire which is conducted via face to face interactions with top level managers of grocery retailers.

To collect data, top level managers from preceding forty retailers in the industry were informed about the study. After eliminating four of them due to mergers and acquisitions, thirty six top managers agreed to participate in the study. In reporting on environmental indicators, reporting retailers are encouraged to keep in mind the principle of sustainability context. With respect to the labor practices, customer and societal concerns measures in the

questionnaire, top managers are encouraged to relate their performance to the broader societal systems within which they operate. The approach taken to scoring in this study was based on an unweighted method which means that all information were equally valued regardless of their importance or relevance to any particular user group (Cooke, 1989; Chau and Gray, 2002). In order to facilitate statistical analysis, most of the questions were prepared as 5-point likert type measures; however, such indicators as existence of child labor, private brands, and customer complaints were measured by nominal scales, including yes/no answers. The number of items in the questionnaire for each social sustainability indicator, means, standard deviations and frequencies of nominal measures are demonstrated in Table 2 and 3.

Table 2: Descriptive Analysis of Likert Type Measures

Social Sustainability aspect	Indicators	Number of measures	Means	Std.dev.
Labor Practices	Training and Career	6	4,32	,90
	Employee Participation	6	4,34	,65
	Relationships with the Unions	2	1,11	,39
	Personnel Turnover and Layoffs	2	4,03	1,57
	Equal Treatment	2	4,43	1,16
	Discrimination, Harassment, Violence	6	4,34	,78
	Grievances, Complaints and Discipline	3	4,52	1,05
	Performance Management / Performance Related Compensation	5	3,55	1,48
	Personnel Recruitment and Selection	4	3,87	,96
Customer concerns	Consumer awareness	1	4,14	1,57
	Consumer health and safety	11	3,82	,49
Society	Supporting local communities	4	3,35	1,21

Table 3: Frequencies Of Nominal Measures

Social Sustainability aspect	Indicators	Yes %	No %
Labor Practices	Occupational Health and Safety		
	Inventory of work accidents	52,8	47,2
	Policies preventing work accidents	83,3	16,7
	Inventory of work-hours loose due to work accidents	40	60
	Child Labor		
	Principles of non-employment of child labor	72,2	27,8
	Considering non-employment of child labor in choosing suppliers	42,4	57,6
	Compensation Management		
	Use of a compensation policy	82,4	17,6
	Considering sector averages in determining salaries	91,4	8,6
	Considering performance evaluation reports in determining salaries	71,4	28,6
	Considering inflation rates in determining salaries	88,6	11,4
Customer	Customer complaints		
	Product quality	25,7	74,3
	Labeling	64,7	35,3

	Packaging	32,4	67,6
	Service personnel	67,6	32,4
	Physical conditions	35,3	64,7
	Product variety	41,2	58,8
	Private brands		
	Customers preference	70,8	29,2
	Negative effects on firm image	47,6	52,4
Society	Participation in local activities		
	With civil community organizations	86,1	13,9
	With public organizations	62,9	37,1
	With universities	62,9	32,1
	Transparency		
	Indicating social, economic and environmental strategies and policies	34,3	65,7
	Periodically announcing social, economic and environmental performance	22,9	77,1
	Local community		
	Working with local suppliers	66,7	33,3
	Social investments in local area	85,3	14,7
	Considering local employment opportunities in new investments	60	40
	Considering local growth rate in new investments	82,9	17,1

SCOPE AND LIMITS OF THE STUDY

The scope and limits of this research are determined as follows:

- 1) The research is limited to grocery retailers in Turkey
- 2) Grocery retailers included in this study are the top forty grocery retailers of Turkey. That is, local and small-sized retailers are excluded.
- 3) This questionnaire items concern managers' evaluations on their countrywide stores. It focuses on descriptive analysis in the headquarters of the retailers.
- 4) This study was conducted from the perspective of retailing managers due to the fact that top managers are well-informed about social activities, performance, control and the overall process of social sustainability.

CONCLUSION

This study aims to analyze descriptive properties of Turkish grocery retailers in terms of social sustainability. Considering three aspects of social sustainability, our findings indicate that, the majority of the Turkey's top 36 retailers recognize the impacts their businesses have on employees, customers and the community. It appears that they are seeking to measure and benchmark their performance in addressing social sustainability agendas. The results of this descriptive analysis show that the development of such measures of social sustainability allows organizations to describe their relative progress over time and to compare their social sustainability performance with industry wide standards.

This study has several important findings. In terms of labor activities, the results of descriptive analysis show that retailers are less willing to reshape their policies considering unions' ideas. They are also not willing to exchange ideas with employee unions and contact them about non-work issues. Almost all retailers are against allowing child labor in their organization however, they are not that responsive to working with suppliers allowing child labor. Besides only half of the retailers have inventories dealt with work accidents. Labeling, service personnel and product variety seem to be the most important customer complaints. In terms of society concerns, retailers do not pay attention to transparency issues which publicly demonstrate their social, economic

and environmental performance. The results also reveal that retailers tend to collaborate with civil community organizations.

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FACTORS AFFECTING JOB SATISFACTION AND ETHICAL PERCEPTION OF TRAVEL AGENCY EMPLOYEES

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ABSTRACT

Although ethical misconducts influence the perceived quality of services provided, little attention has been paid to ethics and ethical misconducts in tourism sector. This study hopefully fills this gap by investigating whether gender explains differences in ethical perceptions of travel agency employees and whether job satisfaction and its facets (Pay, Promotion, Supervision, Fringe Benefits, Contingent Rewards, Operating Procedures, Coworkers, Nature of Work and Communication) predicts the ethical sensitivity. According to the results of this study, three facets of job satisfaction, namely promotion, supervision and the nature of work predict ethical perceptions of travel agency employees. In addition, overall job satisfaction felt by agency employees significantly predicts their ethical perceptions (i.e. ethical sensitivity). Empirical results also supported the existence of gender influence by showing that female salespersons are more likely to have higher scores of ethical perceptions.

INTRODUCTION

Tourism, as one of the largest industries in the world, plays a key role in achieving the socio-economic goals of a nation. It can be a vital source for development by stimulating economic growth and employment. Realizing the importance of tourism, businesses and public organizations are increasingly interested in the economic impacts of tourism at national and local levels.

As an important social phenomenon, tourism is exerting great influence on society. The number of tourists today is nearing one billion, with every sixth inhabitant of the globe classified as a tourist (Holjevac, 2008). Tourism industry is based on service rather than a physical good and success of service providers in tourism sector depends on activities, behaviors, beliefs and thoughts of their employees like other firms operating at service sectors.

Over the years, Turkey has emerged as a popular tourist destination for many Europeans. According to travel agencies, 31 of the 100 best hotels of the world are located in Turkey. In the year 2005, Turkey hosted 21 billion tourists and earned 18.2 billion dollars in total and around 680 dollar per tourist. The latest figures indicate that the tourism is the most dynamic and fastest growing sector in Turkey (Kaplan, Çelik, 2008).

According to “The Association of Turkish Travel Agencies”, travel agencies are the main actors of tourism sector in Turkey and offer wide range of products to satisfy the demands of market. Turkish travel agencies gained valuable experiences through decades. Their dynamic entrepreneurial nature and success in understanding the market have enabled them to establish successful business relations. Yet still there are areas of improvement. Building long-term relationship with customers and promoting the image of country necessitate quality service and honest approach to customers.

Ethical behavior is an important part of the travel agency salespersons’ job as sales profession has many opportunities and temptations for ethical misconduct (Dawson, 1997). Previous studies indicated that high ethical standards result in higher levels of customer commitment to organization and higher job

performance of employees. For example, Schwepker and Ingram (1996) reported a positive relationship between moral judgment and job performance of salespeople. Considering the results of previous studies, we chose to collect data from travel agency salespeople. We aim to investigate how people working at tourism sector perceive ethical dilemmas, and whether job satisfaction has a role in these perceptions.

JOB SATISFACTION: A PREDICTOR OF ETHICAL PERCEPTION

“Job satisfaction is an employee’s general attitude toward the job. For many years, most managers believed that satisfied employee is necessarily a good employee. In other words, if management could keep all employees happy, good performance will automatically follow.” (Byars, Rue, 2004) After years of research, job satisfaction is believed to increase commitment to the organizations and prevent problems like turnover and absenteeism. Considering the positive effects of job satisfaction, it is still one of the most important work-related attitudes to investigate.

Marshall (1999) defines ethics as “guidelines to influence human social behavior in a manner intended to protect and fulfill the rights of individuals in a society” (Ergeneli, Arkan, 2002) “Business ethics is an example of applied ethics; it involves taking the pure theories, principles and concepts of formal ethics and applying them to the world of work, which presents business professionals with any number of ethically charged but real-life situations” (Hartman, 2002) “Good ethics is also good business because it allows businesses to avoid outside restrictions. If a business is not self-regulated it will be regulated by others. Unethical conduct brings about those things that businesses least desire: government regulations and restrictions, hostile employee relations resulting in an unproductive work force, and consumer rejection of its products and services.” (Stewart, 1996)

In recent years the ethical perception studies have increased rapidly as the “ethics” became one of the most popular issues. But there are only few studies investigating whether job satisfaction predicts ethical perception of employees. In one of these studies, Pettijohn et al. (2007) examined the perceptions of salespeople regarding business ethics, and the relationship between these perceptions and two important variables, namely job satisfaction and turnover intentions. The results showed the existence of a positive relationship between ethical perceptions and job satisfaction and a negative relationship between ethical perceptions and turnover intentions. Severinsson et al. (2001) examined the factors influencing job satisfaction and ethical dilemmas in acute psychiatric care. Results showed that the factors that contribute to job satisfaction or dissatisfaction can be related to the ethical values of nurses. Valentine and Fleischman (2008) studied the relationship between ethics programs and job satisfaction. Results indicated that corporate social responsibility fully, sometimes partially mediated the relationship between ethics program variables and job satisfaction. Considering the results of previous studies mentioned above, following hypotheses are suggested in this study:

H1: Job satisfaction predicts ethical perception of the salesperson working in travel agencies.

H2: Each facet of job satisfaction (Pay, Promotion, Supervision, Fringe Benefits, Contingent Rewards, Operating Procedures, Coworkers, Nature of Work and Communication) predicts ethical perception of the salesperson working in travel agencies.

In addition to exploring the effects of job satisfaction on ethical perceptions, we aim to examine whether there are differences between male and female employees regarding ethical sensitivity (i.e. perception). Previous studies reported conflicting results regarding the effect of gender on ethical perception and decision making. Based on the data collected by salespeople, Dawson (1997) found significant gender based differences in ethical decision making regarding relational issues. In the same study, observed differences were found to vary with age and years of experience, which makes it difficult to explain the main effect of gender. In contrast to the findings of Dawson; Ergeneli and Arkan (2002) found no significant differences in ethical perceptions based on gender. In this study, however, we expect a similar result reported by Dawson, that is:

H3: Female salespersons are expected to have higher scores of ethical perception.

METHOD

Sample

A total of 150 questionnaires were distributed to the salespeople working at travel agencies located in Ankara, Turkey. A total of 100 questionnaires were returned. Majority of the respondents were women (59 %), aged between 20 and 29 (%37), well educated (% 40 with B.A. / B.S. degrees), with an income level between 300 and 600 dollars (% 40) and work experience more than 5 years (71 %).

Measures

In this study Job Satisfaction Survey of Paul E. Spector (1997) is used. This survey has nine subscales which assess employee attitudes about the aspects of the job and job in general. Each subscale measures the facets of job satisfaction with four items. Overall satisfaction score reflects the employee's general attitudes about job and it is computed by taking the mean score of all items in satisfaction survey. A summated rating scale format is used in this scale, with six choices per item ranging from "strongly disagree" to "strongly agree." Items are written in both directions, so about half are reverse scored. The nine facets are "Pay" (e.g. *"I feel I am being paid a fair amount for the work I do"*), Promotion (e.g. *"There is really too little chance for promotion on my job"*), "Supervision" (e.g. *"My supervisor is quite competent in doing his/her job"*), "Fringe Benefits" (e.g. *"I am not satisfied with the benefits I receive"*), "Contingent Rewards" (performance based rewards) (e.g. *"When I do a good job, I receive the recognition for it that I should receive"*), "Operating Procedures" (required rules and procedures)(e.g. *"Many of our rules and procedures make doing a good job difficult"*) , "Coworkers" (e.g. *"I like the people I work with"*), "Nature of Work" (e.g. *"I sometimes feel my job is meaningless"*), and "Communication" (e.g. *"Communications seem good within this organization"*) The reliability of the scale was tested in U.S. sample by Spector and the Cronbach alpha coefficient was found to be .91, well above acceptable limits. In Turkish sample, reliability again was found to be satisfactory as .95 (Sun, 2002). In this study the reliability of the job satisfaction survey is also found to be satisfactory (Cronbach Alpha = .88).

To measure the ethical perceptions of travel agency employees, a modified version of Dawson's survey (1997) was used. This survey consists of 20 ethical scenarios "describing possible ethical misconduct on the part of salespeople or sales manager." Considering the study conducted by Ergeneli and Arıkan (2002) in Turkey, the number of ethical scenarios was reduced to 14, which are more proper for the business life in Turkey (Ergeneli, Arıkan, 2002) Those 14 scenarios reflect the majority of the ethical behavior described in the literature like; industrial espionage (e.g. *"Clothing sales manager tries to get some information about the marketing and sales plans of the competitor firm, from a newly hired salesperson who once worked for that company"*), lies and deception (e.g. *"Medical equipment salesperson does not inform the doctors about the competitor's prosthetic product which is more functional and cheaper"*) , unfair trade practices (e.g. *"Salesperson manipulates the contest rules of the one of his relatives who really needs money win the prize"*), to bribe (e.g. *"Sales manager of a company invites male customers on a cruise and provides drink and a prostitute to keep good relations and maximize the sales profits"*), employee theft (e.g. *"Salesperson works at jewelry shop. She keeps a demonstration sample and reports it as lost"*), stealing trade secrets (e.g. *"Salesperson of a big company finds someone confidential marketing plans of its competitor on the table in a fair and keeps a copy of them"*) and insider trading (e.g. *"Sales manager of a computer programming company tries to persuade a talented employee of a competitor firm by offering a very high salary"*). Respondents were requested to indicate their reactions to the situations presented in each scenario. Scores were examined by using a 5-point Likert type scale ranging from (1) "strongly agree" to (5) "strongly disagree". Higher scores indicate greater sensibility towards ethical dilemmas. The reliability of the scale is tested in this study and found to be satisfactory with Cronbach Alpha Value of .85.

Results

The data were analyzed by using SPSS 11.5 program. The factor analysis conducted by Sun (2002) demonstrated the construct validity of Turkish version of job satisfaction survey before. Therefore, we did not conduct a factor analysis for this scale. However, reliabilities of all scales used in this study were examined

separately. Reliabilities of job satisfaction facets; pay, promotion, supervision and nature of work were acceptable because they are above the satisfactory level, which is .70. Reliabilities of fringe- benefits, coworkers and contingent reward subscales were not acceptable (<.70), therefore we did not analyze the effects of these job satisfaction facets on ethical perceptions. One of the items measuring communication satisfaction (“*Communications seem good within this organization*”) was eliminated in order to increase the reliability.

After testing the reliabilities of scales, several analyses were conducted. In order to evaluate the attitudes of participants, mean scores were computed for each scale. Participants have high scores of ethical perception with a mean of 3.69 which is more than the moderate level “3.00”. This means travel agency employees are sensitive about ethical issues presented in scenarios. Mean satisfaction scores turned out to be higher than the midpoint of the scale, suggesting that participants are satisfied about their jobs. (see Table 1 for descriptive statistics)

Table 1: Descriptive Statistics of Variables of Interest

	Mean	Median	Std. D.
Ethical Perception	3,69	3,71	,71
Pay	2,84	2,75	,93
Promotion	3,38	3,38	,87
Supervision	3,80	4,00	,85
Communication	3,64	3,67	,95
Nature of Work	4,16	4,25	,72
Overall	3,36	3,32	,49

Note: Dimensions of job satisfaction (i.e., pay, promotion, supervision, communication and nature of work), overall job satisfaction and ethical perceptions were measured with 5 point scale. High scores indicate high satisfaction and high ethical sensitivity.

The relationship between the facets of job satisfaction, overall job satisfaction and the ethical perceptions were investigated through regression analysis. Table 2 shows the results of the regression analyses in which ethical perception is dependent variable, the overall job satisfaction and its facets (pay, promotion, supervision, nature of work and communication) are independent variables.

As seen in Table 2, Hypothesis 1 (“job satisfaction predicts ethical perception of the salesperson working in travel agencies”) is supported ($\beta = .17, p < .05$.) The result pointed out that, employees with higher levels of job satisfaction are more sensitive about ethical issues.

Hypothesis 2, “Facets of job satisfaction predict ethical perception”, is partially supported. The effects of three satisfaction facets (i.e., Fringe benefits, coworkers and contingent reward satisfaction) were not analyzed because the reliabilities of relevant subscales were not satisfactory (<.70). As facets of job satisfaction, pay, communication and nature of work are not found to be significant predictors of ethical perceptions. ($p < .05$) However, promotion and supervision satisfaction predicted the ethical perception significantly. ($p < .05$) When employees are satisfied about promotion and supervision aspects of their jobs, they tend to be more sensitive about ethical dilemmas and problems.

Table 2: Summary of Regression Analysis: Predicting the Effects of Job Satisfaction on Ethical Perceptions

	F-value	t-value	B	Std. Error	β
Pay	1,234	1,111	,085	,077	,111
Promotion	4,377*	2,092*	,171*	,082	,207*
Supervision	9,570*	3,094*	,251*	,081	,298*

Communication	0,23	-1,50	-,011	,076	-,015
Nature of Work	3,530	1,879	,184	,098	,186
Overall	6,183*	2,487*	,354*	,142	,244*

Note: $p^* < .05$; $p^{**} < .01$ (N: 100)

Hypothesis 3 (“Female salespersons are more likely to have higher scores of ethical perception”) is tested with One –Way ANOVA. When the mean ethical perception scores were compared, it was seen that female salespeople have higher scores of ethical perception than their male counterparts (mean ethical perception scores of female salespeople =3.76 versus ethical perception scores of male salespeople=3.59). However, the observed difference of women and men, regarding ethical perceptions is not statistically significant ($F= 1,437$, $p > .05$). Despite this insignificance, female salespeople seem to be more sensitive about ethical dilemmas, and this is in line with our expectations.

Table 3: Mean Scores of Ethical Perception

EP	N	Mean	Std. Deviation
Female	59	3,7647	,62257
Male	41	3,5909	,82700
Total	100	3,6934	,71470

Discussion

The tourism industry is one of the largest industries in the world. Despite the importance of tourism, little attention has been paid to ethical dilemmas confronted tourism managers (Hudson, Miller, 2005). Ethics is an important element of the tourist trade and hotel and catering industry, which referred to as the Hospitality Industry. The ethical components of the tourism and hotel industry are also important due to the industry’s great international importance. Billions of people travel and that “traveling humanity” are served by millions of people. Traveling tourists expect a welcome and pleasant stay everywhere they go-the well being that creates the feeling of happiness (Holjevac, 2008).

Therefore, this study investigated the ethical perceptions of the travel agency employees, which are the key elements of tourism sector. We have seen that there is a significant relationship between the job satisfaction and ethical perceptions of travel agency employees. Promotion and supervision satisfaction significantly predicted the ethical perceptions of employees. Employees who are highly satisfied in their works in terms of promotion and supervision, seems to be more sensitive to ethical dilemmas. Results showed that three job satisfaction facets (i.e., pay, communication and nature of work) were not significant predictors of ethical perceptions. Finding regarding pay satisfaction deserves special attention, because employees who are dissatisfied with wages or salaries do not seem to be insensitive about ethical problems and dilemmas. This could prevent the ethical misconducts, which would result from employees’ desire to obtain extra payment.

In this study, gender related differences in ethical perceptions are also examined. Mean ethical perception scores of female salespeople were higher than those of male salespeople. This difference, however, was not turned out to be statistically significant, contrary to the findings of past studies. This unexpected finding could be due to sample size. Therefore we suggest researchers to replicate this study with larger sample.

The study findings highlight the significant role of job satisfaction on ethical perception. Greater job satisfaction has also been generally related to reduced intent to leave the organization (Brayfield & Crockett, 1955; Mowday, Koberg & McArthur, 1984) and with reduced rates of absenteeism (Porter & Steers, 1973). In

addition, job satisfaction has been shown to be strongly related to organizational commitment (Porter, Steers, & Mowday, 1974) and to organizational citizenship behaviors (Smith, Organ, & Near, 1983; Organ, 1988, cited in Turner and Brown, 2004). Despite the fact that many studies on job satisfaction have been done till now, these studies focused on particular consequences of the job satisfaction such as intention to leave, absenteeism. There are limited number of studies investigating the relationship between job satisfaction and ethics. This study hopefully filled this gap by examining these two concepts.

To the knowledge of the authors, this study is the first study that reveals job satisfaction as a significant predictor of ethical perception. According to the findings of this study; job satisfaction increases the sensitiveness of salespeople to the ethical dilemmas, in addition to its other important contributions to the employee performance. Ethical behaviors are indispensable for the long term success of businesses. Unethical behaviors corrupt the market operations, cause ineffective distribution of the resources therefore they adversely affect the job performances of the employees in the long run (Fritzsche, 2005). Employers could promote the ethical behaviors of their employees and increase their ethical sensitiveness through increasing their satisfaction about promotion and supervision.

Limitations and Future Research Directions

The most important limitation of this study is related to data collection. The data were gathered from the salespersons of the travel agencies, which would not be a representative of the salespersons of other sectors and businesses. Sample consisted of respondents only from the tourism sector. In other sectors, norms, procedures, methods, and beliefs regarding sales ethics could be different. So any generalization without data gathered from other service sectors would be inappropriate and tentative. The second limitation of the study is that the scenarios used in the study were not real business situations. For this reason, the first thing to suggest for further studies would be to investigate the salesperson behavior in the real business situations (Ergeneli, Arıkan, 2002).

The third limitation of the study is the way the data obtained. As the data of this research figured on the self reports of the employees, we could not expect the respondents to behave in the same way they answer to the questionnaire. Another limitation of the study is related to sample size. We have no information about the travel agencies and the employees of travel agencies that did not accept to respond to the questionnaire. As the more employees participate to the study, results will be more proper for the generalization to the whole travel agencies. Therefore, future research needs to investigate the same issue, but with a greater sample size.

This study revealed the relationship between the job satisfaction and the ethical perception of travel agency employees, but future research is also needed to examine the process mechanism by which job satisfaction predicts the ethical perception.

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TO HONOR OR NOT TO HONOR: AN EMPIRICAL ANALYSIS OF EXPLANATIONS FOR TRUST VIOLATIONS IN ORGANIZATIONAL SETTINGS

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ABSTRACT

Trust in organizations is important as it improves employees' job attitudes, increases employees' commitment to their jobs, and can improve performance (Dirks and Ferrin, 2002; Kramer, 1999). Researchers have examined the use of apologies and denials in repairing trust violations (Kim et al., 2004) and have shown that repairing trust is difficult (Slovic, 1993). Using Probit regression, the authors analyzed a data set consisting of 508 surveys filled out by full-time employees at a Western U.S. office of a large financial services firm. This research extends the literature by analyzing five types of accounts, two of which are new to the literature. Also, the analysis shows that time violations should be added as a new type of trust violation along with competence and integrity violations.

INTRODUCTION

Relationships are the “lifeblood of organizations,” and research has shown that when relationships in an organization are harmed there is a loss of productivity, performance, and employee satisfaction (Ren & Gray, 2009; Kidder, 2007; De Dreu & Weingart, 2003; Jehn, 1995). Previous research has indicated that employee-employer relationship violations are common (Rousseau & Robinson, 1994; Conway & Briner, 2002) and that violations of trust, whether intentional or inadvertent, are a frequent occurrence (Ferrin et al., 2007). As such, it is necessary to explore how one can restore relationships when a violation occurs.

Dirks et al. (2009) state that relationship repair is a fundamental but surprisingly understudied problem. Relationship repair is a process that occurs when a transgression causes the positive state that constitutes the relationship to disappear and/or negative states to arise, as perceived by one or both parties, and activities by one or both parties substantively return the relationship to a positive state (Dirks et al., 2009).

Relationship Repair Process

Previous research has designated a process for relationship repair (Dirks et al., 2009; Ren & Gray, 2009; Schonbach, 1990). The process we model starts with a violation, where someone feels an explanation is needed. The violation is followed by a reproach, where the person asks why the failure event occurred. Then, the offending party offers some kind of an account. Then, it is evaluated (typically either honored/accepted or not honored/not accepted). An example is someone walking in late to a meeting (the violation). The boss might ask why the employee is late (the reproach). The employee then offers an account for being late (such as the excuse of heavy traffic). Then, the boss honors the account (“It’s okay. I heard there was a big accident on the freeway”) or does not honor the account (“Don’t let it happen again. You should know to leave home earlier in case of heavy traffic”).

Our research builds on previous research in the following ways: first, our research seeks to confirm previous research done in a lab setting in an actual work environment, which has yet to occur in this literature; second, our research proposes that time violations should be added as a trust violation along with competence and integrity violations; third, our research extends previous research by looking at excuses and justifications as alternative means to repair relationships.

The following section will describe the relationship repair process. This will provide the context for these three aims and our hypotheses.

Violation. A violation is a breach in a relationship caused when the trustee's actions do not support the trustor's expectations (Ren & Gray, 2009; Goffman, 1967), and are identified when one creates a social disequilibrium by calling into question the relative standing of the parties or the norms that govern the relationship (Dirks et al., 2009; Ren and Gray, 2009). Our research looks specifically at those violations that affect trust. Kim et al. (2004) said that a trust violation invalidates the "trustworthy until proven otherwise" assumption and that such violations cause trust to plunge to a level that may be below the initial trust level.

Previous studies (Kim et al., 2004; Kim et al., 2006; Ferrin et al., 2007) focused on trust violations have typically looked at two types of violations: competence and integrity. We will define these two violations and propose that time violations be included in the trust violation literature. The reason for distinguishing different types of violations is because different violations break different rules of conduct, threaten different needs, and lead to different types of offence taken (Ren & Gray, 2009), and are therefore repaired differently. These differences will briefly be described as we describe each type of violation and further detail the different responses used to repair the violations.

Competence. In the trust violation literature, competence-based trust has been defined as the trustor's perception that the trustee possesses the technical and interpersonal skills required for a job (Kim et al., 2004; Butler & Cantrell, 1984). Violations of this type include clerical errors, inadequate performance, and not following processes. Our data set includes these and other various types of competence violations. This adds breadth to the current literature because previous empirical research in this field has only looked at one type of violation in a lab study: incorrectly filing a tax return (Kim et al., 2004, 2006; Ferrin et al., 2007). By looking at a variety of different competence violations, we have been able to more effectively observe what can repair relationships when this type of violation occurs.

Integrity. Integrity-based trust, on the other hand, is defined as the trustor's perception that the trustee adheres to a set of principles that the trustor finds acceptable (Mayer et al., 1995; Kim et al., 2004). Once again, previous empirical research in this field has only looked at one type of violation: incorrectly filing a tax return (Kim et al., 2004, 2006; Ferrin et al., 2007). Violations of this type include lying, stealing, talking too long at the water cooler, and taking credit for work not performed.

Time. Kim et al. (2006) stated that many violations of trust may be ambiguous enough to be framed multiple ways and that this opportunity to frame violations differently receives very little attention. We propose that a new type of violation should be added to the literature: time violations. Time violations are those violations that involve being late to work or meeting, missing work or meeting, or causing scheduling conflicts or problems, such as leaving work early. Time violations could be considered integrity violations because when an employee causes a time violation, that employee breaks a set of principles that the trustor finds acceptable, causing the trustor to view the employee as not acting in a fair manner; time-related violations can either be the breaking of a promise or contractual obligation.

But there are two main reasons why time violations should be considered separately from integrity violations. First, our data set shows that time violations are extremely common. We asked a variety of employees to describe a situation in which they had to explain themselves, thus leaving it open for the trustee to talk about any type of violation. As such, 426 employees out of 508 who completed the survey wrote about a trust violation, and 167 of those trust violations were time violations (40%). We posit that the reason why time violations are so common is because, not only do they occur frequently, but they are easily remembered. If they are easily remembered, time violations may not be easily forgotten or forgiven. The second reason why time violations should be considered separately is because common logic says that time violations should be repaired differently than normal integrity violations. For example, if an employee were to come to work 15 minutes late and pass the

manager's office, which had a large clock hanging on the wall, the employee probably would not deny the violation if the manager asked why the employee was late because the employee would then be seen as a liar.

Thus time violations appear to be a hybrid violation type because they contain elements of both competence and integrity violations. Being late for work could be more of an issue of competence because someone did not properly plan for traffic conditions and left for work too late, or it could be more of an integrity issue because someone did not care enough about being on time and putting in "an honest day's work."

Proposition 1: Time violations should be considered as a new type of trust violation.

Reproach. Once the violation has taken place, the second step in the relationship repair process is that the trustor recognizes the violation in the relationship by offering a reproach. A reproach occurs when the trustor expresses his or her negative reaction and draws the trustee's attention to the conflict. This involves labeling the offense; attributing responsibility for the harm; and voicing the grievance (Felstiner, Abel & Sarat, 1980-1981). A reproach allows for the trustor to signal that an offense has occurred and allows relationship repair to proceed (Ren & Gray, 2009). It is also necessary to note that there are some situations in which a reproach is not essential for relationship repair to proceed. For example, the trustee can approach the trustor, explain that a violation has taken place, and seek relationship repair before the trustor knows or acknowledges the violation. There are different types of reproaches that the trustor can use: no reproach, friendly reproach, direct reproach, and rude or hostile reproach.

Accounts

An account is a common approach to repair a relationship. Previous research has indicated that accounts can have the following influences: first, they alter the negative consequences produced by the violation and show they show the trustor that the violation does not reflect the trustee's true nature (Dirks et al., 2009); second, they remove negative impressions, feelings, severe sanctions, aggression, and hostility (Ren & Gray, 2009; Braaten, Cody, & DeTienne, 1993); third, they allow the trustee to avoid blame, penalties, conflict, and negative evaluations and attributions (Bobocel & Ferrell, 1996; Snyder, Higgins, & Stucky, 1983); and fourth, they have been proven to raise the perceived trustworthiness of the trustee following the violation (Kim et al., 2004).

Research in the trust literature has provided research on such accounts as apologies, denials, and reticence (Ferrin et al., 2007; Dirks et al., 2006; Dirks et al., 2004). We seek to add to this literature by adding two other accounts, which have also been researched in different types of literature. These accounts are excuses and justifications. Descriptions of all five of these types of accounts will follow.

Apology. An apology, also known as a concession, is a statement used to fix a violation through acknowledging responsibility and regret for a violation (Tomlinson & Mayer, 2009; Ferrin et al., 2007, Kim et al., 2004; Tedeschi & Norman, 1985; Schonbach, 1980; Goffman 1971). Apologies are unique because in using them the trustee takes ownership for the violation, signals that the violation is not an accurate reflection of the trustee's identity, and conveys a sincere intent to avoid such violations in the future (Ren & Gray, 2009; Ferrin et al., 2007, Kim et al., 2004; Lewicki & Bunker, 1996; Ohbuchi et al., 1989; Schlenker, 1980; Goffman, 1967; Heider, 1958). Kim et al. (2004) then hypothesized and their research supported that when trust violations concern matters of competence, trustors will exhibit more positive trusting beliefs in the trustee if that party responds with an apology than a denial. We test this in a real work setting and with added account types.

Hypothesis 1: When a competence-based trust violation occurs, apologies, more than any other type of account, will do best at repairing relationships through reducing negative affect and restoring positive exchange.

Denial. A denial, also known as a refusal, is a statement that is used in attempt to restore a relationship following a violation by explicitly declaring the allegation to be untrue (Ferrin et al., 2007; Braaten et al., 1993). The purpose of a denial is to assert that the trustee's ability, benevolence, and integrity are intact and should not be impugned, and is accomplished by showing that the trustee was not the perpetrator and therefore should not be held accountable, and may possibly attempt to shift the blame elsewhere.

Reticence. Reticence was introduced into the trust literature by Ferrin et al. in 2007 to compare its effectiveness against apologies and denials when a trust violation occurs. Ferrin et al. (2007) defined reticence as a response to a trust violation in which the accused party explains that he or she cannot or will not confirm or disconfirm the veracity of an allegation. A common example of reticence is when the trustee remains silent in response to allegations. The purpose of reticence is to let culpability remain uncertain, avoid implicating an ally, protect sensitive, personal, or confidential information, and further keep from implicating oneself (Ferrin et al., 2007).

Reticence is different from apologies and accounts because it does not admit or deny guilt, but instead asks the trustor to withhold judgment (Ferrin et al., 2007). Reticence is difficult to strategically use because it has been shown to be less effective in restoring relationships compared to apologies and denials when either competence or integrity violations occur. When considering whether reticence will repair a time violation, we posit that reticence will work just the same as during a competence violation because the trustee does not acknowledge guilt and show remorse. Therefore, we hypothesize the following:

Hypothesis 2: When a trust violation occurs, reticence will not do any better at repairing relationships through reducing negative affect and restoring positive exchange than any other type of account.

Excuse. An excuse is a statement used in attempt to fix a violation by mitigating or relieving responsibility when conduct is questioned (Kim et al., 2006; Scott & Lyman, 1968). In other words, excuses acknowledge participation in an act that was problematic or wrong but allow the trustee to reject responsibility based on the influence of situational factors partially or wholly beyond control, thus attempting to annul culpability (Braaten et al., 1993). Excuses are similar to apologies in that they acknowledge that a violation takes place, but differ because in using an excuse, the trustee, doesn't show regret or show intentions to avoid the violation again. They are also similar to denials in that they deny full responsibility, but differ because they show that the trustee played a part in the violation. For these reasons, we feel that excuses will be less effective than apologies in repairing relationship when a competence violation occurs and less effective than denials for integrity violations. On the other hand, we posit that excuses are designed to repair relationships in the presence of time violations because they do not deny that the violation has taken place, but they give a reason why the trustee was not responsible for the violation. Therefore, we hypothesize the following:

Hypothesis 3: When a time-based trust violation occurs, excuses, more than any other type of account, will be most effective at repairing relationships through reducing negative affect and restoring positive exchange.

Justification. A justification is a statement used by a trustee to fix a violation by acknowledging responsibility for the act in question, but denies the pejorative quality associated with it (Kim et al., 2006; McGraw, 1998; Scott & Lyman, 1968). The purpose of a justification is to allow the trustee to validate the perceived breach by its acceptable nature within a particular context (DeTienne et al., 2008). This can be done in a number of different ways including denial of injury, condemnation of the condemners, and appeal to loyalties (DeTienne et al., 2008). Justifications act similarly to excuses as compared to apologies and denials in the presence of competence and integrity violations; therefore, we hypothesize similarly. Before we do, it is important to note that we think that justifications will not be effective as excuses in the presence of time violations because justifications admit a sense of responsibility for the violation and trustors are unlikely to approve being late or going home early on purpose.

Hypothesis 4: When a time-based trust violation occurs, justifications will be effective, but less effective than excuses, at repairing relationships through reducing negative affect and restoring positive exchange.

We feel that the contribution of excuses and justifications to the literature is a significant contribution because they appear to be the most common approach that trustees use to repair relationships. In fact, there were 415 employees out of the 426 trust violations that used an account. Of those 415, 122 (29.4%) used an excuse and 148 (35.7%) used a justification. So combined, over 65% of the accounts used we either excuses or justifications, both of which were previously not included in the literature.

Evaluation

Following the trustee's account, the trustor closes the relationship repair process by evaluating the account to decide whether to accept the account, extend forgiveness, and revise his or her negative impression of the offender. The evaluation of the trustor can take many different forms including honoring, retreat, retraining, reprimand, and rejection. Our research looks specifically at whether or not accounts were honored or not honored.

Honoring is the highest form of evaluation. It means that the trustor has accepted the account and signals to the trustee that he or she has reduced the negative affect and restored positive exchange to a greater degree than what it was following the violation. In other words, honoring is a signal that the relationship has been improved and repaired to a certain degree. Honoring is the first step towards full and complete trust after a violation because it shows that the trustor has positive intentions to trust the employee in the future (Dirks et al., 2009).

Not honoring can take several forms. First, retreating is when the trustor either withdraws the original objection, makes excuses for the trustee's offensive behavior, or merely accepts the account. Second, retraining entails acknowledging that a violation has been caused, but extending forgiveness for such things as lack of experience. Third, reprimanding is recognition by the trustor of the full consequences of the violation. Fourth, rejecting is a refusal to honor the account in any way.

METHODS

A two-part questionnaire was completed by 508 employees of a large financial institution. The average respondent worked at the institution 4 years, 20% for more than 10 years, 18% for 1 year or less. There was a variety of over 14 ethnicities, of which 25.4% were Caucasian, 23.0% were Hispanic, 23.0% were Filipino, and 14.0% were African-American. Of the sample 38% were male.

The first section of the questionnaire asked the participants to recall any specific event that required them to explain themselves to other organizational members. Participants were asked to answer four open-ended questions about the event:

1. What happened that made someone ask you to explain yourself? (Or, if you weren't asked to explain, you felt a need to explain yourself? missed meeting? clerical error? missed opportunity? failed responsibility? Etc.).
2. Were you asked to explain, or did you give an explanation without being asked? We also want to know if the other person was polite or impolite, even rude. Try to write both what you said in the other person said and how the person said it.
3. In the space below, please write out what you said to the other person(s). Try to recall exactly what you said and did and how it was said.
4. In the space below, please write what the other person said to you after you offered your explanation.

Part 2 of the questionnaire asked a series of closed-ended questions concerning the nature of the trustor-trustee relationship (status level of the trustor, whether the relationship was typically a friendly one), and the trustee's perceptions and reactions (whether the account-giver felt guilty, responsible, angry, whether the account-giver felt satisfied with the outcome, expressed stress because of the event, and desired to complain to another member of the organization). The final set of questions asked participants to indicate how long they worked for the organization, how long ago the recalled event occurred, and whether they considered the recalled event a significant or an unimportant event in their employment at the institution.

Two coders each read half of the open-ended sections of the questionnaires and coded for violation type, reproach type, account type, and evaluation. After which, 93 surveys were found to be unusable resulting in 425 usable surveys.

When coding for the violation type, coders found 164 examples of competence violations, 112 examples of integrity violations, and 139 examples of time violations. Two coders independently read and coded all cases

and then met intermittently in the coding process to discuss and compare the coding of these two variables and disputes were resolved through negotiation.

Four types of reproach types were coded. Five general types of accounts were coded. Evaluations of accounts were originally coded as either honored (N = 137) and not honored (N = 262). The coders of the account episodes read 10% of the cases and coded them for types of reproaches, accounts, and evaluations. Cohen's kappas were .82 (reproach form), .82 (accounts), and .77 (evaluations). The remaining cases were equally distributed to the two coders who independently coded the account episodes. Four meetings were held to discuss and compare the coding of the account episodes and disputes were resolved through negotiation.

RESULTS AND DISCUSSION

PROBIT binomial regression on Stata 10 was applied to test the hypotheses. The evaluation variable (honored or not honored) was used as the independent variable and the main dependent variable was the five different types of accounts. Other variables, such as gender, status, friendliness, duration of employment, and reproach were controlled for in these regressions.

We were able to use regressions to evaluate competence, time, and integrity violations. For each of these, we ran regressions on six different models: one for each of the different account types and then a combined model with all of the accounts. Results supported the proposition that time violations should be considered as a new type of violation. Hypotheses 1 and 2 were supported. Hypotheses 3 and 4 were not supported.

We examined the effectiveness of multiple types of accounts in repairing relationships that were broken by a variety of violations in a field setting. Our results add to the accounts and trust literature in four ways.

First, these results confirm the findings of Kim et al. (2004) that apologies work best for repairing relationships for competence violations in a field setting, such as performance errors, clerical errors, and missing or late work, rather than just an incorrect tax return. Second, our results build on the work of Kim and colleagues (2004) to explore the possibility that there are more ways to seek to repair a relationship than just three types of accounts (apologies, denials, and reticence). This is especially significant because excuses and justifications combined (N=270) are used significantly more than the other three types of violations combined (N=145).

Third, we present initial findings that time violations should be considered as a new and different type of trust violation. Based upon Kim et al.'s (2004) definition of integrity, time violations should fall under the umbrella of integrity violations; however, our data suggests that time violations may be considered as a new type of trust violation. There are three main reasons for this. First, time violations are extremely common in our data set and seem to be a major cause of damaged relationships in the work place. In fact, out of 415 trust violations, 33.5% were time violations, as compared to 39.5% competence violations and 27.0% integrity violations. Second, the results show that damaged relationships caused by time violations are not likely to be repaired with an account. Third, variables that were significant for time violations was not identical to the variables that were significant for either competence or time and integrity violations. Our analysis shows that whether or not a relationship is repaired in the presence of a time violation is determined more by the relationship between the two parties than the type of account given.

Fourth, this study answers previous researchers' calls (Kim et al. 2004) for accounts research in a field setting. By doing this we were able to analyze different demographic information that played a role in relationship repair. We found that gender, status, tenure, friendliness, and reproach all play a role in relationship repair. Interestingly, for certain violations some variables played a significant influence, but then for other types of violations, they don't play a significant role.

These findings point to a couple of different areas of organizational and managerial implication. First, these results provide a framework for repairing the relationship amongst employees, employers, and potentially amongst coworkers when a violation occurs. This is important because when a violation occurs, the overall trust and effectiveness of a business unit decreases. If employees can become aware of what they can do to repair relationships when a violation occurs, then hopefully the overall trust and effectiveness can be restored as well.

But even if that original level of trust and effectiveness is not reached, at least the level of trust and effectiveness can reach a higher level than when the violation occurred. It is also apparent that there are certain accounts that employees can give that can actually lower the overall trust and effectiveness even after a violation has occurred. It would be wise to train employees to not use certain accounts for certain types of violations (i.e., justifications for integrity violations). The knowledge that there are accounts that are more effective for certain types of violations, and that there are accounts that are less effective for certain types of violations, if used appropriately, should improve the interpersonal relationships, increase the trust, and enhance the overall effectiveness of a department, division, and/or organization.

Second, these results show that employers and coworkers need to be aware of their own personal dispositions towards others in order to avoid perceptions of procedural injustice. These dispositions include how friendly they are, how one comes across when rebuking, and how they respond to people who match or do not match their gender, who are of lower or equal status, or who have worked at the company for a long or short time. For example, the results showed that friendliness was a control variable that was significant in predicting whether or not the relationship would be repaired for two of the three types of violations. This shows that the disposition for being friendly to employees may enable trust to stay at an overall higher level even when a violation occurs. This is similar to the effect that the type of reproach has on whether or not the account is honored. It seems to be that the more severe a reproach, the less likely the employer is to allow the relationship to be repaired.

Severe reproaches may also reflect poor manager-worker relations, poor training in supervisory skills, or reflect a goal of the manager to create an intimidating style of management (Braaten et al., 1993). So if employers could learn to control their reproaches, the level of trust in their department or division is likely to be higher. Also, the results showed that certain gender similarities/differences effect whether or not an account is honored. If the gender is the same for the trustor and trustee when a time violation occurs, the relationship is less likely to be repaired. Also, it is likely that if managers became more aware of their disposition to accept or reject accounts based upon gender relationships, they would have greater ability to keep the level of trust in their sphere of responsibility at a higher level.

Likewise, managers need to be careful to treat all employees the same and not give preferential treatment to employees who have worked longer at the company or who are similar in status to the manager (account receiver). In all, by making employers and coworkers more aware of their dispositions and biases, we are confident that more relationships can be repaired when a violation occurs and that the overall trust level of an organization will increase.

Future research should examine the ways in which cultural differences impact trust violations and the most effective ways to repair these breaches in cross-cultural settings.

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CAPITAL STRUCTURE DECISIONS OF TURKISH MANUFACTURING FIRMS

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ABSTRACT

In this study the effect of firm specific factors and macro economic factors on capital structure decisions of Turkish manufacturing firms are analyzed. Using panel data analysis I analysed 79 manufacturing firms which are traded on the İstanbul Stock Exchange over 2000-2007 period. My results shows that, profitability and risk have negative impact on all of the debt ratios. Tangibility, interest rates and Euro volatility have negative impact; growth opportunities, firm size, banking sector development, government debt and dolar volatility have positive impact on short term total debt ratios. Tangibility has a positive impact on long term debt ratio. Stock market development has negative and tax has positive effect on short term debt ratio.

INTRODUCTION

Capital structure is one of the most important issues in finance because capital structure decisions effects cost of capital, capital budgeting decisions and firm value. Theoretical literature has developed alot after the work of Modigliani- Miller (1958) which states capital structure is irrelevant to firm value. These studies generally aims to bring capital structure theories assumptions to a more realistic world and tries to explain capital structure decisions of firms, tries to find if there is an optimal capital structure and if there is how can firms have that type of structure. Academicians developed many theories and models to find the answer. Trade off theory states that in order to have an optimal capital structure firms have to balance the costs (bankruptcy and agency costs) of debt with the benefits (tax benefits) of debt. Pecking Order theory generally seem as a competitor of Trade off theory and according to Myers (1984) and Myers and Majluf (1984) capital structure is designed to minimize the inefficiencies in the firm investment decisions. Due to asymmetric information costs, firms prefer internal finance to external finance and when outside financing is necessary, firms prefer debt to equity because of the lower information costs. According to pecking order theory there is no optimal capital structure, because debt ratio occurs as a result of cumulative external financing requirements. According to Ross (1977) and Leland and Pyle (1977) who are the founders of Signalling theory, firm value and debt ratios are positively related. The logic behind this idea is; because of the asymmetric information problems, if the firm is undervalued, firm management can increase the share prices by increasing debt. Debt forces firms to make fixed payments and when a firm increases its debt ratio, investors think that this firm expects more future cash flows. Agency theory is another theory which based on two types of conflicts. Conflicts between managers and shareholders and conflicts between creditors and shareholders. According to Jensen and Meckling (1976) optimal capital structure occurs in the point on which agency costs of debt and benefits of debt are balanced.

Lots of empirical studies have been made in order to determine the factors that effect capital structure. Most of them made to analyze the capital structure of developed countries firms and again most of them is only interested in firm specific factors. There were some comparative studies which compares the determinants of capital structure in developed and developing countries and also within developed countries. These studies had been made long time ago. The same problem exists in Turkey. My aim is to analyze two types of determinants; firm specific and macroeconomic together in one of the developing countries.

I analyzed 79 firms and made 632 observations using the manufacturing firms that are quoted on İstanbul Stock Exchange over 2000-2007 time period using panel data analysis. Following part is literature review, third part explain the relationship between factors and leverage ratios. Fourth part belongs to data and methodology and the last part consists of results.

LITERATURE REVIEW

Huge amount of empirical studies have been made on the determinants of capital structure. Most of them took place in United States. Other studies were generally made in order to determine whether the determinants that effect capital structure in United States effects the capital structure of other countries.

Titman and Wessels (1988) analyzed the effects of profitability, size, uniqueness, industry classification, volatility, non debt tax shields and growth opportunities on leverage on United States manufacturing firms. They couldn't find any supportive proof for tangibility, growth opportunities, non debt tax shields, volatility and leverage relationship but found a strong negative relationship between market value leverage and profitability. For size variable they found that smaller firms short term debt ratio is greater and firm size and book value leverages are inversely related. Debt levels are negatively related to the uniqueness factor. Rajan and Zingales (1995) analyzed the capital structure decisions of G-7 countries (United States, Japan, United Kingdom, Germany, France, Italy and Canada) . The aim of the study is to investigate whether the determinants that effect capital structure choices in United States are relevant in another developed countries. Taking in to account the institutional differences they found positive relationship between tangibility and leverage ratios , and found negative relationship between market to book ratio and leverage ratios. Profitability and leverage is negatively related for all countries except Germany and France and again except for Germany size and leverage are positively related. Demirgüç-Kunt and Maksimović (1995) analyzed the effects of stock market development on firms financing choices using data from thirty developed and developing countries, as a result they found that initial improvements of stock markets increases debt ratios, but in already developed stock markets further development results in firms using equity instead of debt. Banking sector development generally have a positive relationship with debt- equity ratios and generally stock market development have an insignificant but negative relationship with debt-equity ratios. Real GDP growth and inflation have a significant negative impact on total debt ratios and short- term debt ratios. Booth et al. (2001) analyzed the determinants of capital structure across ten developing countries, namely; Brazil, India, Jordan, South Korea, Malaysia, Mexico, Pakistan, Thailand, Turkey and Zimbabwe. They found negative relationship between tangibility and total debt ratios especially for Brazil, India, Pakistan and Turkey but the relationship was positive when they used long term debt ratio. Profitability has a strong negative relationship with leverage. Market to Book ratio (Growth opportunities) sign is generally positive but for market long term ratios the relationship is negative. But they couldn't use this ratio for some of the countries including Turkey. Risk has negative relationship with leverage in Brazil, South Korea, Pakistan, Thailand, Turkey and Zimbabwe but has positive relationship for Mexico, India, Jordan and Malaysia. Generally tax rates is negatively related with leverage. They also denoted that there could be significant institutional differences affecting the importance of independent variables. Deesomsak et al. (2004) investigated the relationship for Thailand, Malaysia, Singapore, Australia. They found that the relationship between tangibility and leverage is statistically insignificant except for Australia. In Australia there is a positive relationship. Profitability and leverage is negatively related in Thailand, Singapore, Australia but again they are not statistically significant. All of the countries except Australia have negative relationship between growth opportunities and leverage ratios. Firm size is positively related to leverage. Again firm risk is not statistically significant in all of the countries. But non debt tax shields has a strong negative impact on leverage ratios. Huang and Song (2005) found that for Chinese firms tangibility and firm size positively effects leverage ratios. Profitability, future growth opportunities and non debt tax shields have significant negative effect on leverage ratios, firm risk has also have a negative impact but it is not statistically significant.

In Turkey Gonenc and Aslan (2003), Guney, Ozkan and Yalciner (2006) found the same relationship between tangibility and leverage ratios. For total debt ratio the sign of tangibility is negative but not statistically significant. Acaravci and Dogukanli (2004) who investigate only manufacturing firms and found tangibility is negatively related to short term debt ratio. Profitability found to have a negative relationship with leverage in all of the studies. For growth opportunities and firm size the results are not consistent. Gonenc and Aslan (2003) denoted growth opportunities and firm size had a negative relation with only short term leverage ratio. Acaravci

and Dogukanli (2004) found no significant results for growth opportunities. Guney, Ozkan and Yalciner (2006) found negative relationship for firm size, growth opportunities and all of the leverage ratios. According to Gonenc and Aslan (2003) firm risk is negatively related with short term debt ratio.

RELATIONSHIP BETWEEN FIRM SPECIFIC FACTORS, MACROECONOMIC FACTORS AND LEVERAGE RATIOS

Tangibility: General theoretical expectation of the relationship between tangibility and leverage is positive. According to pecking order theory when firms need external financing they would prefer whichever price is farthest away from managers' information. Pricing debt would be easier when tangible assets are pledged as collateral (Shleifer and Vishny, 1997). Myers (1984) stated that expected cost of financial stress is related to the value that would be lost when faced with difficulty. Tangible assets lose less value than intangible assets when faced with bankruptcy. As a result tradeoff theory expects a positive relationship. Acquiring debt would also reduce the agency costs of debt. One of the most important problems between shareholders and creditors is asset substitution problem which is a result of overinvestment. Shareholders have a tendency to make riskier investments when a firm is highly levered (Jensen and Meckling, 1976). In this case when the investment fails creditors would bear the result, but when it succeeds shareholders take all of the residual amount after the fixed payments to creditors. But according to the agency theory; negative relationship could also be expected. Debt can discipline managers and force them to make fixed payments, so if a company has more intangible assets than tangibles, it needs more debt to divert managers from investing in non-pecuniary items (Titman, 1988). In this study tangibility is defined as TANG: TANGIBLE ASSETS/TOTAL ASSETS.

Profitability: Tradeoff theory mentions that if profitability is low, expected costs of financial stress will rise. But if profitability is high, tax advantage of debt will be higher, as a result positive relationship between profitability and leverage ratios are expected (Fama, French 2002). Pecking order theory states that external financing requirements are determined by the difference between retained earnings and investments. So more profitable firms need less external financing; so less debt (Myers, 2001). Jensen (1986) from agency theory denoted that debt forces managers to use free cash flow to make fixed payments, so free cash flows can't be used for managers' personal expenditures. Again positive relationship is expected by agency theory. Signalling theory expects positive relationship because profitable firms can give the signals of their profitability by increasing their debt ratios (Haris, Raviv, 1991). Profitability is defined as PROF: EBITDA/TOTAL ASSETS

Growth Opportunities: Growth opportunities can not be used as collateral and in case of bankruptcy they lose more value than tangible assets (Haris and Raviv; 1990, Shleifer and Vishny, 1992; Alderson, Betker, 1996). Expected relationship by tradeoff theory is negative. Pecking order theory expects positive relationship because external financing needs will be higher when growth opportunities rise (Frank, Goyal, 2003) Since asset substitution problem rises with growth opportunities, it is expected that growth opportunities would negatively affect debt ratios. Signalling theory expects positive relationship because asymmetric information related to growth opportunities are high, so increasing debt will send signals about the realistic value of the firm (Megginson, 1997). Growth opportunities are represented by GROW: MARKET/BOOK ratio.

Firm Size: Pecking order theory and tradeoff theory expects positive relationship between size and leverage. Because large firms are generally more diversified than smaller ones, and this feature decreases their failure probability (Feri, Jones, 1979). Also when smaller firms face financial stress, the probability of liquidation is higher than larger firms (Güney, Özkan, Yalçiner, 2006). But since asymmetric information is fewer in larger firms negative relationship can also be expected by the theories that are based on asymmetric information (Rajan, Zingales, 1995). Agency problem between creditors and shareholders can be reduced by monitoring and bonding activities but these costs are higher for larger firms and since agency cost of equity is higher for smaller firms. Agency theory expects negative relationship. SIZE: NATURAL LOGARITHM OF SALES (2000 prices) is used as a Proxy of firm size.

Firm Risk: According to tradeoff theory, when volatility of earnings or market value of assets are high, firms should use less debt. Because when higher operating risk is combined with higher financing risk the

probability of bankruptcy will be higher (Myers, 1984). Complicated version of pecking order theory states that if a firm doesn't want to pass up profitable projects in the future it should use less debt now. So there should be a negative relationship between leverage and firm risk (Fama, French, 2002). RISK: STANDARD DEVIATION OF EBIT/ AVERAGE TOTAL ASSETS is used as a Proxy of firm risk.

Nondebt Tax Shields: De Angelo and Masulis (1980) states that if a firm has significant non debt tax shields such as depreciation, amortization, research and development expenditures, investment tax credits etc, it will need less interest tax shield. Tradeoff theory expects negative relationship between nondebt tax shields and leverage but, this expectation can change if marginal tax rate expected from interest tax shield is higher. Some advocates of agency theory assumes that if a firm get huge benefits from investment tax credits, it means it has large amount of tangible assets and high profit, in this case positive relationship will be expected (Mackie-Mason, 1990). Non debt tax shields are represented as NTS: DEPRECIATION AND AMORTIZATION/ TOTAL ASSETS.

Tax Rates: Since interest payments are tax deductible, tradeoff theory expects positive relationship between corporate tax rate and debt ratios. But of course this expectation can be valid if firm will have positive earnings before taxes and interest. TAX: TAX RATES is a proxy of tax rates.

Stock Market Development: Stock markets provide information about firms and this makes giving loans less risky for creditors. Also in liquid stock markets there are more incentives to inform investors and this makes monitoring of firms easier (Wanzeried, 2002). Stock market development helps the firms to find long term financing and increases the number of accepted investment projects. Demirgüç-Kunt and Maksimoviç (1995) found that initial improvements of stock markets increases debt ratios, but in already developed stock markets further development results in firms using equity instead of debt. Since Turkish stock market is a developing one, my expectation is to find positive relationship between stock market development and leverage ratios. Stock market development is represented as TRNO: TOTAL TRADING VOLUME/MARKET CAPITALIZATION

Real GDP Growth: Economic development would effect growth of firms, because it will cause to an increase in investments. Since these investments have to be financed, positive relationship may be expected between leverage and GDP growth. But finance theory suggests to finance growth with equity (Demirgüç-Kunt and Maksimoviç,1995). So negative relationship can also persist. RGDP: REAL GDP GROWTH RATE

Banking Sector Development: In developing countries financial intermediation is generally held by banking sector, because stock and bond markets do not developed as in developed countries. So banking sector development has a direct impact on capital structures of firms. Positive relationship is expected between banking sector development and leverage ratios. BSD: BANKING CLAIMS ON PRIVATE SECTOR/GDP is the proxy of banking sector development.

Government Debt: An increase in government debt is expected to decrease the amount of credits provided by banks to firms. Especially this effect which is known as crowding out, generally persist in developing countries. Other effect of a rise in government debt that it would also cause an increase in interest rates. As a result negative relationship is expected between government debt an leverage ratios. GOVD: BANKING TOTAL CLAIMS ON GOVERNMENT/GDP

Interest Rates: Interest rates has a direct effect on the cost of debt. An increase in interest rates will increase the cost of capital and it can also decrease firms credit ratings because it reduces the collaterals value and reduces final demand of firms. A negative relationship is expected (Bernanke, Getrler, 1995). Interest rates are real interest rates that are calculated by fisher's Formula. INT: Real deposit interest rates is the Proxy of interest rates .

Exchange Rate Volatility: Reduction in value of national currency has two different effects (Bleakley, Cowaian, 2002). If revenues of a firm are stated in foreign exchange and costs are in national

currency, a rise in exchange rate can increase the profitability of investments and firms debt ratio. But it can also increase firms debt if the debts are in foreign currency, this would deteriorate the balance sheets. This would result with a ease in debt ratios (Aghion, Bachetta, Banerjee, 2000, Bleakley, Cowan, 2002). Volatility of exchange rates are represented by VOL 1: STANDART DEVIATION OF EURO , VOL2: STANDART DEVIATION OF DOLLAR.

DATA AND METHODOLOGY

The variables explained in the previous section were analyzed over the 2000 through 2007 time period. The sources of firm specific is Datastream. International Financial Statistics Data (IFS) and Euromonitor data were used for macroeconomic variables. 79 manufacturing firms that were quoted on İstanbul Stock Exchange were analyzed using panel data analysis, numbers of observation was 632. Panel data method was used because the observations in this study have two dimensions: cross section and time series dimension. In this study, fixed effects regression were used because data covers most of the publicly traded manufacturing firms that are quoted to İstanbul Stock Exchange.

3 types of leverage used in this analysis so 3 models were analysed:

Model 1: In this model; Leverage 1: Total Long Term Liabilities / Total Assets is used as dependent variable.

Model 2: In this model; Leverage 2: Total Current Liabilities / Total Assets is used as dependent variable.

Model 3: In this model; Leverage 3: Total Current Liabilities + Total Long Term Liabilities / Total Assets is used as dependent variable.

Model is specified below:

$$(1) L_{ait} = \beta_1 TANG_{it} + \beta_2 PROF_{it} + \beta_3 GROWTH_{it} + \beta_4 SIZE_{it} + \beta_5 RISK_{it} + \beta_6 NTS_{it} + \delta_7 INT_{it} + \delta_8 TRNO_{it} + \delta_9 BSD_{it} + \delta_{10} RGDP_{it} + \delta_{11} TAX_{it} + \delta_{12} GOVD_{it} + \delta_{13} VOL1_{it} + \delta_{13} VOL2_{it} + \varepsilon_{it}$$

a: 1,2,3 (Leverage 1, Leverage 2, Leverage 3)

i: 1,2,3.....N number of firms

t: 1,2,3,.....,T time.

THE RESULTS

Tangibility negatively effects both short term debt ratio and total debt ratio, but it's impact on long term debt ratio is positive. This result is not consistent with what the tradeoff and pecking order theory expects, but it can be explained simply by matching principle. Myer's (1977) stated that in order to reduce underinvestment problem maturity of assets should be matched by the maturity of equities. Profitability has negative impact on all of the leverage ratios. This result is consistent with pecking order theory expectations, since profitability decreases external financing needs, there is a negative relationship between profitability and leverage ratios. Growth opportunities have positive impact on short term and total debt ratios, but the relationship is not statistically significant for long term debt ratio. This result is again consistent with what the pecking order theory expects. Growth opportunities increase the need of external financing and the first external financing method that is used by firms is acquiring debt. Firm size positively effects short term and total debt ratios. Pecking order theory and trade off theory expectations are valid. Because of diversification, probability of bankruptcy for large firms is low. Firm risk negatively effects short term and total debt ratios. As tradeoff theory suggests Turkish manufacturing firms don't have any tendency to add financing risk to their operating risk. Non debt tax shields has positive effect on total debt ratio. This is consistent with the expectations of agency theory which states; more depreciation can imply more tangible assets.

From macroeconomic variables interest rates have negative effect on all of the leverage ratios. Banking sector development has positive effects on leverage ratios as expected. Stock market development has no significant effect on total debt ratio but has negative effect on short term debt ratio. Turkish Stock Exchange is a developing stock Exchange, but interestingly it can be a substitute for short term debt. Real GDP growth has positive impact on all of the leverage ratios, economic growth causes to firm growths but this is generally financed with debt. Tax rates don't have any significant effect on total debt ratio but positive effect on short term debt ratio, which is an expected result by trade off theory. Government debt also interestingly have positive

impact on leverage ratios, which means crowding out effect doesn't exist in Turkey over the period studied. Euro volatility has negative effect but dolar volatility has positive impact on debt ratios. This result implies that the firms that are analyzed in this study has more foreign currency debt in Euro and has more foreign currency revenue in dolar on the average.

Table 1: Fixed effects regression results

	LEVERAGE 1			LEVERAGE 2			LEVERAGE 3		
	Coef.	T-Value	P-Value	Coef.	T-Value	P-Value	Coef.	T-Value	P-Value
TANG	0.11759	3.07	0.002	-0.21315	-4.53	0.000	-0.95556	-1.85	0.065
PROF	-0.0623	-2.58	0.010	-0.07867	-2.65	0.008	-0.14107	-4.32	0.000
GROW.				0.00560	4.20	0.000	0.00728	4.97	0.000
SIZE				0.06789	8.31	0.000	0.07085	7.90	0.000
RISK				-0.13649	-1.74	0.083	-0.14553	-1.69	0.092
NTS							0.24123	2.26	0.024
INT	-0.3534	-1.82	0.070	-0.54986	-2.30	0.022	-0.90329	-3.44	0.001
TRNO				-0.56544	-1.68	0.093			
BSD				2184.013	4.79	0.000	2346.53	4.69	0.000
RGDP				11.89332	2.56	0.011	11.3009	2.21	0.027
TAX				4.14384	1.90	0.057			
GOVD				3.43575	4.97	0.000	3.81850	5.03	0.000
VOL 1				-6.11199	-2.30	0.022	-5.55572	-1.90	0.057
VOL 2				8.8774	2.36	0.018	8.28039	-1.69	0.092
R ²	0.0911			0.1614			0.1291		

CONCLUSION

In this study my aim was to analyze firm specific factors and macro economic factors together in one of the developing countries, Turkey. Firm specific factors such as tangibility, profitability, firm size, growth opportunities, firm risk has significant effects on leverage ratios as suggested by different capital structure theories. From macroeconomic variables interest rates negatively effect leverage ratios. Banking sector development have positive impact on leverage ratios but stock market development has negative effect on short term debt ratios which means that they are substitutes to each other. Real GDP growth increases leverage ratios. Economic growth increases firms investment opportunities and they are generally financed with debt-especially short term- in Turkey. Interestingly government debt doesn't prevent banks to give loans to private sector. Tax rates don't have any significant effect on debt ratios except for positive effect on short term debt ratios. Euro and dolar volatility's opposite effects on capital structure can be explained by export and foreign currency debt composition of the firms that were used in the study. The effects of most of the factors (except for tangibility, profitability and interest rates) on long term debt found to be insignificant can be explained by firms tendency to use short term debt as long term debt.

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PROBLEMS FACING SOUTH AFRICA IN THE ALLEVIATION OF POVERTY AND UNEMPLOYMENT

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ABSTRACT

Nation states are keen to be perceived by the international community as leaders in the advancement of fundamental human rights. However, problems they encounter in the implementation thereof may annul the noble intentions that existed when those instruments were ratified. The international community, as represented by the United Nations, has recognised that the guarantees provided by first generation rights, unaccompanied by enforceable socio-economic rights, are not effective – especially in developing countries – in order to achieve global peace and economic advancement, as well as the important goal of the advancement of democratic values: For example, the right to vote cannot, in such countries, be equated with the provision of shelter, food, education, or employment. Against this background, this paper investigates the global standards set by the United Nations in order to alleviate poverty and unemployment, its ratification or accession by the South African government, including its management.

This paper asks whether the goals set by the international community, aimed at eradicating or alleviating poverty and unemployment could be achieved in South Africa. In response to this question, attention will be given to the state of unemployment in South Africa, as well as the progress made in order to alleviate poverty.

INTRODUCTION

Unemployment and poverty are linked and is a definite reality in South Africa. Addressing unemployment will reduce poverty, but the government alone does not have the necessary resources and infra structure. The government needs help from the international community and businesses. Although underemployment and unemployment are related, it is necessary to draw a clear distinction between the two. Underemployment has three manifestations. The first manifestation is where a person is working, but his qualifications are underutilised. Highly skilled workers are placed in low-wage jobs that do not require their skills, for example a qualified teacher works as cashier in a grocery store. Another manifestation of underemployment is workers who want to work a full work-week, are employed involuntary part-time workers. The last indicator of underemployment is overstaffing. Due to the global economic crisis the last mentioned form of underemployment is less common. Unemployment and underemployment go hand in hand. Many people are forced to choose underemployment because the alternative is worse. Under- and, especially unemployment, leads to poverty.

One definition of poverty is the shortage of common things such as food, clothing, shelter and safe drinking water, all of which determine our quality of life. It may also include the lack of access to opportunities, such as education and employment, which aid the escape from poverty and allow one to enjoy the respect of fellow citizens. In this regard, it should be mentioned that the protection and advancement of human dignity is a foundational value which the South African Constitution seeks to promote (Wikipedia, 2009).

The United Nations has, over a long period, addressed the issue of poverty alleviation. On 21 December 1993 the General Assembly proclaimed 1996 the International Year for the Eradication of Poverty. The eradication of poverty was one of three major themes of the World Summit for Social Development in Copenhagen. On 20 December 1995 the General Assembly proclaimed the first decade for the eradication of poverty (1997-2006) and appealed to donor countries to give greater priority to the eradication of poverty in their budgets. The main objective was to eradicate scornful poverty and to reduce overall poverty in the world through decisive national action and international cooperation. Their target was to reduce by one half, by 2015, the proportion of people living in extreme poverty (Ozmánczyk & Mango, 2003).

The Universal Declaration of Human Rights of 1948, the International Covenant on Economic, Social and Cultural Rights of 1966 and the United Nations Millennium Declaration, 2000 are set standards and goals, designed to alleviate global poverty. The South African Government has associated itself with these United Nations standards aimed at alleviating or eradicating poverty. This paper investigates the implementation by South Africa of these international law measures. A question that can be asked is to what extent the South African Government applies resources to reach international guidelines.

The discussion starts off with an overview of the international instruments that were initiated by the United Nations with the aim of alleviating poverty and unemployment. This is followed by a discussion of poverty and unemployment. Thereafter, the problems facing South Africa in alleviating poverty and unemployment is explored after which a conclusion will be given. This is a theoretical paper and literature study of the relevant concepts.

THE UNITED NATIONS

On 10 December 1948 the General Assembly of the United Nations adopted the Universal Declaration of Human Rights. This Declaration is not a legally binding instrument, but is important as authoritative guide and has considerable indirect legal effect (Brownlie & Goodwin-Gill, 2006). It has been convincingly argued that its principles have attained the status of customary international law (Patel & Watters, 1994). Some of the most important articles in the Universal Declaration of Human Rights regarding poverty alleviation and unemployment are:

Article 23:

- 1. Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and protection against unemployment.*

Article 25:

- 1. Everyone has the right to a standard of living adequate for the health and wellbeing of social services and the right to security in the event of unemployment.*

Article 26:

- 1. Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages.*

On this view, the provision of work, adequate health care, food, clothing, shelter and basic education, are rights that “everyone” is entitled to.

The International Covenant on Economic, Social and Cultural Rights, 1966 came in force on 3 January 1976. Articles 6, 7 and 8 of this Covenant deal with rights of employees and trade unions (Brownlie & Goodwin-Gill, 348). In my view, the South African government (with pressure from workers unions) adheres to these articles, although it definitely was not the situation when this Covenant was ratified.

Article 6

The States Parties to this Covenant recognize the right to work, which includes the right of everyone to the opportunity to gain his living by work which he freely chooses

Article 11

- (1) *The States parties to the Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to continuous improvement of living conditions. States Parties will take appropriate steps to ensure the realization of this right*
- (2) *States parties shall take measures, including specific programmes,*
 - (a) *To improve methods of production, conservation and distribution of food by making full use of technical and scientific knowledge*

The United Nations Millennium Declaration 2000 was adopted by 189 nations and signed by 147 heads of state and governments during the UN Millennium Summit in September 2000. The UN Millennium Declaration has eight goals, called Millennium Development Goals. The first goal it seeks to achieve is the eradication of extreme poverty and hunger (Brownlie, Goodwin-Gill, 237).

Section 12:

We resolve therefore to create an environment – at national and global levels alike – which is conducive to development and to the elimination of poverty.

Section 19:

We resolve further:

- *To halve, by the year 2015, the proportion of the world's people whose income is less than one dollar a day and the proportion of people who suffer from hunger and, by the same date, to halve the proportion of people who are unable to reach or afford safe drinking water.*
- *To ensure that, by the same date, children everywhere will be able to complete a full course of primary schooling and that girls and boys will have equal access to all levels of education.*
- *By the same date to have reduced maternal mortality by three quarters, and under-five child mortality by two thirds, of their current rates.*
- *To have, by then, halted, and begun to reverse, the spread of HIV/AIDS, the scourge of malaria and other major diseases that afflict humanity.*
- *To provide special assistance to children orphaned by HIV/AIDS.*
- *By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers.*

South Africa and the Millennium 2000

For South Africa, the achievement of the Millennium Development Goal of halving the number of people living in poverty by 2015, will be a long term project. It is important to be realistic about what can and what cannot be done. In other words, the issue is what is feasible from a pragmatic point of view. Many projects have been adopted by the South African government with a loud fanfare, despite indications that they could not meet their envisaged goals. In a frank assessment of how government has gone wrong in trying to bring marginalised people into formal economy, the Development Bank of Southern Africa concludes as follows (Frye, 2006):

- a) There has been a failure to disaggregate and quantify what the nature of the problems are that we are dealing with and to appreciate that the poor and marginalised are not one homogenous group, but require many different types of interventions and programmes
- b) There has been a disregard and neglect for people's existing skills and knowledge
- c) There has been a lack of proper consultation to understand what the real constraints are facing people struggling to move out of poverty
- d) There has been a failure of our government to learn from past lessons

POVERTY

Measuring poverty

Absolute poverty refers to a set standard which is consistent over time and between countries. An example of an absolute measurement would be the percentage of the population eating less food than is required to sustain the human body (approximately 2000-2500 calories per day for an adult male). The World Bank defines extreme poverty as living on less than US \$1 per person per day and moderate or relative poverty as less than \$2 a day (Frye, 2006).

Global poverty

The costs of global poverty are multiple, for example, poor countries do not have sufficient resources to detect, treat and prevent the spread of deadly diseases. According to the World Health Organization, low- and middle-income countries suffer 90 percent of the world's disease burden. Poor countries are not at means to protect important forests and watersheds, either because of poverty, or the inability of governments to effectively enforce the law. As a result, criminal activities often flourish in such countries. In short, poverty concerns the rest of the world. The United States committed itself to establish an effective global health infrastructure by 2020 (Obama, 2007).

Poverty in South Africa

It is common knowledge in South Africa that a substantial percentage of the South African population between ages 30 and 40 dies of HIV/AIDS, leaving their children behind. It is not uncommon to find children raising their younger siblings. These families live in extreme poverty and the older children work or beg in order to take care of their family. The elderly also often lives in poverty. Improved medical science gave rise to a higher life expectancy and older people often have to rely on old age pension to survive, which is simply not sufficient. In many instances the children of old people died of HIV/AIDS and their parents are left behind with no one to take care of them. More than 15 years after the end of apartheid, nearly half of South Africa's population continue to live in poverty (Luyt, 2008).

According to Makiwane, chief executive of South African Social Security Agency, social aid is one of our government's main poverty alleviation programmes. South Africa's social grants target the elderly, disabled people and children. Over 6.2 million South African children currently benefit from social grants. Child support grants have been extended to 1.9 million children under 11 years and more or less 1.2 million children between 11 and 14. He continues to report that before any child may benefit from social grants, the South African Social Security Agency must ensure that the beneficiaries are indeed attending school (SA's social security agency, 2009).

However, Archbishop Ndungane of Cape Town claims he met communities affected by poverty across the country and that South Africa is in "a state of emergency". He claims that never before in the history of South Africa have so many people said "we have no food". He challenged government ministers to go from village to village with him (Ndungane, 2009).

Problems facing the South African Government

The government has been losing an estimated R1.5 billion per year to fraud, committed through social grants. Paypoints are frequently robbed and a substantial number of staff members in social welfare departments are involved in fraud and corruption. There have been claims that clerks refuse to process applications unless money is included with the prescribed form; and bribes have been demanded as a precondition for appointments. Pensioners often travel long distances to pay points, only to find that no money is available, without any reasons being given. Government social grants are inadequate in the face of the high cost of living - especially food and paraffin. More often than not, people that are frustrated with their lack of prospects, resort to stealing (SA's social security agency, 2009).

Mthethwa (2009) reports the South African government's land reform programme is failing miserably, and as a result, South Africa's food supply is seriously threatened. Thousands of once-productive farms now lie abandoned and South Africa is forced to import more and more food. Food prices soar as there is

restricted supply and increasing demand. Despite this, Mthethwa argues, the South African government still refuses to admit that the land reform programme is failing.

Public hospitals in South Africa lack enough workers, medical equipment, ambulances, linen and medicine to provide proper care to the poor. Doctors cancel surgery because they lack sterile towels and sheets. Equipment is not replaced when it breaks. Hospital wards and bathrooms are filthy (Swarns, 2009). Hospital nurses are of the lowest paid professionals in South Africa and hospitals as a consequence are forced to employ unqualified and unmotivated nurses.

A major obstacle to poverty alleviation in South Africa is poor governance, which includes corruption as well as poor performance by government officials in their management of public resources. It seems as if there is a lack to act against underperforming officials. The poor management of public resources results in poor public service delivery implementation and undermines poverty alleviation policies. The governance of most provincial and local governments is without any consideration of public resources. The government at all levels, but especially provincial and local governments must be held accountable for efficient planning, budgeting and implementing policies relating to economic and social rights, especially poverty alleviation (Luyt, 2008).

The Pretoria News reported that The Tshwane Metro Council (previously known as Pretoria) and the Gauteng department of housing have both failed to reach their Reconstruction and Development Programme (RDP) housing targets for 2008/2009. This failure increases the waiting list which already stands at 89 5000 applicants. The Gauteng Department of Housing built only 7 410 from the target of 20 724 houses in the 2008/2009 financial year (Magome, 2009).

Poverty has many dimensions and causes and different actions are needed at different levels to significantly reduce poverty. Good governance alone will not end poverty, but we also cannot reduce poverty without good governance at all levels, from global to the local governance (Luyt, 2008).

The South African government is the sole shareholder of The South African Airways (SAA). The SAA has suffered enormous losses during the last couple of years and the South African government bailed them out with billions of rand. It is reported that for the 2009/2010 tax year, the SAA requested more than R5 billion from the government (Business Day, 2009).

Approval amongst all South Africans of the way the government handles the economy declined from 71 % in 2006 to 34 % in 2008. Less than half of all South Africans (down from two-thirds in 2004) believe they can trust the country's leaders to take appropriate decisions (Boye, 2008).

UNEMPLOYMENT

Global unemployment

According to the International Labour Office 2009 annual Global Employment Trends Report (GET), the global economic crisis is expected to lead to a dramatic increase in the number of people joining the ranks of the unemployed, the working poor and those in vulnerable employment (ILO, 2009).

On 30 January 2009 the Director General of the United Nations, Juan Somavia, warned that global unemployment will increase “dramatically” in 2009 as a consequence of the worldwide economic crisis. He warned that the number of unemployed worldwide this year could well be 30 to 50 million more than in 2007. This would mean a global unemployment rate of 6.5 % in the first scenario or 7.1 % in the second. According to Somavia, we are facing a global job crisis. Many governments are alive to its impact and are taking effective measures to avert it, but more decisive and coordinated international action is needed to avert a global social recession. The International Labour Organization (ILO) also predicted that the deteriorating global economy would result in more “working poor”, namely workers that earn less than \$2 per day (ILO, 2009).

Unemployment in South Africa

South Africa has a history of chronic unemployment. Social security in South Africa is based on European models developed after the Second World War, where unemployment was considered a short term predicament. South Africa's Unemployment Insurance Fund is available only to former employees and provides relief for a maximum of 6 months. The Unemployment Insurance Fund gives no relieve to the millions of chronically unemployed (Frye, 2006). Research done by the Development Bank of Southern Africa indicate that from 1995 to 2002 unemployment rates for people with a grade 12 certificate increased from 16 % to 32.3 %. However the unemployment rate for people with diplomas increased from 4.7 % to 14.6 % and for people with degrees from 2.4 % to 6.6 %. According to this research, the number of years one has spent in education does not increase your chance of finding employment, which questions the argument that so many people in South Africa are unemployed due to their low levels of education (Luyt, 2008).

The current overemphasis on capital-intensive methods of production contributes to high unemployment. For South Africa to achieve its sustainable development potential, it should consider a re-orientation of the economy. This would mean, for example, changing the labour market structure to one that specifically provides incentives for labour-absorbing modes of production. Public works could provide a short-term employment solution, but industrial policy should also aim to increase labour intensity through the withdrawal of subsidies that favoured capital-intensive or large-scale enterprises (Frye, 2006).

Problems facing the South African Government

A question writer asks is how much unemployment in South Africa is voluntary? Most statistics writer hereof studied indicates only the narrow definition of unemployment in other words people that actively seeks employment. Employment indicators showed that during September 2006 unemployment in terms of the broad definition was 37.3 % and unemployment in terms of the narrow definition 25.5 % (Global Poverty Research, 2005).

South African students show exceptionally low levels of literacy and numeracy. According to a research report of the 2003 round of the Trends in International Mathematics and Science Study, South African grade 8 students performed worse in the science and mathematics tests than every other country that participated and most young South Africans leave school with limited skills”(Frye, 2006). It seems as if the Department of Education is unable to resolve the issue. It is well known that the morale of teachers in South Africa is very low. They are overworked and confronted with rude, undisciplined scholars. When it comes to salaries, teachers in South Africa is at the bottom of the food chain with the result that most skilled people choose teaching only as a last resort.

Global policies to address unemployment

According to the ILO a huge labour potential worldwide remains untapped. They listed a few policy measures applied by some governments, namely (ILO, 2009):

- a) Wider coverage of unemployment benefits and insurance schemes, re-skilling redundant workers and protecting pensions from devastating declines in financial markets
- b) Public investment in infrastructure and housing, community infrastructure and green jobs
- c) Support to small and medium enterprises
- d) Social dialogue at enterprise, sectoral and national levels

Policies to address unemployment in South Africa

A few suggested policies for South Africa that are in line with international strategies are (Frye, 2006):

- a) The government should improve the poor level of teaching experienced by the majority of poor learners
- b) It is important to try to move employment opportunities closer to communities of unemployed people

- c) Innovative studies of the impact of current and recent trade agreements need to inform the development of new skills to meet the requirements as they develop
- d) Recognise that high levels of poverty act as a brake on addressing unemployment, as they effect domestic demand and especially demand for cheaper, locally produced goods and services. South Africa imports at a higher rate than it is exporting
- e) Expand the cover of social security. After all, adequate social security is a constitutional right

CONCLUSION

The paper investigated the South African Governments commitment and ability to address poverty alleviation and unemployment strategies in line with international standards.

The United Nations has made significant attempts at alleviating global poverty and unemployment. This is evidenced by the numerous Declarations and Conventions it proclaimed. South Africa has constitutionally entrenched the protection of socio-economic rights, which can be directly enforced in a court of law. However, the justiciability of socio-economic rights will not transform poverty and unemployment in South Africa. Poverty and unemployment can only be alleviated by the collective will of the people appointed by government to implement the values espoused by the South African Constitution. Having said that, one can only but concludes that corruption is one of the major problems obstructing South Africa in achieving its goal of alleviating these problems.

In addition, poverty and unemployment cannot be addressed successfully only by government. The international community and local as well as international businesses will have to redistribute resources to help address this problem successfully. The international community can help by means of sustainable partnerships between international businesses and South African links and local employment by foreign companies. Due to global poverty it is understandable that the international community feels charity begins at home and first must alleviate poverty in its own boarders.

Local businesses can help to alleviate poverty and unemployment with social initiatives focusing on employees and the local community, training initiatives and by not reverting to retrenchment strategies as a first resort. Another option might be to return to labour intensive rather than capital intensive production. Local businesses and government should consider more partnerships in social upliftment schemes. Local businesses and non government organisations can also form more partnerships to initiate alleviating schemes.

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CHINA'S ECONOMY: GROWTH, RECESSION AND THE STIMULUS PLAN

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ABSTRACT

This article reviews the factors responsible for China's extraordinary growth rate. The effect on China of the world's recession and the effectiveness of its stimulus package is also studied. Finally, consideration is given to R & D expenditure and technology on past and future Gross National Product (GNP).

INTRODUCTION

This study focuses on the underlying causes of China's extraordinary growth rate. The importance of exports and investment is explained. The effect of the current world recession and China's fiscal policy response to encourage growth and minimize unemployment is considered.

Since 1979, China has achieved and maintained an extraordinary high level of economic growth. From 1879 to 2008, China achieved a remarkable 27-year sustained average annual growth rate of 8.6% (See Table 1) for Gross National Product (GNP). There were only three years (1981, 1989 and 1990) when the growth rate fell below 7 percent.

The world's largest and highest GNP growth rates belong to Taiwan and South Korea, 8.3 percent and 9.5 percent, respectively, over a 40-year period (R. Kojima).

On a purchasing power parity (PPP) basis, China's GNP is second only to the United States, followed by Japan and Germany. But on a per capita basis, China does not even make the list of the top hundred.

GROWTH RATE CAUSAL FACTORS

There are many factors that contributed to the astonishing growth of China's GNP, not the least of which was the decision to switch from a centralized, command economy to a free market, profit-oriented economy. Three of the more important factors responsible for China's rapid growth are (1) achievement of a high export rate; (2) attracting foreign investment; and (3) a high domestic investment rate.

Exports

Table 2 shows that since 1996, China's exports increased fivefold while imports increased almost as much. China's trade surplus ranged from 12.2 billion and 44.3 billion dollars. In 2005, the trade surplus jumped to 102 billion dollars. The only other trading group to have achieved relatively consistent positive trade balances is the EU15 group. China is now referred to as the world's factory. China's largest export markets are U.S. (\$205 billion, 2005), EU15 (\$170 billion), Japan (\$102 billion) and other Asian countries (\$151 billion). Table 4 and Figure 2 depict the large source of investment trends for infrastructure and foreign investment available to China.

Imports

China is a heavy importer of fuels and metals. In 2005, China imported \$64 billion of fuel of which \$45 billion were for purchases in the Middle East. Iran, Angola and Saudi Arabia are the largest suppliers of oil to China. In 2000, China formed the China-Africa Development Fund (\$55 Billion) to support Chinese entrepreneurial

projects in Africa. Sixty percent of Sudan's oil output is imported by China. China's foreign policy is understandably influenced by its need for critical resources.

Table 3 list the data for exports, imports and balance of merchandise trade, and the services trade balance of the five largest economic entities: OECD, EU15, US, UK and China. Table 3A shows the astonishing growing trade imbalance between China and the U.S.

CHINA and the WTO

China became a member of the World Trade Organization (WTO) in December 2001. This membership opened the door to even greater trade expansion for China. Tariffs and quota restrictions were removed (or lowered). However, as China became the world's factory and provided the world with low price goods, trade balances of many western countries, particularly the U.S., became exacerbated. Western countries have accused China of "dumping," and using governmental subsidization policies to support local industries. These complaints allow the complaining country to institute emergency tariffs and quotas. China is working toward achieving "market economy" status which would require a complaining country to provide proof that China is violating WTO rules. In 2006, WTO completed its first Trade Policy Review of China. The report found that in many industries and markets there were substantial barriers to entry, e.g., local authorities favored local producers. Also, WTO found weak enforcement of intellectual property rights. Indeed, Microsoft changed its business model and opted not to sue over patent infringement but rather chose a policy of working more closely with the central government to develop software systems that solved current problems.

Foreign Investment

Since 1980, China's foreign direct investment (FDI) has grown by leaps and bounds from a mere \$57 million in 1980 to \$40.7 billion in 2000. China's growth in FDI compared with other countries is presented in Table 3. China is not the only destination for FDI. U.S., U.K., Germany and France have exceeded or maintained FDI levels comparable to that of China. It should be noted that after January 2008, foreign corporations will no longer receive preferential corporate profit tax incentives. Consistent with WTO requirements all companies (foreign and domestic) will pay a standard 25 percent tax rate.

Beginning in 2002, China's domestic investment (fixed asset investment) soared, reaching 51.2 percent of GDP in 2005 (Kojima, p. 40). China invested in large scale projects, such as Three Gorge Dam, gas and oil pipelines in Kazakhstan and Russia, expressways extended by an additional 30,000 km, building of power plants and western development housing projects.

THE GREAT RECESSION AND CHINA

The world's demand for China's exports fell significantly in Q4/2008. In 2007, China's exports were \$1.22 trillion which represented 37 percent of GDP. Gupta and Wang estimate that 58 percent of China's exports were processed or assembled products, the components of which were imported into China. Value added within China is estimated to be about 12 percent. Thus, exports contribute about 12 percent of China's GDP or about 3% of the 12 percent growth rate in GDP., (Business Week; April 20, 2009). Thus, the effect of the world slump will have a significant but not a disastrous effect on China's GDP. In Q4, 2008, GDP grew at a seven-year low of 6.8 percent. Although the official unemployment rate is 4.2 percent (a 30-year high), more realistic estimate of unemployment put the jobless rate above 9 percent (Business Week; February 4, 2009). Those workers most affected work in export-oriented factories, construction sites and factory cleaning crews.

China's Stimulus Plan

In November 2008, China lunched a \$586 billion stimulus package. China is promoting consumption spending to compensate for the drop in exports. For example, the government has offered a 13 percent subsidy to rural residents and farmers to purchase household appliances such as low-end televisions and refrigerators from domestic manufacturers.

China's housing market has also declined as buyers await further falling housing price. Housing accounts for 25 percent of fixed investment and consequently plays a critical role in the growth of GDP.

The government has lowered the mortgage interest rate from 6.6 percent to 4.3 percent. These reductions are already showing a positive response rate. For example, the most recent data shows substantial increases in demand in Shanghai and Chongqing for housing.

In November, 2008, China's central bank reduced the benchmark lending rate by 108 basis points to 5.58 percent. They also cut reserve rate requirements. However, rate policy tends to be a marginal factor in China since most transactions are based on cash and not credit.

Technology in China

China is investing heavily in Research and Development spending, \$136 billion in 2007; second only to the U.S. China is making great progress in the development of environmentally friendly cars. In December 2008, China's Science and Technology Ministry signed an agreement with the U.S. Energy Department to collaborate on battery technology.

In December 2008, BYD Auto introduced the F3DM, the first mass-produced plug-in hybrid that Warren Buffet rated as the best hybrid in the world. The F3DM has a selling price of \$23,000 and can travel 60 miles on one charge; its battery life is about 100,000 miles. (Unfortunately, it takes seven hours for a full re-charge.) More significant breakthroughs in battery technology could provide the road out of the recession.

Figure 1. Comparative real GDP growth rates from 1979 to 2008

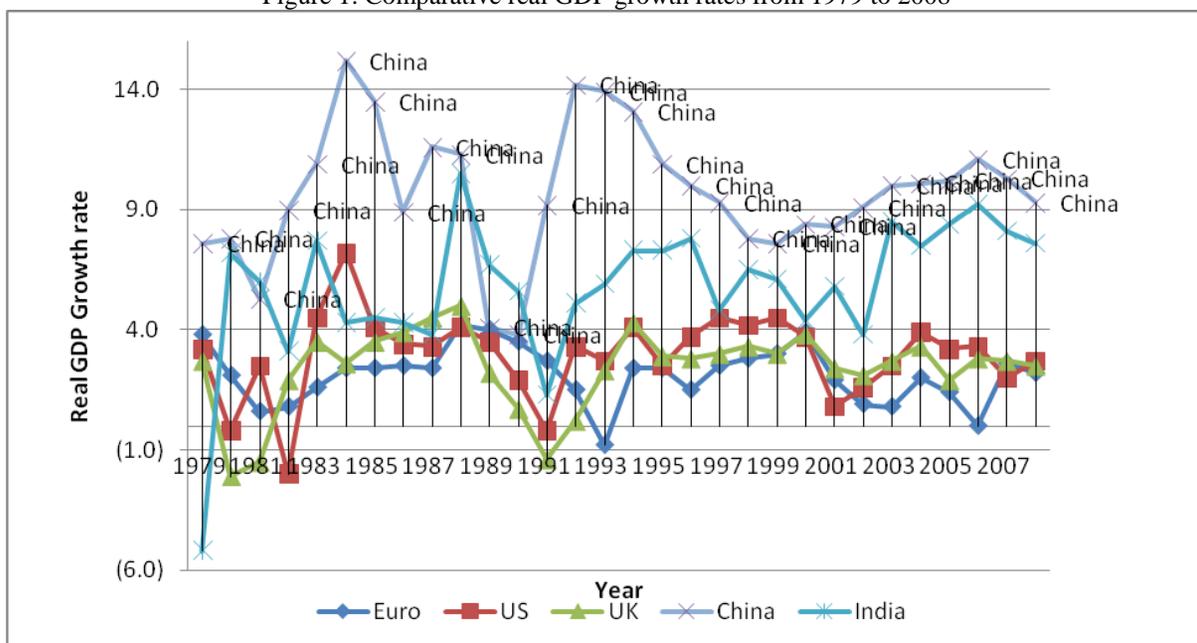


Table 1. Comparative real GDP growth rates from 1979 to 2008
Annual Growth (%)

Year	OECD	Euro	US	UK	China	India
1979	3.8	3.8	3.2	2.7	7.6	(5.2)
1980	1.3	2.1	(0.2)	(2.1)	7.8	7.2
1981	2.0	0.6	2.5	(1.5)	5.3	6.0
1982	0.1	0.8	(2.0)	1.9	9.0	3.1
1983	2.7	1.6	4.5	3.5	10.9	7.7
1984	4.5	2.4	7.2	2.6	15.2	4.3
1985	3.7	2.4	4.1	3.5	13.5	4.5
1986	3.0	2.5	3.4	3.9	8.9	4.3
1987	3.4	2.4	3.3	4.5	11.6	3.8
1988	4.5	4.2	4.1	5.0	11.3	10.5
1989	3.8	4.0	3.5	2.2	4.1	6.7
1990	3.0	3.5	1.9	0.7	3.8	5.6
1991	1.4	2.7	(0.2)	(1.4)	9.2	1.3
1992	2.2	1.5	3.3	0.2	14.2	5.1
1993	1.3	(0.8)	2.7	2.3	13.9	5.9
1994	3.1	2.4	4.1	4.3	13.1	7.3
1995	2.5	2.4	2.5	2.9	10.9	7.3
1996	2.9	1.5	3.7	2.8	10.0	7.8
1997	3.5	2.5	4.5	3.0	9.3	4.8
1998	2.6	2.8	4.2	3.3	7.8	6.5
1999	3.3	3.0	4.5	3.0	7.6	6.1
2000	4.0	3.9	3.7	3.8	8.4	4.4
2001	1.2	1.9	0.8	2.4	8.3	5.8
2002	1.6	0.9	1.6	2.1	9.1	3.8
2003	2.0	0.8	2.5	2.7	10.0	8.5
2004	3.2	2.0	3.9	3.3	10.1	7.5
2005	2.6	1.4	3.2	1.9	10.2	8.4
2006*	n.a.	n.a.	3.3	2.8	11.1	9.2
2007#	n.a.	2.6	2.0	2.7	10.3	8.1
2008#	n.a.	2.2	2.7	2.5	9.3	7.6

Sources: 1979-2005 OECD Factbook 2007: Economic, Environmental and Social Statistics

2006* Coface

2007/2008# The Economist, 30 June 2007

J. Reuvid (ed.), *China*

Table 2. Sector Contributions to the Chinese Economy

	Value-added (US billion \$)	% GDP
Primary industry	260	12.7%
Secondary industry	977	47.8%
Tertiary industry	806	39.5%
Total	2043	100.0%

Source: *China*

Table 3. Exports, imports and balance of merchandise trade, and services trade balance

	OECD	EU15	US	UK	China
Exports of goods					
1996	3807.5	2075.2	622.8	258.9	151.0
1997	3958.4	2081.8	687.5	281.2	182.8
1998	3993.4	2154.5	680.4	273.4	183.8
1999	4103.7	2163.4	692.8	270.7	194.9
2000	4432.7	2210.9	780.3	282.9	249.2
2001	4290.7	2224.5	731.0	272.6	266.1
2002	4438.0	2360.5	693.2	280.6	325.6
2003	5110.9	2809.8	723.7	307.7	438.2
2004	6078.0	3339.8	817.9	348.2	593.3
2005	6640.9	3586.3	904.3	384.4	762.0
Imports of goods					
1996	3856.2	1968.4	817.6	287.6	138.8
1997	4001.4	1972.0	898.0	307.5	142.4
1998	4078.5	2078.1	944.4	320.3	139.5
1999	4327.7	2130.3	1059.2	323.8	165.7
2000	4816.4	2225.6	1258.1	339.4	225.1
2001	4633.7	2207.1	1180.1	338.0	243.6
2002	4771.8	2285.0	1202.3	359.4	295.2
2003	5522.7	2741.8	1305.1	393.5	412.8
2004	6590.3	3282.8	1525.3	461.3	561.2
2005	7380.0	3611.4	1732.3	515.8	660.0
Trade balance of goods					
1996	(48.7)	106.8	(194.8)	(28.7)	12.2
1997	(43.0)	109.8	(210.5)	(26.3)	40.4
1998	(85.1)	76.4	(264.0)	(46.9)	44.3
1999	(224.0)	33.1	(366.4)	(53.1)	29.2
2000	(383.7)	(14.7)	(477.8)	(56.5)	24.1
2001	(343.0)	17.4	(449.1)	(65.4)	22.5
2002	(333.8)	75.5	(509.1)	(78.8)	30.4
2003	(411.8)	68.0	(581.4)	(85.8)	25.4
2004	(512.3)	57.0	(707.4)	(113.1)	32.1
2005	(739.1)	(25.1)	(828.0)	(131.4)	102.0
Service trade balance					
1996	nk.	nk.	86.9	17.4	(2.0)
1997	82.1	nk.	90.2	23.1	(3.4)
1998	84.3	nk.	82.1	24.3	(2.8)
1999	63.6	(7.9)	82.7	22.1	(5.3)
2000	63.6	(5.8)	74.9	20.8	(5.6)
2001	53.1	(0.2)	64.4	20.8	(5.9)
2002	62.0	16.9	61.2	24.9	(6.8)
2003	76.4	24.9	52.4	31.3	(8.6)
2004	114.3	37.9	54.1	47.5	(9.7)
2005	140.4	44.4	66.0	42.6	(9.4)

Source:OECD Factbook 2007: Economic, Environmental and Social Statistics, *China*, pp. 16-17

Table 3A. U.S. Trade in Good with China:
Exports, Imports and Trade Balance in million \$

Year	Exports	Imports	Balance
1998	\$ 14,241.2	\$ 71,168.6	\$ (56,927.4)
1999	13,111.1	81,788.2	(68,677.1)
2000	16,185.2	100,082.2	(83,897.0)
2001	18,182.3	102,278.4	(84,096.1)
2002	22,127.7	125,192.6	(103,064.9)
2003	28,367.9	152,436.1	(124,068.2)
2004	34,744.1	196,682.0	(161,937.9)
2005	41,925.3	243,470.1	(201,544.8)
2006	55,185.7	287,774.4	(232,588.7)
2007	65,236.1	321,442.9	(256,206.8)
2008	71,457.1	337,789.8	(266,332.7)

Table 4. China's Macroeconomic indicators of foreign trade (US\$ billion)

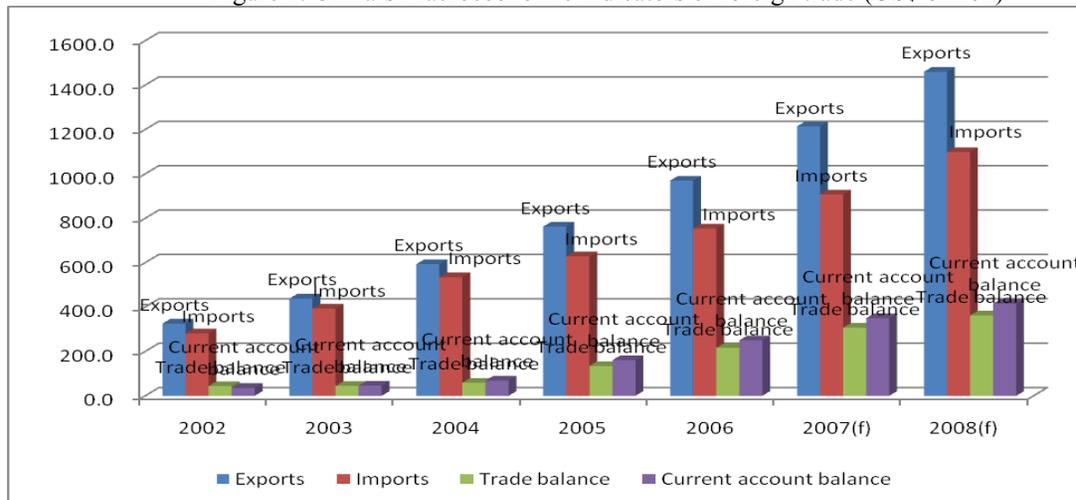
Indicators	2002	2003	2004	2005	2006	2007(f)	2008(f)
Exports	325.7	438.3	593.4	762.5	969.6	1214.0	1460.0
Imports	281.5	393.6	534.4	628.3	753.6	907.0	1098.0
Trade balance	44.2	44.7	59.0	134.2	216.0	307.0	362.0
Current account balance	35.4	45.9	68.7	160.8	250.0	350.0	415.0
Current account balance (%GDP)	2.4	2.8	3.6	7.2	9.5	10.8	10.6
Foreign currency reserves (in months of imports)	9.9	10.4	11.7	13.3	14.8	15.9	16.3

Source: Coface (<http://www.trding-safety.com>) 23 July 2007

Note: (f) = forecast

Reprinted in *China*, pp.24

Figure 2. China's Macroeconomic indicators of foreign trade (US\$ billion)



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EARNINGS MANAGEMENT AND INCOME TAX UNCERTAINTIES

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ABSTRACT

FIN 48 requires companies to disclose their tax reserves amounts starting in fiscal years after December 15, 2006. FIN 48 requires that uncertain tax positions meet the more-likely-not recognition threshold for the tax benefit to be recognized in the financial statements. Management is afforded much judgment in determining the more-likely-than-not threshold for recognizing uncertain tax positions thereby making the decision a rich area to explore earnings management. This study uses hand collected data and finds a positive association between prior year cushions for uncertain tax positions and discretionary accruals in the first year of implementing of FIN 48. The findings suggest that managers used uncertain tax provisions to manage their earnings.

INTRODUCTION

FIN 48 is a controversial accounting standard. Beginning in 2007, public entities disclosed the intricate details of accounting for uncertain tax positions. The standard provides explicit guidance for the recognition and measurement for uncertain tax positions. Although the accounting still requires use of expert judgments, the disclosure of these judgments eliminates an earnings management tool not only for managing disclosures but also for managing earnings. Prior research has shown that managers did adjust income tax cushions in anticipation of implementing FIN 48 (e.g. Blouin et al. 2008).

Using a cross-sectional sample of entities and their income tax cushions in the third and fourth quarters of 2006 and discretionary accounting accruals for the year of 2007, the empirical evidence in this study shows that managers used income tax cushions of 2006 as a source of income-increasing discretionary accounting accruals in 2007. The rest of this paper is organized as follows: part 2 presents the literature review, and part 3 presents the research design. The results are presented in part 4 and part 5 presents the summary and conclusion.

LITERATURE REVIEW

FIN 48 Impact

FIN 48, which was effective for years beginning after December 15, 2006 for public entities, requires that a tax benefit is recorded only if the tax benefit is more likely than not to be sustained upon examination by the taxing authority. Prior guidance for tax uncertainties or "tax cushion" followed the loss contingency rules of SFAS 5, which unlike FIN 48 requires a reasonable estimation and highly probable approach with no required disclosures in the tax footnote. FIN 48 requires a cumulative effect adjustment for uncertain tax provisions prior to its effective date. The entity must assume that the tax position will be examined by a taxing authority that has full knowledge of all relevant information and that the tax position will be resolved in the court of last resort.

Each tax position requires a two step analysis. The recognition step requires the determination if the tax position is more likely than not (MLTN) sustainable upon audit. If the determination is no, then the initial tax benefit is not recognized. The MLTN threshold means that the weight of the taxing authority tips in the taxpayer's favor or in other words, a likelihood of more than 50 percent that the entity is entitled to the tax benefit. Once the recognition threshold is met, then the taxpayer proceeds to the measurement step for each

uncertain tax position. The tax benefit that is recognized is measured at the largest amount of the tax benefit that, in the entities judgment, is greater than 50 percent likely to be realized. The calculation of the greater than 50 percent probability is based on a cumulative-probability approach of possible outcomes.¹

Compliance with FIN 48 could be costly. A high degree of judgment is necessary to evaluate the facts and circumstances of a tax position, at times requiring the assistance of experts. FIN 48 recognition and measurement criteria require complex and sophisticated assessments to comply with tax law and financial reporting guidance. Audit firms and tax professionals can assist their clients with research, guidance, and recommendations but cannot solely determine tax positions, estimations or calculations of tax liabilities or provide any services that would impair independence standards.

The most controversial aspects of FIN 48 are in its disclosure requirements. FIN 48 requires a tabular reconciliation of unrecognized tax benefits from beginning to ending balances for each annual period. Included in the reconciliation are changes in uncertain tax positions taken in prior and current periods, changes due to settlements with taxing authorities and changes due to lapse of statute of limitations. Additional disclosures include the impact on the effective tax rate from unrecognized tax benefits, classification and amounts of interest and penalties recognized for uncertain tax positions, and the total amounts of unrecognized tax benefits that will significantly change within 12 months of the reporting date.²

Empirical Studies

Earnings management and tax accounting studies have mainly focused on using the effective income tax rate to manage earnings (e.g. Cook et al. 2008, and Northcut and Vines 1998), using deferred tax provisions (e.g. Ettredge et al. 2008, Phillips et al. 2004, Phillips et al. 2003, and Visvanathan 1998) and using income tax expense (Dhaliwal et al. 2004). Generally, these studies find firms will manage tax accounts to meet quarterly earnings forecasts.

There are limited studies of using tax cushion for earnings management. Blouin, Gleason, Mills and Sikes (2007) examine a sample of 200 firms and find that small firms were less likely to discuss the effect of FIN 48 in the year before mandated implementation. In the first quarter of 2007, the implementation date for calendar year firms, reserves both increased and decreased. Most small firms did not decrease reserves. They found in each of the last three quarters of 2006, the overwhelming majority of firms decreased their reserves. Firms cited settlement with the IRS as the main reason for decreases in reserves.

(Blouin & Tuna, 2006) finds that firms who pay less tax have more cushion activity. The authors find some evidence that income tax cushions are used to smooth earnings to satisfy interests of consumers through research and development expenditures and employees through capital expenditures. Although prior empirical research finds evidence that tax cushions are used to meet management objectives, there is little evidence that there is an association between tax cushions and discretionary accounting accruals. This research paper aims to examine the association between tax cushions and management's use of discretionary accounting accruals.

RESEARCH DESIGN

I test the research question by using the following cross-sectional regression model:

$$DAC = \beta_0 + \beta_1 (\text{Cushion-3q}) + \beta_2 (\text{Cushion-4q}) + \beta_3 (\text{ETR}) + \beta_4 (\text{Assets}) + \varepsilon \quad (1)$$

Where, the dependent variable is:

DAC = Discretionary Accounting Accruals using the Modified Jones Model for the year ended December 31, 2007 (Dechow et al. 1995).

The test variables are:

Cushion-3q = Cushion in the income tax payable account during the third quarter of 2006. The cushion is calculated as the change in the income tax payable account between the second and third quarter

adjusted for the current income tax provision, income taxes paid, and the excess tax benefit from exercised stock options all divided by net sales for the third quarter of 2006,

Cushion -4q = Cushion in the income tax payable account during the fourth quarter of 2006. The cushion is calculated as change in the income tax payable account between the third and fourth quarter adjusted for the current income tax provision, income taxes paid, and the excess tax benefit from exercised stock options all divided by net sales for the fourth quarter of 2006.

The control variables are:

ETR = Percentage change in the effective tax rate from 2006 to 2007.

Assets = Log of total assets at December 31, 2007.

β_0 through β_4 are the coefficients and ε is the error term.

Sample Size, Data Collection, and Hypothesis

The sample is initially drawn from Compustat, excluding financial firms for the years 2006 and 2007 active companies. Companies with calendar year ends are only selected. The year 2006 is selected because it is the year before the implementation of FIN 48. Quarterly income tax cushions are calculated for the third and fourth quarters of 2006 using an analysis of the income tax payable account as described above. All financial data is collected from Compustat. After deleting observations for missing data, the final sample is 58 firms. Descriptive statistics are found in Table 1 and definitions of variables are found in Table 2. Table 1 shows that the mean discretionary accounting accrual (DAC) is negative for the sample. The mean value for third quarter cushion in 2006 (Cushion-3q) is also negative (decreasing to earnings) but positive in the fourth quarter of 2006 (Cushion-4q).

In the year before FIN 48 implementation, Blouin et al. (2008) find that firms adjusted their 2006 quarterly tax cushions in anticipation of FIN 48 implementation. Through adjusting 2006 tax cushions before implementation in the first quarter of 2007, firms would soften the cumulative effect adjustment to opening retained earnings for unrecognized tax benefits through the year 2006 and therefore minimize the disclosure effects of uncertain tax positions at the opening of 2007. In doing so, the year 2007 could present the first time that firms will reverse the effects of 2006 tax cushion adjustments through discretionary accounting accruals. Firms are precluded from reversing 2006 tax cushion adjustments through 2007 tax cushion adjustments due to extensive tabular disclosure requirements for uncertain tax benefits under the guidance of FIN 48. Therefore, the following hypothesis is set forth:

H1. There is a positive association between tax cushions recorded in the third and fourth quarters of 2006 and discretionary accounting accruals in 2007.

RESULTS

Table 3 presents the Spearman Rank Correlation Coefficients. The results show that there is a positive correlation between the tax cushion for the third quarter of 2006 (Cushion-3q) and the 2007 discretionary accounting accruals (DAC) and a negative correlation between the tax cushion for the fourth quarter of 2006 (Cushion-4q) and 2007 discretionary accounting accruals (DAC). However, neither correlation is significant.

Table 4 presents the regression results. White T statistics are presented for heteroscedastic error terms. The regression results show that there is a significant positive association between the 2007 discretionary accounting accruals (DAC) and the 2006 third quarter income tax cushion (Cushion-3q) with a significance level of $p = 0.001$. The association between DAC and Cushion-4q, however, is negative, but not significant. Results for the control variables indicate a significant positive association between DAC and the change in the effective tax rate between 2006 and 2007 (ETR) with a p-value of 0.044 and a negative association between DAC and the log of total assets at 2007 year end (p value = .018). The results for the control variables suggest that as the

effective tax rate increases so do discretionary accounting accruals and larger firms have lower discretionary accounting accruals. Robust tests using the log of net sales do not change the results described above.

SUMMARY AND CONCLUSION

FIN 48 requires controversial disclosures of sensitive income tax accounting and taxation matters that were previously not explicitly reported. Past guidance allowed income tax cushions be a tool for earnings management while providing for inevitable resolutions of income tax contingencies. Now that FIN 48 requires disclosure of the undisclosed, the years of 2006 and 2007 provide an opportunity to study how managers adjusted tax cushions before (Blouin et al. 2008) and after the implementation of FIN 48. This study shows that in 2007, managers used the prior year income tax cushions as a source for current year discretionary accounting accruals. In summary, managers used income tax cushions not only to manage FIN 48 disclosures and adjustments, but also used prior year income tax cushions to increase earnings in the current year.

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ENDNOTES

¹See Heenig, Raabe and J. O Everett (2008) for a through tax accrual and case-by-case application of the cumulative probability approach for uncertain tax positions.

²See paragraphs 20 and 21 of FIN 48.

**TABLE 1
DESCRIPTIVE STATISTICS**

	Mean	Median
DAC	-0.052	-0.051
ETR	-0.023	-0.010
Cushion-3q	-0.002	0.000
Cushion-4q	0.032	0.003
Assets	3.314	3.291

**TABLE 2
DEFINITION OF VARIABLES**

DAC = Discretionary Accounting Accruals using the Modified Jones Model for the year ended December 31, 2007,

ETR = Percentage change in the effective tax rate from 2006 to 2007.

Cushion-3q = Cushion in the income tax payable account during the third quarter of 2006. The cushion is calculated as the change in the income tax payable account between the second and third quarter adjusted for the current income tax provision, income taxes paid, and the excess tax benefit from exercised stock options all divided by net sales for the third quarter of 2006.

Cushion-4q = Cushion in the income tax payable account during the fourth quarter of 2006. The cushion is calculated as the change in the income tax payable account between the third and fourth quarter adjusted for the current income tax provision, income taxes paid, and the excess tax benefit from exercised stock options all divided by net sales for the fourth quarter of 2006.

Assets = Log of total assets at December 31, 2007.

**TABLE 3
SPEARMAN RANK CORRELATION COEFFICIENTS**

<u>Variable</u>	<u>Cushion-3q</u>	<u>Cushion-4q</u>	<u>ETR</u>	<u>DAC</u>	<u>Assets</u>
Cushion-3q	1.000	-0.167 (0.210)	0.060 (0.656)	0.110 (0.439)	-0.315 (0.016)*
Cushion-4q		1.000	0.080 (0.553)	-0.006 (0.965)	0.160 (0.231)
ETR			1.000	0.141 (0.320)	-0.104 (0.439)
DAC				1.000	-0.242 (0.084)

TABLE 4
REGRESSION ANALYSIS

Dependent Variable: DAC

Intercept	-0.006 <i>-(0.272)</i>
ETR	0.031 <i>(2.017)*</i>
Cushion-3q	1.215 <i>(3.360)**</i>
Cushion-4q	-0.003 <i>-(0.060)</i>
Assets	-0.013 <i>-(2.368)*</i>
F- value	3.270
Adj. R ²	0.151
Observations	58

**Two-tailed significance level less than 0.01.

*Two-tailed significance level less than 0.05.

EVALUATION OF THE APPLICABILITY OF THE JAPANESE HUMAN RESOURCES MANAGEMENT SYSTEM IN PORTUGAL

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ABSTRACT

This article arises from the investigation carried out in PHD Thesis, in which the main objective was to evaluate the applicability of the Japanese human resources system in the corporate environment in Portugal.

It was intended to evaluate the competitiveness results in companies with and without Japanese capital, when the Japanese human resources system is used. To carry out this investigation it was used two databases: one with an economic perspective, dealing with the performance of the corporate productivity within the economic, salary and technological; the other database was based on the patterns of human resources management used by the companies, using a questionnaire as an investigation tool.

Based on statistical testing, it was verified that companies with Japanese capital, act using competitive strategies based on costs, human resources qualification, and technological progress.

INTRODUCTION

The objective of the investigation focused in the study of the evaluation of the niponic human resources management system, in the companies with and without Japanese capital operating in Portugal, in the five-year span 1998-2002, and also to evaluate the outcome of competitive prowess in these businesses.

This investigation sought, from the formalization of hypotheses tested by statistical methods, to respond to the principal objective "Evaluate the relation between the niponic human resource management system and business competitive prowess, in companies with and without Japanese capital operating in Portugal".

The hypotheses that were tested and which sought to establish a relation between the niponic human resource management system and the outcome of competitiveness, are as follows:

Hypothesis 1: The niponic human resource management system relatively to the traditional human resource system leads to a more accentuated improvement of business prowess induced by economic productivity.

Hypothesis 2: The niponic human resource management system relatively to the traditional human resource system leads to a more accentuated improvement of business prowess induced by salary productivity of the human factor.

Hypothesis 3: The niponic human resource management system relatively to the traditional human resource system leads to a more accentuated improvement of business prowess induced by technological progress.

These hypotheses were tested in the evaluation of casual relations between the variable dependents: Economic Competitive (CE), "Workonomic Index" (WI), Technological Progress (PT), and the independent variable Human Resources (RH).

METHODOLOGY

In this investigation, we used a proper model, with indicators of economic nature adjusted to the observed data.

The management system and its enveloping context were explained, in an analytical model, though a conceptual tool composed by an independent variable (qualitative) – Human Resources. And three dependant variables (quantitative) – Economic Competitive, “Workonomic Index” and Technological Progress.

The first step in methodology was the selection of companies from the electronic and automobile sectors whose economical data were in the public domain, in the period ranging from 1998 to 2002, from the information treated by IF4- Information Processing and divulged by Diário de Notícias in the magazine DN – Empresas “As 1000 Maiores”.

The second step was the elaboration of an integrated model of evaluating competitive business which served as a support to the dependant variables of the model. In these variables, the methodological approach treats the performance of business productivity in three perspectives, which are as follows:

- Economic perspective of productivity
- Salary perspective of productivity
- Technological perspective of productivity

Based on this model it was calculated the indicators of business competitiveness, of each company, by year, in the period from 1998 to 2002.

Lastly, it was established an average of each of the business competitiveness indicators, by company, of the period being studied, which are the end results of competitiveness.

The third step was taken in the form of a questionnaire, so as to evaluate the level of qualitative performance of the niponic human resources management system. It was submitted to those companies that, in all years from that period 1998-2002, integrated the list of 1000 greatest companies, so as to obtain a database containing information about the most relevant human resources management practices in companies with and without niponic capital.

The numbers of participant companies were of 55 out of 172 companies that satisfied the selection criteria. Of those, 20 were without niponic capital and 35 with niponic capital. The accomplished response rate is in line with the results obtained in international projects in which the participation of Portuguese companies was verified (Hegewisch & Brewster, 1993:28), that present response rates for different European countries, varying between 10% and 42%.

To that effect, it was calculated the performance-importance gap of those questions posed in the questionnaire, in a numerical scale of 1 through 6 points, (6 attributes regarding the niponic human resource management system and 6 attributes regarding the traditional human resource system). From the answers to the questionnaire I obtained two indexes of qualitative performance, one regarding the attributes vector of the niponic human resource management system e another regarding the attributes vector of the traditional human resources management system, in companies with and without niponic capital.

The independent variable Human Resources measures the degree to which the company adopts active training and formation policies to improve the efficiency of the personnel planning process.

Questions placed in the questionnaire sought to investigate the evaluation of performance and the degree to which the company adopts active formation and training policies; and management techniques such as total productive maintenance, empowerment and outsourcing.

The exploration of data in the questionnaire (Charts 1a and 1b) show that companies with niponic capital place strong importance in advanced internal formation that allows the spontaneous adjustment of different labour posts one to another without higher hierarchy intervention. The average level of quantitative performance is of 55.74 points in companies without Japanese capital and of 72.41 points in companies with niponic capital. Companies with niponic capital value more than companies without Japanese capital, the group work process rather than promoting solely individuals, with 73.91 and 65.33 points, respectively.

The value system based on seniority is also more valued in companies with niponic capital (99.81 points), than in those without Japanese capital (61.77 points).

In the total management techniques productive maintenance, empowerment and outsourcing the companies with Japanese capital value at 65.43, 56.65 and 65.54 points and those without Japanese capital at 60.73, 72.88 and 64.44 points, respectively.

Companies with niponic capital place a greater level of importance and performance to those specific niponic management practices, than those companies without Japanese capital.

After gathering and treating all this data we utilized the statistical technique of the correlation coefficient (r from Pearson), which allows us to determine the associating strength between two variables. Thus allowing the analysis of causality mechanisms between the qualitative level of performance of the niponic human resources management system and the traditional human resource management system, (resulting from the questionnaire), and the quantitative performance of competitiveness of those companies (resulting from the integrated model of evaluation of corporate competitiveness).

The correlation matrix, translated in chart 1a, shows the causality relations between the niponic human resources management system and the performance of industrial competitiveness.

CHART 1

Results from the correlation coefficient between the niponic human resource management system and the indicators of corporate competitiveness.

	Enterprises with niponic capital	Enterprises without niponic capital
CE	0.36	0.34
WI	0.46	0.34
PT	0.37	0.32

Source: Reis, Felipa Lopes (2007)

CONCLUSIONS

This study ensures substantial evidences that the niponic human resource management system exerts an effective influence over corporate competitiveness, in companies with and without niponic capital. The Japanese have fomented organizational models in accordance with their cultural background, creating a merger of management techniques, many of them extracted from the West, with their own cultural values and traditions.

Principal conclusions are as follows:

Hypothesis 1 is valid for companies with niponic capital, because the association between the niponic human resource management system and the economic competitiveness indicator is higher than the association between the traditional human resource management system and the same indicator. Meaning, companies with Japanese capital compete using competitive strategies based on cost.

Hypothesis 2 is valid for companies with niponic capital, because the association between the niponic human resource management system and the “workonomic index” indicator is higher than the association between the traditional human resource management system and the same indicator. Meaning, companies with Japanese capital compete using competitive strategies based on the qualification of human resources (workonomic index).

Hypothesis 3 is valid for companies with niponic capital, because the association between the niponic human resource management system and the technological progress indicator is higher than the association between the traditional human resource system and the same indicator. Meaning, companies with Japanese capital compete using competitive strategies based on technologies.

In conclusion, in companies with Japanese capital, there exists always a causality relation between the niponic human resource management system and the indicators of corporate competitiveness.

Even though many management gurus claim that companies need to focus on one unique basis of competitive advantage, the Japanese by tradition adopt multiple bases of competitive advantage, a talent they’ve been using to outflank western competitors.

Future investigations may approach the same correlation between the niponic human resource system in companies with and without Japanese capital, operating in the Iberian Peninsula. Another hypothesis to investigate is to seek out other indicators for corporate competitiveness that may rectify those same hypotheses.

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THE NIPONIC MANAGEMENT OF HUMAN RESOURCES IN THE PERFORMANCE OF THE ENTERPRISES IN THE IBERIAN PENINSULA

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ABSTRACT

This article had as objective study the niponic management of human resources in the performance of the enterprises that work in the Iberian peninsula.

The search was to evaluate the competition in this enterprise when the niponic management of human resources is used.

There were used two data base: one with a economic nature treating the performance of productivity in a enterprise economic view, of salary and technologic, and one other about the niponic management of human resources adopted by the enterprises using a list of questions.

Through statistic evaluations it was verify that the competition between enterprises whith niponic capital, it's not induce by the economic competition, and the same enterprises used competitive strategies based on the qualification of the human resources and technological process.

INTRODUCTION

How is it possible for a country to be stripped of its natural resources, defeated and destroyed in the Second World War, and yet by 1968 to be the second greatest economic power in the world? Many of the answers lie in the functioning of its companies and especially its human resources, which effectively played the central role in promoting social and economical development.

Only after knowing the traces of niponic culture and society which have a very peculiar importance in the Japanese managerial system, can we understand the dimension of the relevance of human resources in the niponic management system.

Niponic culture is always associated with the city of Kyoto, which was the imperial capital 794-1868, being a mixture of tradition and contemporary. And where you can find the most famous Buddhist temples (1600) and shintoist sanctuaries (250) of Japan, representing the two great religions practiced by the Japanese. Without knowing Kyoto, where Japan's feudal atmosphere still lives, it is very difficult to understand true Japan.

When I was there I appreciated how they mix millennial traditions with the most advanced technology, and how the success of their developments came from the quest for that constant merger. An illustrative example is the respect and the devotion with which upon entering the Buddhist temples and Shintoist sanctuaries, the same computer-savvy Japanese person reveres his gods and forefathers like his forefathers did a thousand years ago. The complexity and the integrity before supreme values helps to understand the behaviour in several levels of the Japanese businessman, the technological wizard, and the intellectual.

Japan is the paradise of technology but it has not forgotten its ancestors and its traditions, indeed, it's a country where the highest technology lives side-by-side with ancestral traditions. In Tokyo, next to the neon signs lighting up the metropolis, I saw the *ukyo-e*, wooden blocks carved with images of the daily life of the Japanese people of centuries past, constantly mixing millennial traditions with the most advanced technology.

Japanese historical context is very peculiar. In the Land of the Rising Sun, there is a solid base that does not occur in other Asian countries, which consists in a set of values introduced into companies after the Meiji revolution (1867-1868): respect for the hierarchy, the duty of loyalty, capacity to take decisions in a concerted

fashion between employee syndicate management, team spirit, and the demonstration of exceptional discipline and energy.

Niponic business culture constitutes a link between all members of the organization, promoting a spirit of familiar union. The word *shain* (company member) reflects that sense of integration of the individual into the group, sharing both responsibilities and benefits.

Japanese business systems therefore have a deeply humanistic character, acknowledging the primacy of people over material factors of production and income. Management of niponic organizations reflects the relative importance of human resources through the attribution of a privileged status to the personal function.

The system ensuring life-long employment (*Shushin Koyô Seid*) and the system for seniority valorisation (*Nenkô Joretsu*) as criteria for setting wages begins to progressively fade away when faced with the necessity to reform manpower and improve individual companies' training and performance. Managers have begun, in this fashion, to privilege the merit of human resources as opposed to the criteria of seniority, not hesitating to promote young people and to seek out more capable individuals in other companies.

In Japan, the main responsibility of the human resources department is to coordinate and control the evolution of all managers and workers, managing their careers in tune with the company's needs. The decisions of human resources managers can thus decisively influence the internal balance of power and market growth path. In opposition to the decentralized nature of most operations in Japanese corporations and corporate groups, the function of human resources is done with an elevated degree of centralization. This duality, operational decentralization- human resources centralization, constitutes one of the most distinctive characteristics of niponic companies. Decisions regarding recruitment, training, career management and retirement are the exclusive responsibility of the personnel department, so as to ensure the complete integration of members of the organizational culture. In time, the identification of individual objectives with the group's objectives promotes operational efficiency and strengthens the company's competitive assets.

Another of the most important functions of the human resource department is the management of cross-training of their work force, a critical factor of competitive advantage in the Land of the Rising Sun. The best executives are those who are best able to fully use everyone's talents, based on their skills. Open communication is facilitated by the Japanese custom of open-space offices. Silence is not used to intimidate, but rather to gain time to solicit and develop resolution strategies for any sudden problem. The performance of each member is taken into consideration, but it's the performance of the group, that is, the strong culture of group that is combined with an elevated sense of loyalty by the human resources, such that individuals are motivated to work towards a common goal, sharing information and doubts. And the development of careers includes passing through several functions so as to make niponic managers best understand different perspectives of the several functions within the company.

The central element to Japan's regular work force is the salary man (*sarari-man*). People are hired according to their academic "*curriculum*" or personal qualities and also because they promise to be loyal employees whose talents can be adapted to the particular needs of the organization without the vices of previous experience. In many cases, the company's emblem is worn on the suit's lapel, reinforcing the identification of the individual with the organization.

The work of the *sarari-man* is contextual, requiring cooperation, teamwork and participation in countless meetings. Individual functions are not clearly defined, so it falls on each member to identify the tasks to perform within their section or department. The spirit of cooperation reinforces the group's morale and effectiveness. The *sarari-man* can work more than 30 hours overtime per month without pay, including weekends and holidays.

The guarantee of job stability is compensated by the total dedication of the *sarari-man* to the company. Emotional security associated with the sense of belonging to the organization and profit-sharing in the way of bi-annual bonuses reinforce the identification of the *sarari-man* with the company.

The hiring of retirees from units of greater dimension makes it possible to introduce new work methods and technologies coming from those same units and at a reduced cost, for it's needed only to compensate them from the partial reduction in their retirement pension. In Japan, the company's social responsibility towards its workers prevails over economic or financial considerations. The humanistic spirit of niponic companies constitutes one of the more distinctive factors of human resource management in Japan.

A management model must respect the values of the environment in which it's incorporated. Japan is an example of a successful economy, given that it has managed to find an organizational model with the specifics of its culture.

OBJECTIVES

The objective of the investigation focused in the study of the evaluation of the niponic human resources management system, in the companies with and without Japanese capital operating in Iberian Peninsula, in the five-year span 2002-2006, and also to evaluate the outcome of competitive prowess in these businesses. This investigation sought, from the formalization of hypotheses tested by statistical methods, to respond to the principal objective “Evaluate the relation between the niponic human resource management system and business competitive prowess, in companies with and without Japanese capital operating in Iberian Peninsula”. The hypotheses that were tested and which sought to establish a relation between the niponic human resource management system and the outcome of competitiveness, are as follows:

Hypothesis 1: The niponic human resource management system relatively to the traditional human resource system leads to a more accentuated improvement of business prowess induced by economic productivity.

Hypothesis 2: The niponic human resource management system relatively to the traditional human resource system leads to a more accentuated improvement of business prowess induced by salary productivity of the human factor.

Hypothesis 3: The niponic human resource management system relatively to the traditional human resource system leads to a more accentuated improvement of business prowess induced by technological progress.

These hypotheses were tested in the evaluation of casual relations between the variable dependents: Economic Competitive (CE), “*Workonomic Index*” (WI), Technological Progress (PT), and the independent variable Human Resources (RH).

METHODOLOGY

In this investigation, I used a proper model, with indicators of economic nature adjusted to the observed data. The management system and its enveloping context were explained, in an analytical model, though a conceptual tool composed by an independent variable (qualitative) – Human Resources. And three dependant variables (quantitative) – Economic Competitive, “*Workonomic Index*” and Technological Progress. The first step in methodology was the selection of companies from the electronic and automobile sectors whose economical data were in the public domain, in the period ranging from 2002 to 2006, from the information treated by Dun&Braadstreet/Exame.

The second step was the elaboration of an integrated model of evaluating competitive business which served as a support to the dependant variables of the model.

In these variables, the methodological approach treats the performance of business productivity in three perspectives, which are as follows:

Economic perspective of productivity.

The indicator of the company’s competitiveness rate is the relation between its economic productivity and operational costs *per capita*, which is expressed thusly:

$$g = \frac{(1+r) - 1}{1+m} \times 100$$

being,

$$r = \frac{p_1 - p_0}{p_0} \quad e \quad m = \frac{z_1 - z_0}{z_0}$$

g = The company’s competitiveness tax

r = Variation of economic productivity

m = Variation of operational costs “per capita”.

p = Economic productivity of work

z = Operational costs “per capita”

VAB – Added brute value (the difference between the business volume and intermediate costs)
CO - Operational costs (being the sum of the costs of materials, supplies and external services, personnel costs and mortgages)
T - Human labour
n - Year of competitiveness evaluation
o - Base year for competitiveness evaluation.

Salary perspective of productivity

The salary perspective is translated in the VAB value by personnel costs (S). In the perspective we used for our investigation, the salary productivity is evaluated based on the “workonomic index” indicator (WI) which evaluates the quota of added value generated in the business that is free to remunerate capital factors intervening in creation the VAB. It’s translated by the following indicator:

$$WI = \frac{(\text{VAB} - 1)}{S} \times 100$$

Technological perspective of productivity

This perspective evaluates the technological progress tax (Pt). This indicator measures the efficiency with which the economy combines the work and capital factors, and assumes the following expression:

$$Pt = gVAB - gT.c - g.K (1-c)$$

being,

gVAB – Variation tax (g) of added value
gT - Variation tax (g) of work posts (T)
gK - Variation tax (g) of immobilized capital evaluated by the economic factor of mortgages.
c - Factor of labour and work, translated by the indicator of salary weight (Salaries/VAB)

Based on this model it was calculated the indicators of business competitiveness, of each company, by year, in the period from 2002 to 2006. Lastly, it was established an average of each of the business competitiveness indicators, by company, of the period being studied, which are the end results of competitiveness.

The third step was taken in the form of a questionnaire, so as to evaluate the level of qualitative performance of the niponic human resources management system. It was submitted to those companies that, in all years from that period 2002-2006, integrated the list of 1000 greatest companies, so as to obtain a database containing information about the most relevant human resources management practices in companies with and without niponic capital.

The numbers of participant companies were of 55 out of 172 companies that satisfied the selection criteria. Of those, 20 were without niponic capital and 35 with niponic capital. The accomplished response rate is in line with the results obtained in international projects in which the participation of Portuguese companies was verified (Hegewisch & Brewster, 1993:28), that present response rates for different European countries, varying between 10% and 42%.

To that effect, it was calculated the performance-importance *gap* of those questions posed in the questionnaire, in a numerical scale of 1 through 6 points, (6 attributes regarding the niponic human resource management system and 6 attributes regarding the traditional human resource system). From the answers to the questionnaire I obtained two indexes of qualitative performance, one regarding the attributes vector of the niponic human resource management system e another regarding the attributes vector of the traditional human resources management system, in companies with and without niponic capital.

The independent variable Human Resources measures the degree to which the company adopts active training and formation policies to improve the efficiency of the personnel planning process. Questions placed in the questionnaire sought to investigate the evaluation of performance and the degree to which the company adopts active formation and training policies; and management techniques such as *total productive maintenance*, *empowerment* and *outsourcing*.

The exploration of data in the questionnaire (Charts 1a and 1b) show that companies with niponic capital place strong importance in advanced internal formation that allows the spontaneous adjustment of different labour posts one to another without higher hierarchy intervention. The average level of quantitative performance is of 69.1 points in companies without Japanese capital and of 73.4 points in companies with niponic capital. Companies with niponic capital value more than companies without Japanese capital, the group work process rather than promoting solely individuals, with 75.1 and 73.2 points, respectively. The value system based on seniority is also more valued in companies with niponic capital (97.2 points), than in those without Japanese capital (63.3 points). In the total management techniques *productive maintenance* the companies with Japanese capital value at 68.2 points and those without Japanese capital at 60.7 points.

Companies with niponic capital place a greater level of importance and performance to those specific niponic management practices, than those companies without Japanese capital.

After gathering and treating all this data we utilized the statistical technique of the correlation coefficient (r from *Pearson*), which allows us to determine the associating strength between two variables. Thus allowing the analysis of causality mechanisms between the qualitative level of performance of the niponic human resources management system and the traditional human resource management system, (resulting from the questionnaire), and the quantitative performance of competitiveness of those companies (resulting from the integrated model of evaluation of corporate competitiveness).

The correlation matrix, translated in chart 1a, shows the causality relations between the niponic human resources management system and the performance of industrial competitiveness.

CHART 1

Results from the correlation coefficient between the niponic human resource management system and the indicators of corporate competitiveness.

	Companies with japanese capital	Companies without japanese capital
CE	.42	.44
WI	.47	.40
PT	.39	.37

Source: Reis, Felipa Lopes (2006)

CONCLUSIONS

This study ensures substantial evidences that the niponic human resource management system exerts an effective influence over corporate competitiveness, in companies with and without niponic capital. The Japanese have fomented organizational models in accordance with their cultural background, creating a merger of management techniques, many of them extracted from the West, with their own cultural values and traditions.

Principal conclusions are as follows:

Hypothesis 1 is not valid for companies without niponic capital, because the association between the niponic human resource management system and the economic competitiveness indicator is higher than the association

between the traditional human resource management system and the same indicator. Meaning, companies with Japanese capital don't compete using competitive strategies based on cost.

Hypothesis 2 is valid for companies with niponic capital, because the association between the niponic human resource management system and the “*workonomic index*” indicator is higher than the association between the traditional human resource management system and the same indicator. Meaning, companies with Japanese capital compete using competitive strategies based on the qualification of human resources (*workonomic index*).

Hypothesis 3 is valid for companies with niponic capital, because the association between the niponic human resource management system and the technological progress indicator is higher than the association between the traditional human resource system and the same indicator. Meaning, companies with Japanese capital compete using competitive strategies based on technologies.

Even though many management *gurus* claim that companies need to focus on one unique basis of competitive advantage, the Japanese by tradition adopt multiple bases of competitive advantage, a talent they've been using to outflank western competitors.

Future investigations may approach the same correlation between the niponic human resource system in companies with and without Japanese capital, operating in the Europe. Another hypothesis to investigate is to seek out other indicators for corporate competitiveness that may rectify those same hypotheses.

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THE PERFORMANCE OF NIPONIC MANAGEMENT OF RESRAECH AND DEVELOPMENT IN COMPANIES IN THE PORTUGAL

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ABSTRACT

This article concerns one of the suggestions for future research that we put forward in my doctoring thesis, and has as its objective to research the existing relation between the niponic management system and productivity in companies with activity in the Iberian Peninsula.

The methodology was as follows. For the gathering of information about the patterns of Management Innovation in companies, we elaborated a questionnaire. The financial information used in the creation of a data panel on a 5-year basis for each company was gathered through the Dun & Bradstreet/Exame database.

Through statistical tests we verifies that competitiveness in companies with niponic capital is not induced by economic competitiveness, and that they use competitive strategies based on the qualification of human resources and technological progress.

INTRODUCTION

The history of Japan's modern science and technology dates back to the last part of the 19th Century, when recently-opened country began actively studying the knowledge that Europe had to offer. The Land of the Rising Sun was poor in terms of material resources and the only way through which it could progress in the social and economic fields was through technological advances obtained by its people, its sole valuable resource. The great strategic flexibility of niponic industries originated their rapid ascension. Japanese industries conquered positions in international markets by introducing new products of higher quality at lower prices. Sony managed to reinforce its competitive position in all segments of the audiovisual industry, it being one of the most successful companies in terms of Japanese corporate strategy. It used to be a domestic business specialized in audiovisual equipment until it bought Colombia Pictures, this complementing its production of audiovisual equipment with thousands of movies. When the new CD technology replaced video cassettes, Sony was already in a position to determine the CD-Video standard.

The technological capacity of niponic companies constitutes one of its chief competitive advantages in the business market. From oil tankers to watches, from industrial robots to microwaves, from semiconductors to compact discs, Japanese competitors have reached a status of leadership by introducing a succession of innovative products of higher quality at lower prices, which promoted the rapid expansion of market s and sales and the results of the company in particular.

When the base industry is in recession, niponic companies seek to identify other growing industries that may constitute good business opportunities for the future. The creative use of technologies from new businesses may benefit the company's base activity. Kanebo (textiles) entered the cosmetic field of industry in the 1960's based on their knowledge of chemical components. In the 1990's, the company's new clothing lines included pieces with exotic fragrances, an intelligent combination of its diversified base technology.

The Japanese have traditionally placed education and science at the top of their national concerns and the Meiji period was devoted mostly to catching up with the West.

Resorting to robotics and automation has allowed the niponic industry to overcome its scarce labour problems without destroying the base social harmony and avoiding resorting, as other industrialized countries tend to do, to foreign workforces.

Niponic industrial productivity is on the rise and Nissan is an illustrative example, when it doubled its automobile factories in Tokyo by using a highly sophisticated assembly method with recourse to automation, requiring only a fourth of the normal time and a third of the cost to man a full automobile assembly line.

The use of robots in niponic companies represents an extension of the machine automation process and the liberation of the work force. And they advantageously replace human labour, where in determined processes the productivity of a robot is at least 50% greater than that of a human worker. The use of robots is ever more advantageous due to their reduced prices and that of computers, when weighed against the constant increase in salary costs.

Robots and computerized production systems promote automation. Its introduction must therefore be set in an environment that is prepared to enjoy its benefits without the loss of human control. Many of the great niponic companies have adapted to the appreciation of the Yen, introducing new technologies, adding value to products and constant restrictions to the work force. This approach explains why Japanese facilities placed in markets outside the Land of the Rising Sun can equally apply approaches adapted to the exports in foreign markets.

An example of that is the case of environmental technology. In the 1970's, Japan was a pollutant industrial country, with no environmental policy and an economic growth at the expense of its natural environment. Only a decade later it became a potential world leader in the application of environmental technology, due to changes in the nation's social values. Thus, it starts developing exportable products and services.

The driving engines of technology are companies in the private sector, very competitive in global markets. Beyond the Land of the Rising Sun we find the full weight of Asia, the enormous developing markets of Southeast Asia (the so-called Asian Dragons) and China.

Although the United States of America began the development of technology sooner, Japan moved faster in replacing its factory technologies. Sophisticated construction methods, relying heavily on computers and information, produced assets whose quality could hardly be matched in the world market.

The management of research and development (R&D) assumes a strategic role in corporate development due to the constant introduction of new products in the marketplace that constitutes the main source of profit and sales growth in Japanese companies. With the impossibility of importing foreign goods in a large scale in the post-war period, several small domestic companies developed their own in-house technologies and products.

The R&D cycle in niponic companies is made up of three phases: copying initiatives of more advanced competitors, through the licensing of their products of mere reproduction of their products, services or processes. The second phase is the improvement of acquired technologies, adopted processes and characteristics of commercialized products and services. And lastly the phase of innovation, where new technologies are conceived and new products, services and processes are created. Throughout this whole process, there's a constant concern in integrating basic investigation with applied research, so as to maintain an elevated rhythm of introduction of innovations into the market and reinforcing the company's competitiveness.

The successive development of new products at a fast rate is one of the secrets for success "made in Japan". The developed technique of *quality function deployment* is a good example. It works in two stages: the first is to choose a rival brand of reference (benchmarking), in relation to which the company asks its users what features they like and don't like. The second phase is the complete reversal of this process, in which engineers try to associate to the developing item the characteristics that customers liked in the performance of the rival brand.

The Japanese have always had a great concern in getting all the company involved in solving quality issues and for long they have believed that the strategy leading to an improved quality of their products is the most important strategy and the one more promising of success. The production of high quality goods at a reduced cost has become the key to Japanese success relative to international competition and companies have systematically mobilized their human and physical resources to reach that goal. In this way they have introduced, on the one hand, new technological and managerial know-how and on the other hand, proceeded to invest considerably to rationalize their production.

Technical boards (engineers, managers) were sent to Europe and the USA to familiarize themselves with the new techniques. To quote only a few examples of technological transfer, we can call to memory the cases of General Electric to Toshiba, of Austin to Nissan and of Philips to Matsushita.

Techniques learnt in other countries, in and by themselves, didn't help to improve productions: it's important how those same techniques were applied. Car manufacturers, for example, developed a unique system to supply parts and materials, globalizing external suppliers and internal departments, with the objective of reducing stocks to a minimum. The system works according to the principle of *Just-in-Time* (minimization of stocks) which has as its symbol the production method of Toyota. The basic principle of stock minimization isn't just about a new production management technique. Japanese car makers have devised a very complex social and technical system, involving sub-contracted companies for supplying parts and several internal departments, according to management practices that take into account the characteristics of local conditions.

OBJECTIVES

The object of the investigation fell upon the performance of niponic management of research and development in companies operating in Portugal, in the five-year span of 1998-2002. The central objective was to assess results of corporate competitiveness in these companies, when using the niponic management of research and development system.

The hypothesis that we tested in the study and with which we sought to establish a relation between the characteristics of the niponic research and development management system and the results of corporate competitiveness, are as follows:

Hypothesis 1: The niponic research and development management system in relation to the traditional management system leads to an improved corporate competitiveness induced by economic productivity.

Hypothesis 2: The niponic research and development management system in relation to the traditional management system leads to an improved corporate competitiveness induced by the salary productivity of the human factor.

Hypothesis 3: The niponic research and development management system in relation to the traditional management system leads to an improved corporate competitiveness induced by technological progress.

These hypothesis were tested in the evaluation of casual relations between the dependent variables: Economic Competitiveness (EC), "Workonomic Index" (WI), Technological Progress (TP) and the independent variable Research & Development (R&D)

METHODOLOGY

In this investigation we used a proper model, with indicators of an economic nature adjusted to the observed data, in the companies indicated in the researched panel.

The management system and its context were explained, in an analytical model, through a conceptual tool composed by an independent variable (qualitative) – Research & Development, and by three dependent variables (quantitative) – Economic Competitiveness, "Workonomic Index" and Technological Progress.

The first step of the methodology was the selection of the panel of companies from the electronic and automotive sectors that was chosen through the Dun & Bradstreet/Exame database, in the period spanning 1998 through 2002. This panel was so chosen because it's a universe representative of the companies operating in the Iberian Peninsula.

The second step was the elaboration of an integrated model of evaluation of corporate competitiveness that served as a support to the dependent variables of the model.

In these variables, the methodological approach treats the performance of corporate productivity in three main components: economic, salary and technological.

- Economic perspective of productivity.

The indicator of the company's competitiveness rate is the relation between its economic productivity and operational costs *per capita*, which is expressed thusly:

$$g = \frac{(1+r) - 1}{1+m} \times 100$$

being,

$$r = \frac{pn - po}{po} \quad e \quad m = \frac{zn - zo}{zo}$$

g = The company's competitiveness tax

r = Variation of economic productivity

m = Variation of operational costs "per capita".

p = Economic productivity of work

z = Operational costs "per capita"

VAB – Added brute value (the difference between the business volume and intermediate costs)

CO - Operational costs (being the sum of the costs of materials, supplies and external services, personnel costs and mortgages)

T - Human labour

n - Year of competitiveness evaluation

o - Base year for competitiveness evaluation.

- Salary perspective of productivity

The salary perspective is translated in the VAB value by personnel costs (S). In the perspective we used for our investigation, the salary productivity is evaluated based on the "workonomic index" indicator (WI) which evaluates the quota of added value generated in the business that is free to remunerate capital factors intervening in creation the VAB. It's translated by the following indicator:

$$WI = \left(\frac{VAB}{S} - 1 \right) \times 100$$

- Technological perspective of productivity

This perspective evaluates the technological progress tax (Pt). This indicator measures the efficiency with which the economy combines the work and capital factors, and assumes the following expression:

$$Pt = gVAB - gT.c - g.K (1-c)$$

being,

gVAB – Variation tax (g) of added value

gT - Variation tax (g) of work posts (T)

gK - Variation tax (g) of immobilized capital evaluated by the economic factor of mortgages.

c - Factor of labour and work, translated by the indicator of salary weight (Salaries/VAB)

Lastly, we established the average for each of the indicators of corporate competitiveness by company, in the period ranging from 1998 through 2002, which are the final results of corporate competitiveness.

The third stage was translated in the construction of the independent variable, through the elaboration of a questionnaire, so as to best assess the level of qualitative performance of the niponic research and development

management system, and was submitted to the previously-selected panel of companies, to obtain a database containing information on the practices of the research and development management system that re more relevant to companies operating in the Portugal.

To that end, we calculated the performance-importance gap (percentage of the division of the level of performance by the level of importance) of the questions asked in the questionnaire, in a numerical scale of 1 through 6 points. That was measured through an index composed by six items referring to the traditional research and development management system, seeking to know the intensity of its usage, by the company of different instruments of that nature.

From the answers to the questionnaires we obtained two indexes of qualitative performance, one corresponding to the niponic research and development management system and the other to the traditional research and development management system, in companies with and without niponic capital.

After gathering and treating these data we used the statistical technique of the correlation coefficient of R for Pearson, which allows us to determine the associative strength between the two variable, thus allowing the analysis of causality mechanisms between the qualitative performance level of the niponic research and development management system (resulting from the questionnaire), and the quantitative performance of competitiveness in companies (resulting from the integrated model of evaluating corporate competitiveness) in companies with and without niponic capital operating in the Portugal.

Chart 1 presents causality relations between the niponic research and development management system and the performance of corporate competitiveness. The association of the niponic research and development management system and economic competitiveness is stronger in companies without Japanese capital, and the association between the same management system and the indicators of “workonomic index” and technological progress is stronger in companies with niponic capital.

Chart 1

Correlation average between the niponic research and development management system and the indicators of economic competitiveness.

	Companies with japanese capital	Companies without japanese capital
CE	.43	.44
WI	.48	.43
PT	.49	.46

Source: Reis, Felipa (2006).

CONCLUSIONS

This study ensures substantial evidences according to which the niponic research and development management system exerts an effective influence on corporate competitiveness, in companies with and without niponic capital.

Main conclusions are as follows.

Hypothesis 1 was not verified because there is no causality relation between the niponic research and development management system and companies with niponic capital. Meaning, companies with niponic capital do not compete by devising competitive strategies based on cost.

Hypothesis 2 was verified because there is a causality relation between the niponic research and development management system and companies with niponic capital. Meaning, companies with niponic capital compete by devising competitive strategies based on the qualification of its human resources (workonomic index).

Hypothesis 3 was verified because there is a causality relation between the niponic research and development management system and companies with niponic capital. Meaning, companies with Japanese capital compete by devising competitive strategies based on technologies (technological progress).

The three phases of the R&D cycle in Japanese companies doesn't necessarily follow the copy-improvement-innovation sequence. In most cases, the technological innovation requires a paralleled licensing of its external complementary know-how. Equally, after the introduction of an innovative product, subsequent upgraded models are released, more functional, of higher quality and at lower prices.

The R&D cycle in Japan is extremely dynamic, supporting the constant introduction of innovations into the marketplace. The satisfaction of consumer needs is undertaken as a challenge to the company's creativity, an imperative design to reach new technological solutions. Commercial success is above all the consequence of introducing the right product at the right price before competitors do.

Typically, the Japanese company will develop new ideas or perfect concepts in the expectation that they are pleasing to the targeted segment of the population. Machines to serve meals at required times to house pets when the owners are on vacation. Shirts made of fabrics that never crumple or wrinkle. Hair-style simulation monitors in ladies hair salons, eggs enhanced with vitamins, anti-bacterial sanitation ceramics for hospitals and public spaces or electric guitars with inbuilt player constitute some examples of products or services released in the niponic market that have later proven to be successful.

The management of R&D is crucial for the success of niponic companies in global competition. The constant introduction of new products and services expands its commercial presence and the restructuring of industries. From robots to videogames, from semiconductors to cameras, from cars to fax machines, Japanese manufacturers have ascended to positions where they stand up from the crowd by continuously innovating and upgrading not only their products, but they productive processes as well. The integration of R&D management with production management constitutes in Japan the vehicle of simultaneous consolidation of technological leadership and cost.

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COMPETITIVENESS GROWTH IN THE RECESSION PERIOD /COMPARATIVE ANALYSIS OF CROATIA AND SLOVENIA/

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ABSTRACT

Although, the global recession becomes the threat to future competitiveness growth in both developed and undeveloped countries throughout the globe, it could be the challenge, too. It could be the challenge, especially in the case of the countries that should re-invent their economic growth paths, because in the global competitiveness rankings they are lagging behind the countries with similar economic heritage and growth level. And that is the case of the two small neighbouring countries: Croatia and Slovenia. Both countries, twenty years ago, started different transition paths, and reached different competitiveness growth levels. Today, they are faced both with the recession and, at the same time, the problems of re-inventing their competitiveness growth in uncertain economic surrounding. The purpose of this paper is to carry out the deep comparative analysis of competitiveness growth in both countries and to research their strengths and weaknesses and their ability to cope with the recession and to re-invent their future competitiveness growth and economic development. The research will start with the short, but comprehensive, explanation of the economic heritage /before the transition/ and the analysis of the transition paths. The competitiveness analysis will be based on some competitiveness indicators, like GCI /global competitiveness index/, BCI /business competitiveness index/, on twelve «pillars» that could explain both indexes in detail, and, on SWOT analysis for both countries. SWOT analysis will be created by the authors. The proposals for future competitiveness growth, in the circumstances of the global recession, in both countries will be explained in the last part of the paper.

INTRODUCTION

Competitiveness is the driving force of the prosperity in any country. In the global economy, comprehensive approach should be made to make the country more competitive. According to the global competitiveness indicators, countries differ in various pillars that constitute the competitiveness. The post-transition countries are, generally, in the weaker position according to the competitiveness growth and, compared with the developed ones. Although, the competitiveness level was the prior question of the future development, and was the priority agenda to economic growth, in recent global recession period, the problems of surviving in the recession, or crisis, or, how to less painfully overcome the recession, became the priority academic and pragmatic questions in the developed and less developed countries. Paul Krugman recently said (www.spiegel.de): “Some people say that our economic problems are structural, with no quick cure available; but I believe that the only important structural obstacles to world prosperity are the obsolete doctrines that clutter the minds of men.”. Following these thoughts, we tried to re-think the two processes: the competitiveness growth and the recession, and found out the possibility that recession could, not only be the threat, but the challenge, too. The purpose of this paper is to re-invent the possibility for the competitiveness growth in the risky and uncertain recession period in the two neighbouring post-transition countries: Croatia and Slovenia. In the first part of the paper, the economic heritage and different transition paths are shortly explained. The second part will be focused on the competitiveness analysis in both countries, based on the global competitiveness indicators, and followed by the SWOT analysis. At the end of the paper, some basic proposals for the future competitiveness growth, in the recession period, according to the two cases that are in the focus of the analysis, are recommended.

THE ECONOMIC HERITAGE AND TRANSITION PATHWAYS

Before the dissolution, of former Yugoslavia Croatia and Slovenia had been the most developed industrial republics with a per capita GDP which was a third higher than the Yugoslav average. Unlike other countries in Central and Eastern Europe that had to operate behind «the iron curtain» and had command economies, Croatia and Slovenia as the republics within the Yugoslav confederation (from the Constitution of 1974) were moving along a so-called «mixed path». The path was marked by self-government and social ownership, but also by the market as a factor of allocating goods and services. Even back in 1989, Croatia and Slovenia had the highest liberalization index (0, 41 and 045) of all socialist CEE countries (EBRD, 2000). About 50% per cent of production was export oriented. The most prominent in Croatia was the complex of metal processing, shipbuilding, part of the food industry, the construction industry, and tourism that earned an average of \$5-6 billion a year. In Slovenia the export oriented manufacturing were: ferrous metallurgy, lead and zinc smelting, electronics, truck production, electric power production, wood production, textiles and machinery tools.

According to everything that Croatia and Slovenia had stood for up 1990, it might be assumed that both countries could have been the models for sustainable transition to a full market economy and democratic societies.

The case of Croatia

The circumstances of transition in Croatia produced much more serious consequences for the Croatian economy that had been previously anticipated. The decision to create state, initiated a five-year war, which gave rise to the need to provide assistance for about one million displaced people and refugees, and was marked by huge direct destruction and indirect economic damage, particularly within the tourism sector. Croatia entered transition with the huge disadvantages: the loss of the former Yugoslav market which included 18 million people; large costs caused by war damage, amounting to about \$50 billion /this was two and a half times the GDP of 2001/, and the lack of a system of international assistance and support, such as Phare etc.

Instead of exploiting the advantages of heritage, Croatia had engaged in a struggle to survive. A dramatic fall in production and the high demand of budgetary expenditure in the first years threw the economy into a widening budget deficit and increased money supply which led to growing inflation. In the period of 1990-93, GDP fell by 40 per cent, and the high inflation rate was 25 to 30 per cent. In such conditions government decided to reform the economy towards a free market economy. The macroeconomic stabilization program (1993) succeeded in fighting hyperinflation so that in 1994 the economy experienced the inflation rate of 3 per cent. Although the economy started to recover, and GDP growth rate was 5, 9 per cent in 1994, the economic transition was lagging behind.

The choice of the fast privatization model and the lack of transparency in its implementation allowed for the direct transfer of the ownership of firms based on political affiliation and nepotism that resulted in, "privatization robbery" The lack of public control and the sluggishness of the judicial system were characteristic for the first stage of the transition, when the government had the crucial influence on the new ownership structure through the Privatization Fund. As the consequence, the unemployment rate exceeded 23 per cent in 2001. (CRO STAT, 2001). FDI were low, too. The economic power was concentrated in the hands of privatization profit-seekers. Reforms were externally initiated (USAID, 2000, WB, 2002), because they were opposite to the governance praxis. In the year 1999 GDP achieved only 82 per cent of the GDP of 1990 level, with an unfavourable structure for quick economic recovery and the share of the foreign debt in the budget was about 50 per cent (CRO STAT, 2001). The consequences of the fast and non-transparent privatization and the predominant political government influence on the economy are present in Croatia still today. All the reforms are externally driven, mainly by the EU bodies. Since 2000, Croatia improved slowly with moderate but steady GDP growth, led by a rebound in tourism and credit driven consumer spending. Structural reforms are lagging due to the lack of strong support from politicians

The case of Slovenia

Contrary, in Slovenia, the whole transition was carried out gradually and in a transparent way. The whole economic and political situation was different to the situation in Croatia from the beginning of the transition due to the facts that: first, Slovenia in its path to independence was not hit by the war, and, second, the government continued the economic strategies that it had started to create before the independence of the state. The social-democratic government started the transition following the strategy of re-inventing new economic advantages based on the inherited ones.

Slovenian government did not choose the fast, but gradual privatization model, based on the vouchers. Workers' councils in the firms were then empowered to allocate the remaining 40 percent to either firm insiders (through insider buy-outs) or outsiders (through a public tender). One of the main features of this process was the transition from workers' self-management rights over the "social" capital into majority insider-owned enterprises, through the redistribution of shares among managers and employees, and management-labour buy-outs. Hence, Slovenia's privatization brought about two large groups of owners: inside owners (employees, including managers, former employees and their relatives) and outside owners (Pension and Restitution Funds, Privatization Investment Funds). As a consequence of the gradual privatization model, most inherited sectors and companies were restructured and many of them continued to export their product.

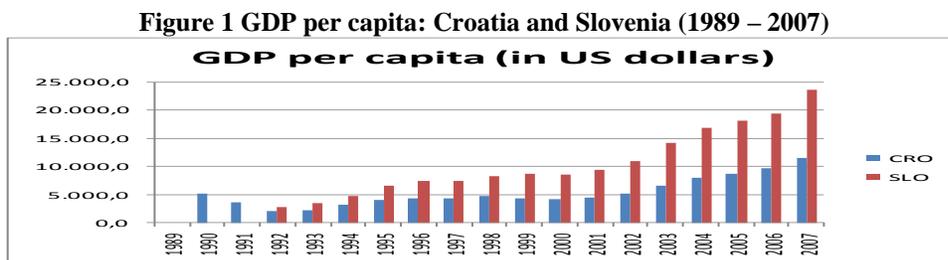
Slovenia also succeeded in building up the entire institutional infrastructure that is supporting the competitiveness growth of the companies and the whole state sector. In 2004, Slovenia became the EU member state.

COMPARATIVE ANALYSIS OF SOME KEY MACROECONOMIC DATA

Croatia and Slovenia are small countries, that started its transition to a free market economy at almost the same starting position, but, according to the aforementioned different transition pathway, today they greatly differ in the level of economic development and the global competitive position, that could be seen from the data on GDP per capita level.

Some macroeconomic indicators demonstrate the huge differences in the economic development level of Croatia and Slovenia, which could be explained not only by the different (graduate or fast) privatization model, but, also, by the different economic development strategies (one, in Croatia based on the political influence on the whole process, and the other, in Slovenia, based on the comprehensive economic strategies that, from the beginning of the transition looked upon the social consequences of the economic transformation.)

One of the basic indicators is the level of GDP per capita. Slovenian GDP per capita is more than two times bigger than it is in Croatia.



Source: Authors calculation according to the EBRD data series

The huge difference in the unemployment rates, is significant during the whole period of the transition, and, it is obvious from the following figure (Figure 2.) still exists. High unemployment rates are present constantly in Croatia and they do not create only economic but huge social costs too.

In Slovenia, the gross external debt has increased from 4.3 mil € in 1995 to 19.6 mil € in 2005. The percentage rate related to GDP jumped over the 70% mark in 2005. During the same time period Croatia also followed the trend of increasing external debt to GDP percentage that reached 70% (22.9 mil €) in 2004. In the last couple of years the trend continued in the case of Slovenia and reached 105,3% (39.09 mil €) in 2008. Since 2005 Croatia started borrowing more intensely on the domestic market thus slowed down the increasing external debt to GDP ratio to 82,6% (39.1 mil €) in 2008 (www.hnb.hr). According to the World Bank classification (external debt / GDP > 80%) both countries are considered highly indebted.

COMPARATIVE ANALYSIS OF THE GLOBAL COMPETITIVE POSITION

Evaluation of competitiveness became an important instrument for balancing the development process of the economy. The world economy is not a zero-sum game and many states can improve their prosperity if they can improve their productivity. The challenge for any economy is to create the conditions in which companies and employees throughout the economy can upgrade their productivity (Porter, 2008:44.) Theory and empirical evidence suggest that there is a need for comprehensive approach to competitiveness measurement. While measuring competitiveness, and comparing its competitiveness with other countries with similar economic characteristics, each country could be faced with its weaknesses and strengths.

Global Competitiveness Indexes

Both, Croatia and Slovenia are included in the international competitiveness's yearbooks, such as the *The Global Competitiveness Report (GCR)*. This index is a combination of data obtained from secondary sources (quantitative weight) and through primary survey (survey weight) on various macro- and micro-economic dimensions of the economy of a country or pillars. Porter (1990, 2008), introduced the elements of the New GCI that will include social infrastructure and political institutions.

In the following table we can notice the differences not only in overall ranking position of Croatia and Slovenia /where Croatia is lagging behind Slovenia/, but, especially dealing with some pillars that could illustrate us the vulnerable or weak sides, or some strengths of the competitiveness structure in both countries.

The Croatia lags behind Slovenia in overall GDI ranking for 19 ranks 2008-2009, 18 ranks 2007-2008 and 16 ranks 2006-2007. The gap in competitiveness ranking between Croatia and Slovenia from year to year is widening. Considering pillars, it could be noticed that the weakest pillars in Croatia are the goods market efficiency /76/, institutions /74/ and business sophistication /72/ and in Slovenia: market size /70/, labour market efficiency /61/ and goods market efficiency /50/. The ranking in the fourth pillar: Health and primary education, in fifth pillar: Higher education and training, and in ninth: Technological readiness, is much better than the overall ranking in both countries. In Slovenia, the pillars that demonstrate the strengths in competitiveness growth are also obvious on ranking position dealing with: Macroeconomic stability, Innovation and sophistication factors, Business sophistication and Innovations.

If the most problematic factors for doing business are considered (WEF, 2008:142), then it could be noticed that in Croatia these factors are: tax regulations, inefficient government bureaucracy, high tax rates, corruption, policy instability and crime and theft. In Slovenia, these factors are: inflation, tax regulation and access to financing.

Although, these rankings should be important indicators to policy makers, contrary to Slovenes Ministry of economy various initiatives on developing competitiveness strategies, and many other non-governmental institutions that both on research and empirical level foster competitiveness growth, in Croatia, there is only one non-governmental organization: "National council for competitiveness building", that is focused on the Croatian competitiveness growth, but still, this organization has no influence on policy makers.

Table 2 Global Competitiveness Index

	CROATIA	SLOVENIA	CROATIA	SLOVENIA
	Rank /out of 134/	Rank /out of 134/	Score /1-7/	Score /1-7/
GCI 2008-2009	61	42	4,2	4,5
GCI 2007-2008 /out of 131/	57	39	4,2	4,5
GCI 2006-2007 /out of 122/	56	40	4,2	4,5
Basic requirements	49	38	4,7	5,1
1 st pillar: Institutions	74	49	3,8	4,4
2 nd pillar: Infrastructure	51	36	4,0	4,5
3 rd pillar: Macroeconomic stability	61	33	4,1	5,5
4 th pillar: Health and primary education	41	21	5,9	6,2
Efficiency enhances	62	37	4,1	4,4
5 th pillar: Higher education and training	48	22	4,4	5,1
6 th pillar: Goods market efficiency	76	50	4,1	4,5
7 th pillar: Labor market efficiency	68	61	4,4	4,4
8 th pillar: Financial market sophistication	63	46	4,4	4,5
9 th pillar: Technological readiness	47	30	3,7	4,5
10 th pillar: Market size	66	70	3,6	3,4
Innovation and sophistication factors	62	33	3,7	4,2
11 th pillar: Business sophistication	72	34	4,0	4,5
12 th pillar: Innovation	50	33	3,4	3,7

Source: WEF, 2008.:142 and 300.

SWOT analysis

SWOT analysis could be an important tool for policy creation. In this, sense, based on the research or the different recent analysis of the competitive position of Croatia and Slovenia (WEF, 2008, WB, 2005, 2008), and some expert interviews, the SWOT analysis of both countries demonstrate their specific strengths, weaknesses, opportunities and threats.

Table 3: SWOT analysis of Croatia:

Strengths (Internal / Current)	Weakness (Internal / Current)
Geo-traffic position of the country Adriatic coast and islands with specific global attractiveness Inherited industrial culture, especially in technical educated labor force Availability of agricultural land Tradition of tourism, both at sea-side and the continental part of Croatia Unexploited and rich natural water resources Bio diversity and preserved environment Good infrastructure (motorway networks) Internationalized banking sector	High burden of external debt and persistent budget deficit Low level of investment: both foreign and domestic entry barriers High level of taxes and public spending Unexploited agricultural land potential Political dominance over economy: red tape Structural unemployment affecting unskilled and older workers Unreformed public sector
Opportunities (External / Future)	Threats (External / Future):
EU and NATO membership Growing demand for bio- agriculture products Growing demand for holiday homes and residences Trans-european corridors for energy supplies Growing demand for food and water supply	The impact of global recession with delayed recovery Ongoing and growing lack of foreign direct investments Reduction of international credit sources International protectionism Unstable regional market and low level of regional economic cooperation Vulnerability of international tourism market

The main weaknesses of Croatian economy, especially in the light of the current economic crises, are in the high burden of public and foreign debt, and on the political dominance over economy. The unreformed public sector is the main barrier to further competitiveness growth. The governments efficiency is very low and all the reforms are driven by the external bodies (EU, mainly).

In Slovenia, SWOT analysis demonstrates different situation.

Table: SWOT analysis: Slovenia

Strengths (Internal/Current)	Weakness (Internal/Current)
Stable macroeconomic environment Stable political environment Low country risk Low corporate income tax Modern basic information technology and telecommunication infrastructure Developed public research and technology infrastructure Availability of good health care services and broad coverage of social welfare system Excellent geographic location and connections Bio-diversity, forests and water resources	High level of taxes Unflexible labour market size Dependence on traditional industries Low industrial productivity Low level of FDI
Opportunities (External/Future)	Threats (External/Future):
EU and NATO membership Growing demand for water supply	Exogenous recessionary shock A decline in export demand Low capital inflows

Despite structural changes, the Slovenian economy remains disproportionately dependent on traditional industries. The relatively low share of labour and capital deployed in industries considered to be the twenty-first-century vehicle of economic growth – computer and office equipment, communication equipment, semiconductors and biotechnology – hinders long-term development and weakens the long-term competitive prospects for the economy. Thus, Slovenia's industrial productivity lags far behind most advanced economies and, the export competitiveness of its manufacturers remains low. In 1998, gross value-added per Slovenian employee remained nearly three times lower than in comparable industries in the EU countries (Petrin, *et al.*, 2002).

After European enlargement, Slovenia has increased the location attractiveness for business sector and also improved the institutional competitiveness. Harmonization with EU legislation has improved the institutions and the legal system. On the other side, Croatia stayed outside the first enlargement process, it has to work much more on its less competitive position in comparison to Slovenia.

COMPETITIVENESS GROWTH FACED WITH THE GLOBAL RECESSION

Croatia and Slovenia have high external debt-to-GDP ratios, well above those in other emerging market regions. Given today's global risk aversion, sharply slowing economic growth, and Croatia and Slovenia's high external vulnerability indicators, these high external debt-to-GDP ratios seem unsustainable.

The extent of external imbalances is not the only determinants of the probability of getting into a financial crisis. The SWOT analysis does show that both countries are extremely vulnerable to the drying-up of foreign capital inflows. Moreover, given the similar vulnerabilities in both countries, a crisis in one country has the potential to blow up into a regional financial crisis.

The most significant impact in both countries will be on consumers and businesses in the real economy: Weakening demand from key export markets in Western Europe will reduce demand for both countries goods, according to the fact that they relied on commodity exports, particularly on chemicals and plastics, machinery tools, wood products (Croatia) and on lead and zinc smelting, trucks, wood products, textiles and machinery tools (Slovenia), whose value plunged in the second half of 2008 thanks to falling global demand; Unemployment is likely to rise in both countries. It is already at high levels in Croatia (9, 7 per cent 2007), and is rising significantly from the end of 2008 till now (<http://www.hnb.hr>).

SOME PROPOSALS FOR FUTURE COMPETITIVENESS GROWTH

Since foreign demand is the driving force behind the growth, increasing in competitiveness of Croatian and Slovenian industries is extremely important to participate in the international markets. Diversification of export flows and increases in the volume of exports calls for introduction of improved production programs and innovation in products and processes. Moreover, investments in human capital and technological development will increase labour productivity and strengthen the international competitiveness of both countries the country.

Both countries should re-invent their future competitiveness strategies and policies, taking into the consideration their recent strengths and weaknesses, the same as their future opportunities and threats. As the main threat for Croatia and Slovenia is the global recession, they should pay special attention to their future opportunities on the global market.

CONCLUSION

Although, Croatia and Slovenia, two small neighbouring countries, started the transition to a free market economy, at the similar economic development level, in global competitiveness comparison they greatly differ in their achievements. Today, Slovenia is the EU member country with stabile macroeconomic situation and with the respective global competitive position, and, Croatia is highly lagging behind Slovenia. The brief research on the transition path demonstrated that in Croatia from the beginning until now, there is a huge influence of politics on economy development. Most reforms were externally driven in Croatia, In Slovenia the reforms emerged from the insider's knowledge, government competence and comprehensive strategies.

Slovenia developed the institutions necessary for the competitiveness growth, and this structure in Croatia is still not completely developed. Some basic measures on competitiveness, like GCI, demonstrate the huge differences between two countries. The SWOT analysis of both countries also confirms, that even today, the main weaknesses in Croatia emerge from the huge influence of political interests over economy.

Today, both countries are faced with the challenges and threats of the global recession. The important task for Croatia is that in spite of the significant macroeconomic problems, it should re-invent its further competitiveness strategies, policies and focus on the opportunities from the global economy that could be found out even in the recession period. Slovenia should continue its competitiveness growth and building up new competitiveness policies and pay special attention on its weak economic sides. In both cases, it is necessary that all the stakeholders, decision-makers, in the economy cooperate and follow the comprehensive approach in future competitiveness growth.

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VARIATIONS IN THE PERCEPTIONS OF LATINOS OF NON-BASED MEDICAL HEALTHCARE COMPARED WITH THE PERCEPTION OF WHITES

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ABSTRACT

This article was based on a study that was conducted in the Latino enclaves of Chicago Illinois, representing the different patient perceptions between Latinos and Whites in the U.S. healthcare system. This article looks at perceptions of soft issues (emotional and spiritual care) not medicinal treatment received within the Latino community compared to Whites. Hospitals, clinics, and physician offices that do not take into account cultural and ethnic differences are aligning themselves to provide a disservice to the Latino population as well as to the public. Without meeting the needs of the Latino population, healthcare organizations are missing an opportunity to address healthcare needs of a particular large segment of the population.

INTRODUCTION

The American healthcare system is dealing with an enormous problem of how to curtail expenditures. The problem is coupled with declining patient satisfaction ratings among healthcare consumers. The uninsured population in America is rising in conjunction with the large numbers of illegal immigrants entering the country who are seeking medical care. Healthcare administrators are facing a dangerous situation of either treating this uninsured population or refusing them treatment. The Medicaid and Medicare systems are becoming increasingly overburdened. As a result, traditional health management organization officials and fee for service plan officials are failing to keep hospitals financially secure.

Continuously improving system quality within the healthcare organization is a key factor in improving overall healthcare quality (Marley, Collier, & Meyer-Goldstein, 2004). Additionally, the use of service recovery methods need to ensure that all individuals who use the healthcare system realize and experience the same level of service excellence regardless of ethnicity. Effective service recovery is an intricate aspect of system quality that involves ongoing development of a strategy to settle customer complaints and dissatisfaction with the ultimate goal of motivating the valued customer to continue to use the service (Schweikhart, Strasser & Kennedy, 1993).

With the American healthcare system under tremendous strain, the administrators of more hospitals are focusing on perceptions of patient care. This perception of care goes far beyond what medical staff can provide for a patient medically. The patient seeks a healthcare provider who understands and knows what the patient is feeling. Perceptions of care vary among cultures, races, sexes, religious groups and even with age may be difficult for a healthcare practitioner to understand. Catering to individuals that fall into different groups can be very difficult as many healthcare practitioners are not aware of the spiritual and emotional needs of their patients. Without addressing the patient's fundamental needs, the health practitioners are at risk of losing their current patient base as well as building upon the patient base to gain more patients.

Based on the increasing Latino population in the United States who have access to healthcare, a large number of Latinos will choose to seek alternative avenues for their healthcare needs rather than use the traditional U. S. healthcare system. Researchers have suggested that an immigrant's location choice (whether in or outside an enclave, within the destination country) depends on his or her human capital characteristics (Toussaint-Comeau, Rhine, & Rhine, 2004).

Many times healthcare practitioners who are sought out within the Latino community or enclave are not licensed to practice medicine in the U. S. or they do not hold a valid medical degree from any institution. Many times these medical practitioners provide a more holistic based method of medical care. This approach can often further complicate the physical health of Latinos based on the lack of proper medical treatment needed for an ailment. Furthermore, these alternative practitioners may not be diagnosing the illness or disease correctly.

An immigrant who chooses to live in an enclave tends to have less education, shorter periods of residency in the U. S., less general experience in the country, and poorer English (Funkhouser & Ramos, 1993). Immigrants with fewer incentives to invest in learning to speak a new language, such as those who plan to repatriate in the future, would prefer to live with those who speak their language and share a similar culture (Toussaint-Comeau & Rhine, 2004). For Latinos, seeking medical care within their particular group is more important to them than seeking recent medical advancements. Yet more importantly for Latinos, there needs to be a bond established between the healthcare practitioner and the patient.

In order for the staff of health systems, hospitals and clinics to provide the best non-medically based care, practitioners and administrators need to understand their populations' basic needs. The study of demographics will not disclose why certain groups of individuals place more emphasis on the magnitude and type of compassion that is often perceived to be a requirement by the patient. Understanding comes from knowledge and acceptance of a culture.

As the migration patterns of the people in the world shift, there is a necessity within the American healthcare system for discreet services that cater to the needs of the individual. Providing healthcare services that serve the Latino population can ensure a healthier status among these individuals, and aid in lowering the incidence of communicable disease within communities and enclaves (Toussaint-Comeau & Rhine, 2004). Additionally, by catering to these Latino groups (assuming they have the means to pay for services rendered), the staff of health organizations will expand the market share of their organizations, enabling them to become more financially stable. It is believed that having consistent care that meets the perception of care will increase regular visits with a physician for preventative care by Latinos. From a financial point of view, it is more cost effective to prevent an illness at the onset of the symptoms than to treat the illness in full onset.

PROBLEM

Latinos perceive a lack of care compared with Whites in the healthcare sector. The prevailing perception of Latinos concerning the quality of the healthcare they receive is far lower the perception of care by Whites. According to the researchers at the Institute of Medicine, even when holding access-related factors, such as the degree of insurance coverage and the ability to pay, the care experienced by minorities is of lower quality (as cited in Reynolds, 2004).

In order to curtail immigrant healthcare costs, there have been initiatives from federal government officials that restrict the amount of expenditures and access to care for these individuals on the federal government level, as well as initiatives with individual hospitals. Programs such as Medicaid and the State Child Health Insurance Program (SCHIP) were developed to ensure access to healthcare among low-income children and families (Kaiser Commission on Medicaid and the Uninsured, 2000). However, the access by Latino immigrants to public insurance has been affected by public policy (Kaiser Commission), and policies that bar public coverage among recent immigrants, target a group that already has limited access to the healthcare system (Carrasquillo, Carrasquillo, & Shea, 2000).

A large number of members the foreign-born population have had almost no contact with the formal healthcare system (Goldman, Smith, & Sood, 2006). One quarter of the members of the population has never had a medical checkup, and one in nine never visits a doctor; these rates are twice those of the native-born persons (Goldman et al.). Women were more likely to seek out healthcare, primarily for pregnancy related conditions; however, the frequency was less than normally expected from pregnant women. If the health status of the Latino immigrant were to improve then there would be an improvement in the health of children, a decline in emergency room expenditures, and a decline in the spread of communicable diseases within both the Latino immigrant population and the Latino nonimmigrant population

Physicians have two major concerns when treating Latino immigrants: (a) the severity of their illness, and (b) the costs associated with that illness. Many times when Latino immigrants present themselves to the emergency room, which is their primary source of healthcare, their initial complaint, is actually secondary to their primary illness. This is due to the lack of available primary care for this group of individuals. Hospitals cannot refuse to treat someone who is ill, but that is not the type of care most of the Latino immigrants need;

they need ongoing and preventative care (Guest, 2002). Consequently, identifying and treating communicable diseases in the early stages requires that undocumented Latino immigrants be able to access services for all health conditions, not just those conditions that have advanced to an emergent level or include symptoms of infectious disease that endanger others in the community (Kullgren, 2003).

The implementation of the Federal Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996 greatly restricted the provision for many federal, state, and local publicly funded services to undocumented immigrants (Kullgren, 2003). Many administrators of public health institutions and healthcare institutions have wrestled with the legal, administrative, and ethical conflicts generated by these limitations (Kullgren).

Instead of fulfilling their intended purpose of reducing Latino, immigration and conserving public resources, the wording of the PRWOR placed restrictions on access by undocumented immigrants to publicly financed health services. This has unduly burdened healthcare providers and threatened the health of the community at large (Kullgren, 2003).

To complicate issues further for Latinos, in studies researchers strongly indicated that minorities have fewer choices relative to where they can obtain healthcare and they confront quality-of-life problems that expose them to greater health risks (Minorities bear brunt of healthcare obstacles, 1995). One of the primary reasons for this perceived contrast in care received is the cultural aspect of seeing a physician. In the Latino community, it is crucial for the patient to feel a bond with and form a relationship with their physician. Because of this shifting demographic need, healthcare providers are openly tackling increased challenges in addressing the fundamental obligation to care for patients with varying cultural and ethnic backgrounds (Reynolds, 2004). Language barriers, ethnic backgrounds and beliefs systems, disparities in educational levels, use of folk medicine, discontinuous or uncoordinated care and other factors compromise the probability for mutual trust and cooperation in provider-patient relationships (Worrell, 2002).

The escalating fear of deportation is another barrier that some Latino immigrants face. It is this fear that prevents some Latino immigrants from seeking medical care at hospitals and private practices that are regulated by the U. S. officials. Therefore, these undocumented individuals will either forfeit the care they need or seek underground resources. Under welfare reform, the extremely restrictive eligibility rules for many programs that applied historically only to Latino immigrants also apply to legal immigrants until they become citizens or to refugees 5 to 7 years after their arrival in the U.S. (Huang, Yu, & Ledsky, 2006). According to Huang et al., any child born in the U. S. to Latino immigrant parents still has difficulties accessing care. However, the situation for the child is not as difficult as the one that a Latino immigrant faces. These combined factors have created a poor healthcare experience, which leaves both the patient and healthcare provider dissatisfied with the interaction (Reynolds, 2004).

Another aspect of the perception of care received by Latinos and how it is perpetuated comes from data obtained from the officials at the Institute of Medicine cited by Reynolds (2004), which listed three possible provider mechanisms that may contribute to disparities: “(1) prejudice against minorities, (2) higher levels of clinical uncertainty in communication to ethnic populations, and (3) stereotypes held by providers about, the behavior or health minorities” (p. 239).

An important step in eliminating racial disparities in healthcare is to elucidate the mechanisms influencing the health of minority people (Gee, 2002). A variety of mixed interpretations have been offered, from financial factors such as differences in rates of insurance coverage and economic status to non-financial factors such as culturally based attitudes toward healthcare and barriers presented by language (Schur, Albers, & Berk, 1995). Patient satisfaction could also be influenced by perceived treatment costs (Andaleeb, 1998). Even with insurance coverage, patients may consider some costs to be excessive (Andaleeb). With administrators at insurance companies challenging what they feel are unnecessary claims, costs and operating procedures (Schlossberg, 1990), and employers requiring larger employee contributions to offset rising insurance premiums (Wong, 1990), healthcare consumers may have become much more sensitive to the price issues (Andaleeb).

Latinos seek out medical care at various levels, which complicates the understanding of why they only use the U. S. healthcare system for clinical treatment of certain ailments. It is important to understand that among such communities there is an intense desire by individuals to use Western medical services in the cases of broken bones, vaccinations and pregnancy screenings, but those individuals rely on traditional treatments for ailments such as asthma, backaches, and colds (Worrell, 2002).

Although there are some uncontrollable barriers that prevent Latino immigrants from accessing medical care, in some instances, the Latino has decided not to obtain the necessary medical care. Cultural issues are a leading cause for why some Latinos choose not to receive care. In the Latino community, it is especially important that there is a very personal, yet professional bond with the healthcare practitioner and the patient.

Without this connection, many Latinos feel they are not taken seriously which results in the absence of trust and understanding. When there is a gap in cultural competency patients feel like they are not being understood, respected or valued (Burt, 2006).

Nearly one third of Latinos have reported that they do not have a regular source of care. Latinos were twice as likely as Whites to report long wait periods for care and that the healthcare provider failed to listen and to provide them with needed information (Phillips, Mayer, & Aday, 2000). Anderson (1995) commented about the access of care through a healthcare access model, stating service utilization affected outcomes, population characteristics, health behavior, and health practices determined service utilization. Outcomes also affect access determinants. The healthcare system and the external environment affect health behaviors, health outcomes, and some population characteristics, such as income and education (Anderson, p. 5).

Members of the growing Latino populations centered in large urban areas like New York, Miami, Chicago and in the states of Texas, Arizona, New Mexico, and California that are near the perimeter of Mexico feel the burden of the influx of Latino immigrants. Within these regions, access to and knowledge about primary care is limited. Many Latino immigrants who come to the U. S. are unaware of the valuable resources available to them or of how the U. S. healthcare system functions. New Latino immigrants or U.S. born Latinos residing within an established Latino community often lack any knowledge, have only limited knowledge of the existence of, or function of primary healthcare services. Most Latinos will choose to go to a healthcare practitioner within their own community or to someone that has been recommended from a member of their community.

The healthcare arena is an industry in which customer satisfaction is critical to building a satisfied customer franchise; word of mouth recommendations are crucial (Plymire, 1991; Reichheld & Sasser, 1990). It has been estimated that the role of loyal patients is equal to two or three times their own value as customers based on word-of-mouth networking (MacStravic, 1995; Rubin, Gandek, Rogers, & Kosinsky, 1993; Winston, 1998).

Today hospital administrators must compete in a market based on quality, price and product just as any business owners would who provide goods and services to the public (Panko, 1996). More pressure is falling on healthcare providers to give better service with more options. This is in part because patients are paying more for their healthcare coverage and as a result are demanding more in return. Healthcare providers are aware of this situation and realize that cost effective and efficient care is a necessity, not an option.

Healthcare administrators are not alone in experiencing the rise in healthcare costs. Because patients are feeling the increase in their healthcare costs also, they expect more in terms of services from their healthcare providers. When hospital administrators need to reduce expenditures, this affects not only patients in the hospital but members of the community also feel the impact.

Community health orientation refers to the organization-wide generation, dissemination and use of community intelligence to address present and future health needs (Ginn, Lee, & Ellis, 2006). Hospitals that are community health oriented have the following attributes: (a) a community-oriented mission statement, (b) resources committed for community benefit activities, (c) community health status assessments, (d) use results of assessment to design or modify services, and (e) perform long-term planning for the improvement of health in the community (Seay & Sigmond, 1989).

PAST RESEARCH FINDINGS

In past studies, researchers suggested that the administrators of healthcare organizations could develop a community organization by generating, disseminating and adeptly responding to market information, resulting in better identifying and satisfying customer needs (Proenca, 1998). Proenca, Rosko, and Zinn (2000) examined community orientation in hospitals from an institutional and resource-dependence perspective using 1994 and 1995 American Hospital Association (AHA) survey data and found that the nature of environmental pressures and hospital administration interests influence the degree of community orientation (Ginn, et al, 2006).

The community health of Latinos can also affect the health of individuals of non-Hispanic descent that have direct contact with the members of the Latinos community. To provide complete services for the Latino community, healthcare practitioners who work in hospitals and health systems need to develop outreach programs that incorporate an understanding of the Latino community's origins and characteristics including the beliefs, institutions and expectations regarding healthcare (Stevenson et al., 2002). Jose Moreno, Director of Public Affairs, and Hispanic Marketing for GCS public relations in San Diego California stated that understanding the values and mindset of the people of a minority community is critical to any effective marketing campaign to such groups (Worrell, 2002).

The spoken language barriers are causing the discrepancies in perceptions between Latinos and Whites. Language and cultural barriers have become such a challenge that in 1999 the officials of the U. S. Department of Health and Human Services Office of Minority Health developed standards of care within these areas (Reynolds, 2004). Furthermore, researchers suggested from the data that the lower the education level, misperceptions that are more prevalent exist. This is especially significant during the birthing experience.

Many hospital administrators are implementing service excellence initiatives to increase patient satisfaction among the patients and the staff. Soft issues are those initiatives or patient experiences not related directly to the medical treatment received, but more how the physicians and staff treat the patient. Patient satisfaction initiatives are becoming increasingly popular as hospital administrators realize the vulnerability to shifts in market share as more healthcare services become available in communities. Many people can now choose where to receive their medical treatment. Patients not only select for the medical treatments provided, but for the services and amenities that are offered to the patient and to the patient's friends and family. By transforming the attitudes of the healthcare providers and hospital staff toward Latino patients and providing staff training, hospital administrators increase the likelihood that the facility will become the provider of choice when the Latino market share matures (Stevenson et al., 2002).

Kurz and Wolinsky (1985) and Heistand (1986) found customers are relying less on doctors to select the right hospital. This reflects the importance of the patients' point of view. It does not matter who is right or wrong. What matters is how the patient felt during their experience, even though the caregivers' perception of their experience may be quite different (Pettersen, 1998). Often the patient's perception is that the treatment from hospital staff is not reflective of the respect and dignity they deserve. If this is the case, the hospital staff is actually performing a disservice to the patients and the patient will most likely not return to that particular hospital. Although most of these healthcare facility administrators offer staff translation services and bilingual signage, they often have ceased to make the changes necessary to become accepted by the Latino community (Stevenson et al., 2002). The reduction in these changes can be very costly to a hospital as word of mouth within community members can have devastating results to the hospital's market share. These issues are likely to exacerbate medical problems that require high quality of care provided (Reynolds, 2004). An academic study cited by the National Management Healthcare Congress (as cited in Reynolds) estimates that if healthcare disparities were eliminated in the state of Pennsylvania, dollar savings to the U.S. healthcare systems would total \$30 million annually for diagnoses that are common to minority patients.

Communication is as important as respect and dignity. Healthcare managers must gradually develop strategies that promote respect for individuals and cultural dissimilarities, incorporating a trust-promoting method of inquiry (Riddick, 1997). Not only can an absence of communication have a detrimental effect on a patient's perceptions, but also the misinterpretation of verbal language and body language can be equally damaging. The better the quality of communication perceived by the patient, the greater will be his or her level of satisfaction (Andaleeb, 1998).

The delivery of excellent service will help ensure that all patients receive treatment equally with compassionate and respectful care. Good demographic data relative to the relationship between racial and ethnic composition and care is a necessary first step in identifying successful models for health plans to reduce healthcare gaps (Wechsler, 2003). Without this element, Latino patients will feel that they do not receive the best care possible. Since the spoken language barrier and the translation of English into Spanish is such a crucial aspect, hospital staff needs to shift their focus onto this area. When translating from English to Spanish, it is important not to lose the true meaning of the translated message for the patient.

Cleary and McNeil examined the relationship between quality and satisfaction and found that better care, along with good communication skills and empathy, lead to greater patient satisfaction (Marley et al.). Goldstein and Schweikhart empirically tested the relationships between the six dimensions of the Baldrige model (leadership, strategic planning, focus on patients, other customers and markets, information and analysis, staff focus and process management) and their efforts on organizational performance results (Marley et al., 2004).

In light of the increasing pressures on the administrators of healthcare organizations to cut costs, three factors can be used to judge their performance: change readiness, quality improvement and cost management (West, 1998). Measuring quality in healthcare has taken on a new dimension as quality measures for clinical outcomes have now moved into the patient satisfaction realm. Clinical quality outcomes are important as in measuring the quality of care. Clinicians need to address issues that may arise from certain protocols and methods of treating patients. Using this crucial information allows the clinicians to determine better quality outcomes and to develop new treatment protocols.

Responsiveness to customer needs is a relatively new topic of discussion for personnel in healthcare industry. As hospital facilities become overburdened with patients, and hospital administrators are burdened with

financial constraints, maintaining staff responsiveness to patients can be a difficult target to meet and to measure. This is because the degree of responsiveness is most often a patient's own perception of time. Unless the healthcare staff is using a measure that is both qualitative and quantitative, the results can vary and be invalid.

The hospital staff's responsiveness to medical needs is no more important than the ability to be empathetic to the patient's emotional needs. Empathy is difficult to measure because it deals with a patient's feelings and fears. When patients enter the hospital, their emotions can range. Some patients experience relief, as in the case of many elderly and terminally ill patients who are mentally prepared to die. Some patients also experience anxiety and fear.

Administrators of healthcare institutions are realizing that in order to meet patient expectations and gain market share, there needs to be a measure of how well the healthcare institution's staff is performing, not only from a clinical standpoint, but from the patients' standpoint also. Many healthcare institutions administrators now have set up patient satisfaction or customer service staff that report findings using a balanced score card or dashboard report (Curtright et al).

Measuring the patient experience, healthcare providers can learn where deficiencies occur in their delivery of healthcare services. A thorough understanding of the patients' needs and what must be accomplished to meet those needs has a positive impact on the patients and the overall success of the hospital. Healthcare is an industry that relies heavily on word of mouth to convey how the organization's staff meets the needs of the patients, both from a spiritual perspective and medical perspective.

In order to meet the demands of the changing demographics within the healthcare industry, healthcare providers are examining models to ensure the direction they are moving meets patient needs.

RESEARCH FINDINGS

To determine exact perceptions a study was conducted in local Latino enclaves in Chicago, Illinois. The target population was any Latino and White adults (18 years of age or older) who were patients seeking non-emergent medical treatment at physicians' offices and local clinics in the enclaves of Chicago, Illinois.

To accurately measure the perception of participants of non-medical based care that they received from healthcare practitioners, all eligible participants were asked to assess 10 aspects of quality of care in English or Spanish, these 10 aspects were:

1. Ease of speaking with your primary care provider (*La facilidad de hablar con su proveedor de atención primaria*).
2. Friendliness and courtesy shown to you by the receptionist and other front desk staff (*La amabilidad y la cortesía se muestra a usted por el recepcionista y otros recepción de personal*).
3. Explanations about prescribed medicines (*Las explicaciones acerca de los medicamentos prescritos*).
4. Explanations of medical procedures and test results by primary care provider (*Las explicaciones de los procedimientos médicos y los resultados de las pruebas por proveedor de atención primaria*).
5. Friendliness and courtesy shown to you by your primary care provider (*La amabilidad y la cortesía se muestra a usted por su proveedor de atención primaria*).
6. Friendliness and courtesy shown to you by nurses and other medical staff (*La amabilidad y la cortesía se muestra a usted por enfermeras y otro personal medico*).
7. Training, skill, and experience of the nursing staff (*La capacitación, la habilidad y la experiencia del personal de enfermería*).
8. Your primary care provider's concern for your mental health or emotional well-being (*Su proveedor de atención primaria de la preocupación por su salud mental o el bienestar emocional*).
9. How well your care meets your needs; (*Cómo así su cuidado se ajuste a tus necesidades*).
10. Overall quality of care (*En general la calidad de la atención*).

Each question was scored using an ordinal scale of 1 (*very poor*), 2 (*poor*), 3 (*fair*), 4 (*good*) and 5 (*very good*).

When evaluated by race, the gender distribution changes little, males continued to comprise the largest number of participants within the Latino population ($n = 69, 54.3\%$) and dropped slightly below the majority ($n = 65, 47.4\%$) within the White race.

The question "Overall quality of care". From these descriptive showed that participants are satisfied overall with the care they have received; this pertains to both Latinos and Whites who participated in the study.

The question that caused the most concern was "Your primary care provider's concern for your mental health or emotional well-being". When compared with the other mean scores this question had the lowest mean

with a standard deviation of 23.2329 ($n = 233$). This was also the most unanswered question in the study that related to the care that participants received. Two of the most answered questions, both with a response rate of 264, were “Ease of speaking with your primary care provider” with a mean of 80.4976 and a standard deviation of 20.5040 and “Explanations of medical procedures and test results by primary care provider” with a mean score of 85.5167 and a standard deviation of 19.7383.

Looking at the correlations for both Latinos and Whites, there were three definite correlations. First, it can be said that the question of “Friendliness and courtesy shown to you by nurses and other medical staff” has a direct influence on how the patient scored “Training, skill, and experience of the nursing staff”. This was an interesting point especially when looking the correlation between “Explanations of medical procedures and test results by primary care provider” and “How well your care meets your needs”, and the relationship between “Explanations of medical procedures and test results by primary care provider” and “Friendliness and courtesy shown to you by your primary care provider”. The results of these correlations confirmed a relationship to the communication between the patient and the medical staff.

The following questions: (a) “Friendliness and courtesy shown to you by the receptionist and other front desk staff”, (b) “Friendliness and courtesy shown to you by nurses and other medical staff”, (c) “Your primary care provider’s concern for your mental health”, (d) “Ease of speaking with your primary care provider”, and (e) “Training, skill, and experience of the nursing staff” all produced a negative relationship indicating that as the Latino age group matures their experience or perception of quality in these areas decreased.

When compared to the Latino group, the result for the White group shows stronger positive relationships. This indicated that as the Whites age, their perception of the quality of care received is higher than the same perception by the Latinos. In all the cases that showed a positive correlation, it was evident as a person grows older more emphasis is placed on the quality of care received. Having a personal relationship with healthcare providers, especially among the Latinos, was important to perception of care.

In order to understand why this perception relative to care exists among members of the Latino population, it would be necessary to survey the healthcare staff as well to determine why certain patients feel this difference in perceived care. One common element that has been mentioned previously in other academic studies is the amount of time that the healthcare staff spends with the patient. This element could identify a correlation to negative patient experiences or could be a possible reason for the negative experiences.

Members of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) have acknowledged that patients’ “psychosocial, spiritual, and cultural values affect how they respond to their care” (p. RI-8) and has addressed spirituality and emotional well-being as aspects of patient care (Clark, Drain & Malone, 2003).

Healthcare providers are not spending enough time (extensive communication) with the patients. The patients interpret this situation to mean that the healthcare provider lacks interest in the patient. This situation was not to be interpreted that the quality of medical treatment given to the patient population participating in this study was of poor quality, but the emotional care was less than desirable.

When a patient questions a physician’s methods of practice, the patient will often doubt the physician’s abilities. Several different outcomes can arise from this situation within the medical field. First, the patient may ignore the physician’s advice or treatment protocol and choose to go to another physician. Second, the patient may elect to just stop seeking treatment, and third, the patient may choose alternative methods of care. The last two scenarios put the health status of the individual at risk.

The strong correlation between the survey questions regarding “Explanations of medical procedures and test results by primary care provider” and “How well your care meets your needs” suggested that some component of the care given failed to meet the patient’s expectations (Clark et al., 2003).

The amount of time a physician spends with the patient can determine how a patient perceives the care he or she has received. With the current trend of physicians spending less time with each patient due to patient volume, the patient may at times feel the visit was rushed. This can also make the patient feel or believe that the physician does not care about his or her needs.

When a patient communicates with their physician, frequently the patient may not know the specific questions to ask about his or her health or treatment programs. There often exists an assumption that the physician will communicate all information and address all concerns and treatment protocols without the patient having to prompt the physician. With the decreased amount of time a physician spends with the patient, the physician may address only those concerns and questions brought up by the patient.

It is possible that the communication between the physician and the patient is less than satisfying for both parties involved. The physician may assume that the patient understands completely what the physician is

trying to communicate about the patient's health. The physician may feel frustrated based on the inability of both parties to effectively communicate and as a result, discourage any dialogue about the patient's condition

Patients who do not understand their medical condition rely on trained medical professionals to help them understand their condition and any appropriate medical treatment. If this source of information is lost, Latino patients feel more isolated as compared to their White counterparts. Lacking the capabilities to communicate in multiple languages is a detriment to the medical practice.

When a physician cannot communicate effectively about a disease and treatment, or when a patient cannot describe an illness or symptom, it can be difficult to build the trust and rapport needed in the physician-patient relationship. Even more importantly, the patient and physician will lack the basic connection needed to result in appropriate care. This; appropriate communication is necessary for ensuring quality and safety in healthcare (Joint Commission on Accreditation of Healthcare Organizations, 2005).

Unmet patient emotional needs have been associated with patient's desires to discontinue patronizing a specific hospital as patients can become confused about the services provided (Kent, 1996). Poor interpersonal care increases malpractice risk, (Hickson, 1994), and good interpersonal care reduces it (Levinson, 1994). Testimonials from persons involved in medical error lawsuits have suggested that lawsuits are filed not just for financial reasons but because people feel abandoned, aggrieved, and better physician-patient communication and acknowledgement might alleviate this (Levine, 2002).

CONCLUSION

A breakdown in communication creates a *snowball* effect that can harm the patient and the healthcare institution. The physician has a responsibility to inform the patient of the best treatment plan for his or her health. The physician also has a responsibility to inform the patient when there is an error, even when the error is due to communication.

It has been shown that if a patient is satisfied in an emergency department they will be more likely to recommend that hospital to others (Karpel, 2000). The significance of one patient admission that is either gained or lost per day can make the difference of \$3.65 million in annual gross revenue (Karpel, 2000). Therefore, the significance of only affecting merely one patient's satisfaction can prove to be overwhelmingly profitable.

In order to increase gross revenues the patient base needs to increase in addition, the culture within the organization needs to change. When employees embrace the knowledge and power to perform their jobs, employee loyalty increases, which can lead to higher productivity, and in turn greater customer value. A mere 5% jump in customer loyalty can boost profits 25% - 85%. (Heskett J.L., Jones T.O., Loveman G. W., Sasser Jr W.E., Schlesinger L. A., 1994).

Further research that is directly related to the Latino patient experience would prove to be very valuable to members of the healthcare industry. With the rapid growth of Latino populations and Latinos becoming prominent users of the U. S. healthcare system, Latinos not only contributes to the financial success of healthcare organizations, but they also influence the care they receive.

Studies conducted in areas that have a large population of Latinos but a small the number of Latino healthcare providers will have different results when compared to areas with a higher number of Latino healthcare providers. This would be true for any study conducted based on the perceptions of care by an ethnic group. The results of this study cannot be generalized across the U. S.; therefore, careful consideration is needed to ensure that the results of future studies are not specific to one region, and that studies of the Latino perception of care identify the same issues across the nation. Recognizable patterns may emerge in terms of how Latino perceptions of healthcare are viewed with respect to emotional care received.

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CUSTOMER EXPERIENCE AS STRATEGIC DIFFERENTIATOR IN RETAIL BANKING

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ABSTRACT

The challenge that retail banks face is to find a sustainable strategic differentiator that will give the organization a competitive advantage. This paper investigates the possibility of customer experience as strategic differentiator through a literature review on customer experience as a concept and its elements and comparing it with the marketing mix. Measuring the total customer experience quantitatively and qualitatively adds value to organizations through the interpretations of the results and therefore understanding the customer.

INTRODUCTION

Within a period of some 25 years retail banks moved from offering simple loans and receiving deposits to providing a wide range of lending and savings products. Retail banking became dependent on technology and entered into real competition with other banks and other companies. All this meant rapid change within a powerful ethos (Croxford, Abramson & Jablonowski, 2006:9).

The financial services industry (of which retail banking forms an integral part) is continuing its dynamic change. Dibb and Meadows (2001:169) argue that the major players in retail banking are becoming increasingly blurred as the effects of mergers, flotations and new market entrants are felt. More than ever before, retail banking managers need a detailed understanding of their customers, their current and potential profitability, how to meet the needs of their best customers successfully by providing an appropriate range of financial services, and how to prevent these valuable customers from switching to other service providers.

Obtaining and sustaining a competitive advantage in banking - and specifically in retail banking today - sets the challenge to determine one thing that will differentiate one bank from another. Retail banks worldwide are trying to find that sustainable competitive advantage and it currently seems possible by strategically focusing on customer experience as the key differentiator.

Using the total customer experience as the differentiator is critical in that it takes the total customer offering into account as well as emotional and behavioural aspects of the actual experience. The experience is considered from the customer's point of view and not only from the organisation's point of view.

The following research question is based on this problem: "Is customer experience a strategic differentiator in retail banking?"

CUSTOMER EXPERIENCE AS A CONCEPT

This study focuses on customer experience as a differentiator. This section describes and analyses the concept of customer experience.

Introduction to customer experience

Over the past few years, there has been an increasing trend towards creating “experiences” for customers, particularly for those in the services sector. Because of this trend, authors such as Pine and Gilmore (1999:ix-x) are of the opinion that the service economy has been transformed into an attention economy, an entertainment economy, a dream society, an emotion economy or an experience economy. As the commoditisation of many service offerings continues, organisations have to devise new ways to achieve a competitive advantage, and in particular by focusing on the design and management of customers’ experiences. Experiences are inherently emotional and personal (Pullman and Gross, 2003:215).

To compete successfully in the customer experience territory, a growing number of organisations are systematically applying the principles and tools of total customer experience (TCE) to generate, strengthen and sustain enduring customer loyalty. Marketers today believe that engineering TCE and lasting customer loyalty are important in maintaining a customer focus and in creating customer preference (Mascarenhas, Kesavan and Bernacchi, 2006:397).

Organisations that apply total customer experience principles have the following features in common (Mascarenhas, Kesavan and Bernacchi, 2006:398-399):

- Anticipating and fulfilling customer needs and wants better than competitors do
- Providing real customer experiences
- Providing a real emotional experience
- Providing experience as a distinct market offering
- Utilising experiences as interaction
- Changing experiences into engaging memories

These principles listed above imply the customer experience is applied throughout the organisation. The customer experience is in the DNA of the organisation – its people, processes and architecture.

The evolution of a total customer experience

The concept of a total customer experience as utilised in this study evolved over time. Figure 1 shows this evolution from a service quality focus during the 1980s to a customer service focus during the 1990s and recently a total customer experience focus. This shift in focus is found in strategies of organisations where “quality” was a well-known concept in vision statements during the 1980s, moving to “customer focus” or “customer centric” being utilised in vision statements during the 1990s. It is important to note in Figure 1 that customer experience includes the concepts of customer service and service quality.

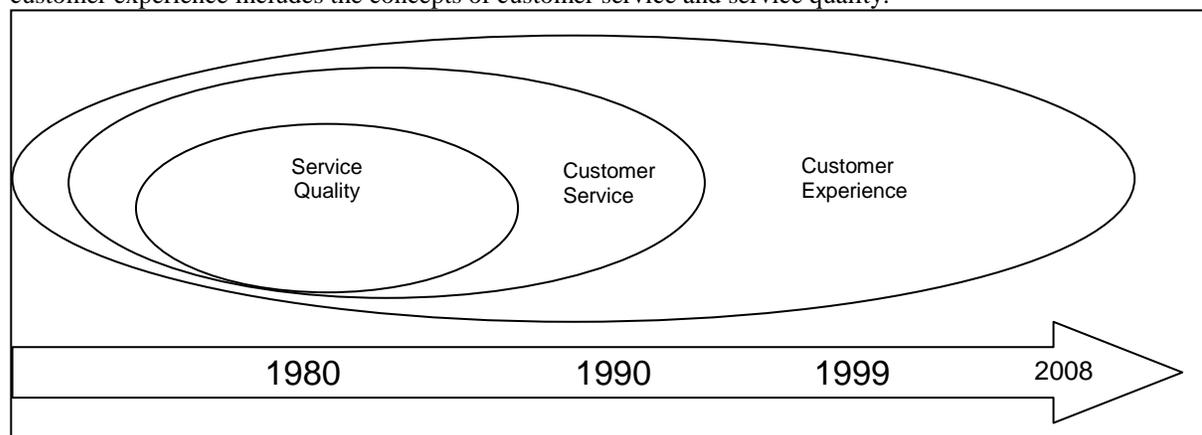


Figure 1: The evolution of customer experience

The modern concept of customer service has its roots in the craftsman economy of the 1800s, when individuals and small groups of manufacturers competed to produce arts and crafts to meet public demand. The advent of mass production in the early twentieth century, followed by an explosion in the demand for goods after World

War II, increased the power of suppliers at the expense of consumers and reduced the importance of customer service. A shift in this balance began in the 1970s, as international competition increased and the dominance of Western manufacturing was challenged, first by Japan, then by Korea, China and other developing economies. Producers responded by improving the quality of their products and services (Berry, 1999, in Zeithaml and Bitner, 2003:11-12).

A good example of the evolution of customer experience is the mobile phone market in Europe. According to Shaw (2007:5), this industry enjoyed massive growth during the late 1990s and early 2000s and effectively could not care less about customer experience.

DEFINING TOTAL CUSTOMER EXPERIENCE

Customer experience has been defined by many authors. It is a holistic concept and comprises various elements. Total customer experience is a concept that evolved over time to become a systemic and holistic concept focused on the customer. It is about a “human” interaction and therefore the emotions of customers are a vital part of an experience.

The researcher believes that the definition by Seybold (2002:108) namely “a total customer experience is a consistent representation and flawless execution, across distribution channels and interaction points, of the emotional connection and relationship you want your customers to have with your brand” encompasses all the most important aspects of the total customer experience and is therefore adopted for this study.

The customer experience is felt in all interactions with an organisation and therefore it is important to understand that customers interact with an organisation through various means and the experience must always be the same.

Comparison between the elements of the marketing mix and the elements of the total customer experience

The elements of a total customer experience have been described in the paragraphs above.

Figure 2 below illustrates the comparison between the two lists of elements. There is a strong correlation between the elements of the customer experience and those of the marketing mix. The difference between the two lies in the more strategic and holistic approach to customer experience and more focus on looking at the interaction with the customer from the customer’s point of view which includes elements such as customer expectations, measurement and strategy.

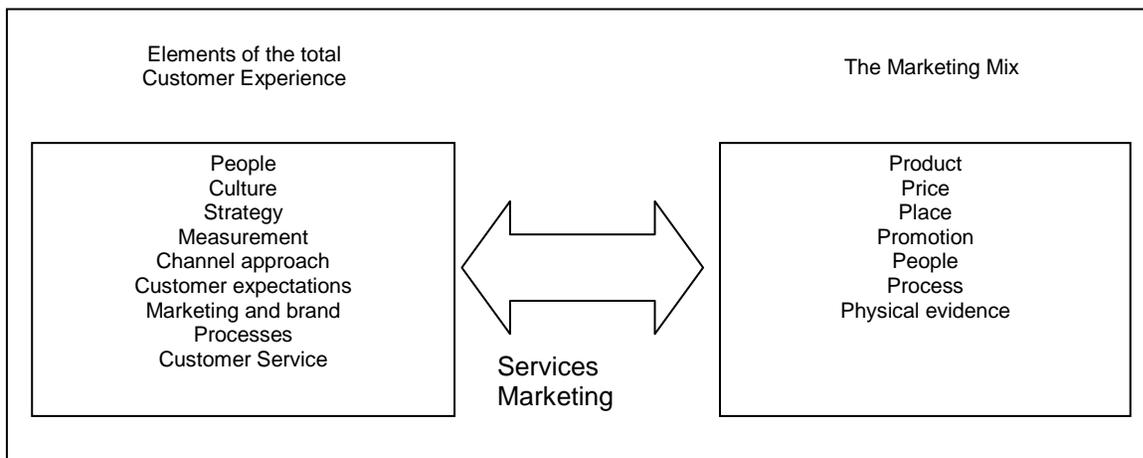


Figure 2: Comparison: Elements of a customer experience and the marketing mix

Source: Adapted from Shaw (2005) and Zeithaml and Bitner (2003)

The total customer experience incorporates all the elements of the marketing mix in a direct or indirect manner.

TOTAL CUSTOMER EXPERIENCE AS DIFFERENTIATOR

Product, price, service and customer experience are described as possible differentiators in retail banking. The researcher showed through literature study how product, price, service and customer experience were identified as differentiators in retail banking over time. In this paper the focus is on customer experience as differentiator.

Product, price and service have all been utilised as possible differentiators in the retail banking industry over time. This paragraph depicts the total customer experience as differentiator in retail banking inclusive of product, price and service.

In the discussion below, the researcher attempts to illustrate through literature studies that total customer experience could be a strategic differentiator:

- (i) The traditional differentiators of product, price and quality are becoming less important every day. Differentiating in terms of price, quality and delivery is no longer a sustainable business strategy. Products and services have become too similar and, as Shaw (2005:xix) says, we suffer from “the blight of the bland”. Customer experience is the next competitive battleground to provide a source of sustainable differentiation.

In the modern commoditised economy, customer experience is the only differentiator. Product, price, people and technology are all similar. The meaningful aspects customers remember, over and above products, are the feel for and the perception of the organisation and the brand. “It is therefore the customer experience that makes you different” (Shaw, 2005:1-2).

- (ii) Organisations compete best when they combine functional and emotional benefits in their offerings. Emotional bonds between organisations and customers are difficult for competitors to sever. A growing number of organisations are systematically applying principles and tools related to customer experience management to strengthen customer loyalty. Unlike many product or service enhancements, the holistic nature of these experiential designs makes them very difficult for competitors to copy (Berry, 2002:89).

The arguments by the various writers and experts on customer experience in the literature studies above illustrates that the total customer experience which includes product, price and service can differentiate one organisation from a next, leading to a competitive advantage.

MEASURING THE TOTAL CUSTOMER EXPERIENCE

Quantitative measurement

An integrated service measurement (ISM) framework was developed to measure the total customer experience. To align customer experience being defined as more than customer service, but including service, the basic service needs of customers were included in the framework. Customer experience is also defined as including the emotions and behaviour of customers and therefore the framework includes a measurement on an attitudinal and on a behavioural level as well as loyalty of customers towards a retail bank. The ISM framework is illustrated in Figure 3 below.

The ISM framework was populated with all the research findings acquired through questionnaires. The findings were categorised as information for a retail bank or for a particular segment, product or channel related business unit. A five-point Likert scale was used for the framework due to the fact that a Likert scale is the only summated rating scale that uses a set of agreement/disagreement scale descriptors and it collects only cognitive-based or specific behavioural beliefs (Hair, et al., 2006:393).

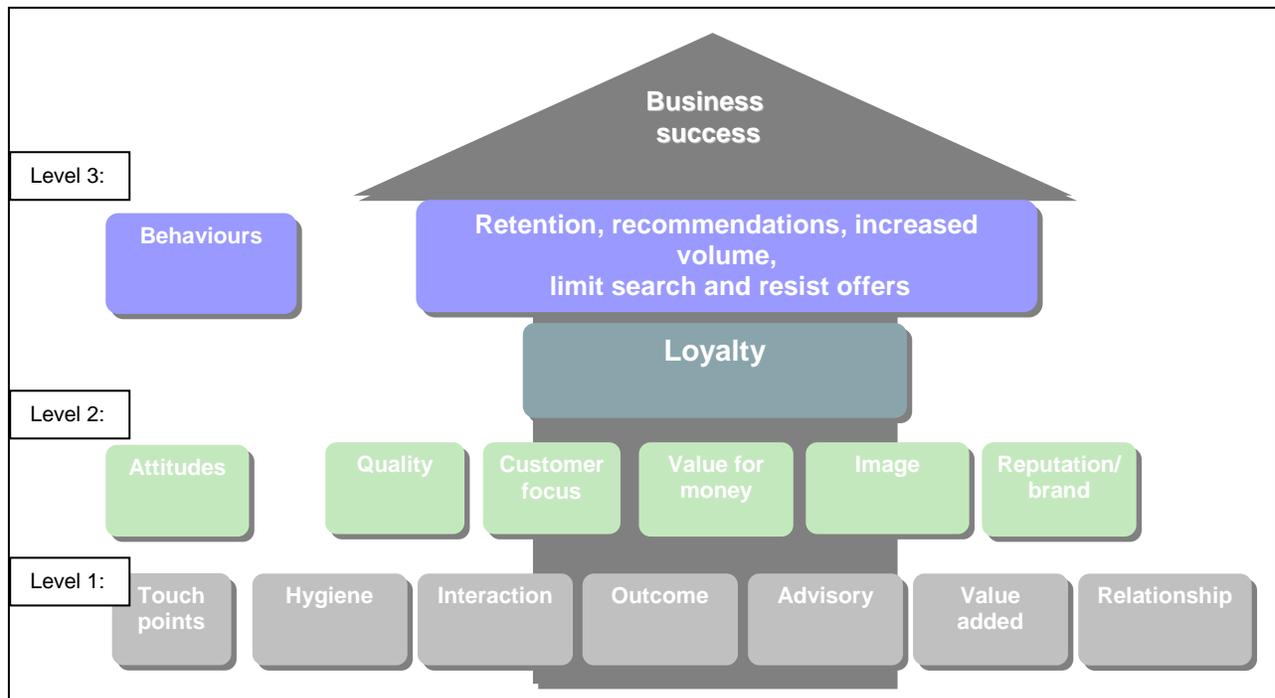


Figure 3: The ISM framework

Source: Markinor (2004). Copyright: Walker Information.

Qualitative measurement

Through the literature study the researcher identified the fact that customer experience is about the customer's feelings, emotions and tangible experiences.

The need arose to add a qualitative dimension of measuring customer experience. The researcher formulated a technique or methodology that was based on story telling and quantifying the stories into themes, values and behaviour.

Collison and MacKenzie (1999:38-40) argue that stories are one of the earliest forms of communication from tales forming myths to legends. Stories often have the power to convince members of an organisation of a new perspective. This means of passing on knowledge has seen a developing interest with business and retail organisations recognising the importance of stories in organisations.

The story telling approach often relies on pictorial material such as cartoons, photographs or drawings. The methodology used in this study was developed by IBM and is called Cynefin. The researcher worked with Cynefin consultants to identify the specific needs of Bank X and develop a process through which Cynefin can add value to measuring total customer experience in a qualitative manner.

Cynefin is based on the principle that exploring issues through multiple perspectives allows one to see things from all sides. The most effective technique for understanding experience is story telling. Stories in organisations reveal the patterns of culture, behaviour and ideas. When people tell stories about their experiences, they do so in a manner that reveals "the moment of truth" that cannot be manipulated. Thus, the power in stories is their ability to provide real insight in an uncontaminated manner. Story telling allows one to reach a wide range of different people (Collison & Mackenzie, 1999:38-40).

SUMMARY OF CUSTOMER EXPERIENCE MEASUREMENT RESULTS (QUANTITATIVE AND QUALITATIVE) AT A RETAIL BANK

It is evident from the analysis of the research results that customer experience is a holistic concept with many dimensions, namely service needs, attitudinal, behavioural and loyalty and elements, namely people, culture, strategy, measurement, channel approach, customer expectations, marketing and brand, processes and customer service. It should therefore be measured by using a holistic approach.

Qualitative as well as quantitative measurements are necessary because a figure or score cannot explain the emotions that accompany an experience. Qualitative research depicts something of the emotional side of the experience, in this case by using a story-telling method.

It is also important to measure quantitative data holistically and this was done by means of the different levels of measurement in the ISM framework.

At the attitudinal level, the results indicate more than basic needs. Some emotions are beginning to show, and the quality of the organisation, its customer- focused approach, its reputation and its brand now come into play.

The third level in quantitative measurement is behavioural data. This information is crucial to the organisation with respect to customer acquisition and customer retention.

The qualitative measurement through the Cynefin framework adds a “personal” touch to the numbers obtained through the ISM framework. It adds the emotions and feelings of customers leading to a measurement of the total customer experience.

CONCLUSION

This paper provides highlights from a PhD study. The purpose of the study is to investigate if customer experience is a strategic differentiator in retail banking.

The researcher depicted in this paper the literature study conducted and quantitative and qualitative measurement frameworks applied to emphasise total customer experience as differentiator and therefore illustrating the value of understanding the total customer experience and what it encompasses.

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HEALTH CARE SPENDING IN CROATIA AND SELECTED EU COUNTRIES – A PANEL UNIT ROOT ANALYSIS

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ABSTRACT

In the past four decades there is a sharp increase in the total health care spending, especially in developed countries. A rise of the share of health care spending in GDP is mostly driven by the ageing population, a progress of medical technology and the expectations of the increase in population, namely patients. In this paper the health care spending and the outcomes of the health care system will be analyzed with respect to Croatia and 11 selected countries of the European Union (EU). We shall investigate the link between per capita health care expenditures and GDP per capita using panel data unit root tests. The outcomes of the health care resources' usage and the effectiveness of the health care systems will be observed using the data on infant mortality, life expectancy and standardized death rates.

INTRODUCTION

In the past decades, numerous studies and papers examined the relationship between health care expenditures and its drivers. As in some countries the escalation of the medical care spending continues, the pursuit for alternatives that try to slow the named growth has focused on the supply side. According to Getzen (2006), the studies of the national level health care costs clearly show that costs rise with an increase in per capita income. However, the relationship between income and expenditures is often not found in studies that examine individual health care costs. This was explained by disparities in variations between national and individual costs. Furthermore, Henderson (2007) highlights that a demand for medical care is derived from the individual's desire for good health. Individual patient factors (health status, demographic characteristics) play a key role in determining the demand for a medical care. Policymakers are more interested in economic factors that affect demand since the individual incomes, the level of the out-of-pocket spending, and the availability of medical insurance are more easily manipulated. Dreger and Reimers (2005) presented the cointegration relationship among health care expenditures, a GDP, both real and in per capita level, and a medical progress. They also found that the income elasticity in the panel models is not different from unity which implies that health care expenditures are not a luxury good. In that study, the income is not the only determinant of the health care expenditures but rather a medical progress. Blomqvist and Carter (1997) investigated a health care-income relationship by testing for a presence of an independent time trend in the health expenditure series. Their conclusion indicated that the demand for a health care is predominantly affected by technological progress in medicine. Technological progress shifts out the demand curve for health services, which increases that total spending, regardless of the price elasticity being smaller than one. They also estimated income elasticity with respect to the institutional differences among the countries in the sample; the estimation being around one. Otherwise the result was a much higher elasticity estimate.

In this paper a different set of countries, primarily Transition countries, are observed. Like in a chosen set of developed countries of the EU, the health care systems in Transition countries are going through numerous reforms in the attempt to adapt to the new conditions. Firstly, there is a pressure for higher private expenditure due to the rising costs of health care services, especially pharmaceuticals. For the long period of time the GDP growth rates in selected countries were lower than the growth rates of health expenditures; hence, the increase in

the share of the total health care expenditure in GDP. That disparity can definitely be confirmed in some health care systems where the countries, such as Croatia, are struggling to reduce the fiscal pressure. The reasons for the cost-containment policy in Croatia are maybe different of those in Slovakia or Hungary, or even in Sweden, but they all have the same denominators – increasing the share of elderly in the total population, new and sophisticated medical equipment, high pharmaceutical expenditures and rising expectations of patients. In attempt to control the growth rate of public health care expenditures, many countries introduced or increased co-payments over time, especially for inpatient care and pharmaceuticals. Recent results of cost-containment policies suggest the mixed successes of implementation of these policies.

HEALTH EXPENDITURES

According to OECD (2007), the expenditure on health care measures the final consumption of health goods and services (current health expenditure) plus capital investment in a health care infrastructure. This includes spending by both public and private sources, public health and prevention programmes and administration. Hence, it is thought that a health spending to GDP ratio and a health spending per capita should be considered jointly. Countries having a relatively high health spending to GDP ratio might have relatively low health expenditure per capita; the conversely also applies. In accordance with the available data, our analysis includes Croatia and a set of eleven countries of the European Union, namely Austria, Czech Republic, France, Germany, Hungary, Poland, Slovenia, Slovakia, Spain, Sweden and UK over the 1990 - 2005 period.

Figure 1: Health Spending to GDP (%) vs. GDP p.c. at PPS, (constant 2005 international \$)

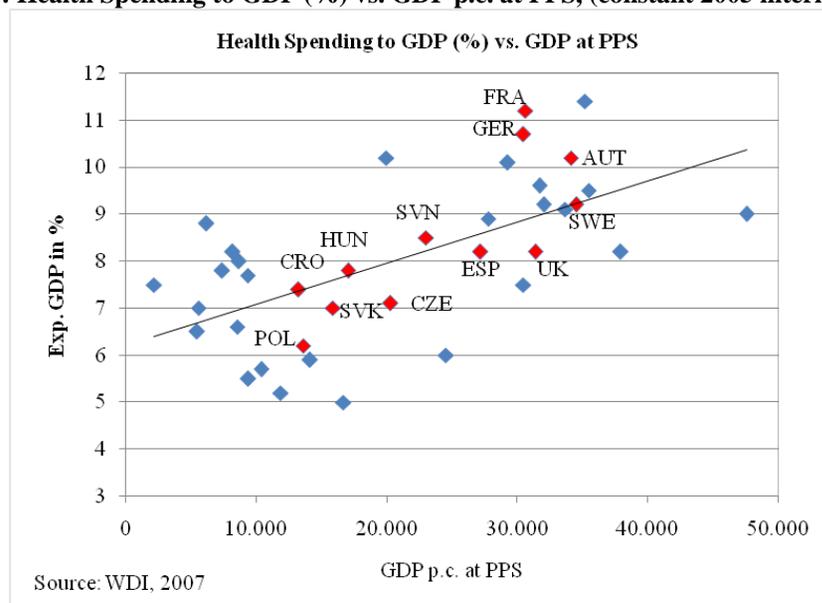


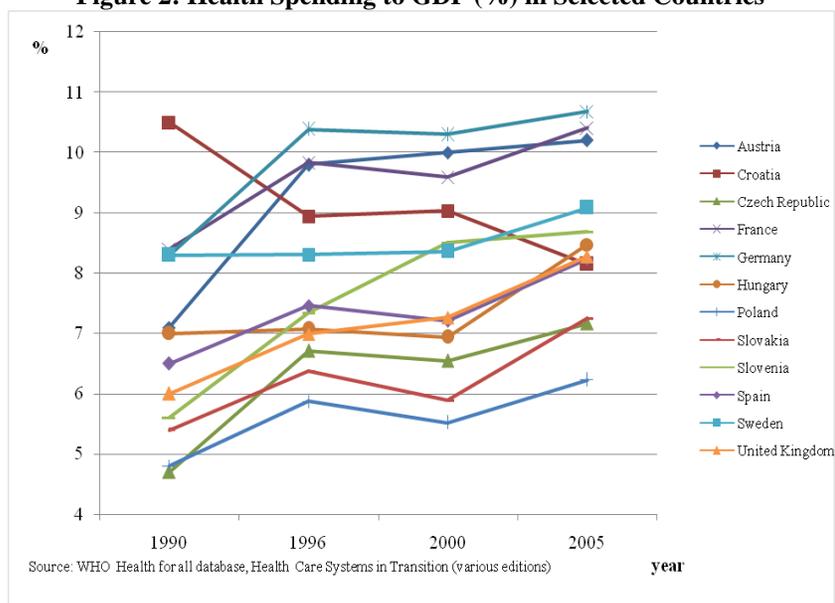
Figure 1 shows a positive correlation between the GDP per capita at purchasing power parity and a health spending to GDP ratio. Richer countries typically spend a greater share of their GDP on health care services while some, like Germany and France in 2005, spent more on health care than it anticipated given their GDP per capita. These two countries are also the greatest outliers in our analysis. The population ageing effect is one possible reason for high health care expenditures, as given by per capita public health expenditures' indicator. Although the indicator was weak in the past, today it is assessed as strong in developed and numerous Transition economies. This assessment is based on the combined effect of the projected increase in the share of older people in the population (65 and over) and a tendency of increase of health expenditures per capita with age. Another driver of health expenditures is certainly the income growth. According to Oliveira and de la Maisonneuve's (2006) study, public health spending grew by 3.6% per year in OECD countries in the period 1981 till 2002. They consider that the named increase is attributed to the income effects in the amount of 2.3 percentage points. The factors underlying the residual expenditure growth are thought to lie in technology, pure

demographic effects and relative prices of health care services. It is proven that the relationship between income and health care is strong, but the nature of that relationship is far from clear.

Effectiveness and efficiency

Getzen (2007) emphasized that wealthier countries are also healthier. These countries also tend to spend more on a medical care. However, higher spending does not necessarily buy better health. Other numerous factors associated with higher incomes, such as education, nutrition, and sanitation, are also known to improve health. Furthermore, over past decades the life expectancy has significantly increased in many poor countries, even when the availability of doctors and GDP per capita declined. Although, as previously mentioned, it is difficult to clearly demonstrate that medical care has an independent effect on the average life expectancy, there is a strong relationship between mortality and income. The infant mortality rates are among the most commonly cited in international comparisons of health status. These rates measure much more than differences in health care across countries, and are affected by the socioeconomic factors. Filmer and Pritchett (1999) found that the impact of public spending on child health (under-5 infant mortality) is quite small, while other factors, such as income per capita, inequality in income distributions and female education are the more influential determinants.

Figure 2: Health Spending to GDP (%) in Selected Countries



When compared to countries at a similar level of income, Croatia has performed well in terms of health outcomes. Croatia's standardized death rate of 886 per 100,000 (2005) is very close to the average EU rate of 678. Infant mortality rate of 5.7‰ (2005) is also low, lower than in Poland, Hungary and Slovakia, but still above the average of 4.7‰ in the European Union. The costs of achieving satisfying health outcomes in Croatia come at a moderate price in terms of per capita spending. However, Croatia spent 8.1 per cent of GDP on health in 2005 and 8.4 percent in 2007, which is far above 6.9 percent of GDP in new member states and close to 8.8 percent spent on average spent by the EU15 (World Bank 2008). We can state that Croatia is one of the top spenders on the health care when compared to the EU member states; close to the health care spending of Spain, the UK and Sweden. Figure 2 depicts the rising trend in a health care spending in the given set of countries, except in Croatia where we observe the negative trend. In the Figure 2 we can note a stable convergence of health spending in Transition countries to the health spending in the developed EU countries. This figure can be explained by the higher GDP growth rates in Transition countries which lead to a larger increase in total health expenditures, and a higher private health spending, especially for pharmaceuticals (Czech Republic, Slovakia and Poland). The exception is health spending in Croatia which fell around 2.5 percentage points in the observed period. High health care expenditures in Croatia at the beginning of the 1990s can be justified by the increased health demand due to Homeland war (1991-1995).

Further increase in national and personal income, life expectancy, ageing population and dependency ratios, may lead to unsustainable growth in demand for health services and over-proportional growth in health spending. In order to address the problem, particularly to eliminate demand, incentives will have to be changed and they do not lead to the increase in health output.

PANEL DATA UNIT ROOT ANALYSIS

Literature review

Testing for unit roots in the time series studies has recently become a common practice among applied researches. Many panel unit root tests are developed for time series studies – Levin Lin Chu test (LLC), Im-Pesaran-Shin (IPS) test, Breitung test, Residual-Based LM test, Augmented Dickey-Fuller (ADF) test, Maddala-Wu (MW) test. It is known that for the panel data analysis, the data consists of $i = 1, \dots, N$ cross sections, and several points of time series for each group $t = 1, \dots, T$, or a cross section of N time series each of length $T(i)$.

Considering $y_{it} = \rho y_{i, t-1} + e_{it}$, $i = 1, 2, \dots, N$ for N countries the test for a unit root for country “A” is based on

$$\begin{aligned} H_0: \rho_1 &= 1 \\ H_1: \rho_1 &< 1 \end{aligned} \tag{1}$$

The low explanatory power of this test has been argued. In the LLC’s test, null hypothesis means that each individual time series has a unit root whereas the alternative states that each time series is stationary. LLC suggested using their panel unit root test for panels of moderate size with N between 10 and 250 and T between 25 and 250. The null hypothesis in the IPS test means that each series in the panel contains a unit root, i.e. $H_0: \rho_i = 0$ for all i and the alternative hypothesis states that each series in the panel allows for some (but not all) of the individual series to have unit roots. This test was applied for testing the unit root for per capita national health expenditures (HE) and gross domestic product (GDP) for a panel of 20 OECD countries by McCoskey and Selden. They rejected the null hypothesis which states that these two series contain unit roots (Baltagi, 2005). IPS propose test where $H_0: \beta_i = 0$ and $H_1: \beta_i < 0$. This test is called t-bar statistic and is defined as the average of the individual Dickey-Fuller (DF) or augmented Dickey-Fuller (ADF) (Aslan, 2009).

Choi (2001) analyzed the LLC, the IPS and the augmented Dickey-Fuller (ADF) tests. The LLC test gained much popularity in applications and has often been used in international finance and macroeconomics. This test assumes that all groups (countries, firms etc.) have the same AR (autoregressive) coefficient under both the null and alternative hypothesis which is common in the panel data analysis. The IPS and the ADF tests are based on more general assumptions than the LLC’s test and seem to outperform the LLC’s test in finite samples. Several common features are shared by these tests. Firstly, there is a requirement of the infinite number of groups N , implying that the number of groups should be infinite for the asymptotic normality results to hold and, at the same time, small enough relative to the number of time series. This means that the tests may not keep nominal size well either when N is small or when N is large relative to T . When N is infinite, the number of groups which do not have a unit root should grow at the same rate as N for the tests to be consistent. When N is finite, tests are consistent against the alternative that at least one group does not have a unit root.

McCoskey and Selden (1998) explained why it is necessary to check for unit roots in each of the time series used to estimate a model. Having two nonstationary series, i.e. containing a trend which can be of two types – deterministic and stochastic; the series tend to drift away from their starting points. Regressing one on the other gives the appearance of a significant positive or negative relationship depending on a drift direction of the series. Moreover, a non accurate specification can also arise, if only one of the two series has a unit root. When the non stationary series can be transformed to the stationary series by differentiating to the first degree, the series are integrated by the order one – denoted I (1). A series which is I (1) is also said to have a ‘unit root’. If the series need to be differentiated k times in order to achieve stationarity then the series is said to be I (k). A series which is I (k) is also said to have k unit roots. They employ the Augmented Dickey-Fuller (ADF) test in their research to include the time trend

$$\Delta y_t = a + b_t t + \gamma y_{t-1} + \sum_{j=1}^{p-1} \phi_j \Delta y_{t-j} + \varepsilon_t \quad (2)$$

where $\Delta y_t \equiv y_t - y_{t-1}$ and t indicates time. The null hypothesis is $\gamma = 0$. As under the null hypothesis the t -statistic for $\hat{\gamma}$ does not have the familiar mean-zero t -distribution, some methods employ and develop the tables of critical values (Monte Carlo methods). Baltagi (2005) states that IPS t -bar statistic is defined as the average of the individual ADF statistic as

$$\bar{t} = \frac{1}{N} \sum_{i=1}^N t_{\rho_i} \quad (3)$$

where t_{ρ_i} is the individual t -statistic for testing $H_0: \rho_i = 0$ for all $i = 1, 2, \dots, N_j$. In case the lag order is always zero ($p_i = 0$ for all i), the IPS test provides simulated critical values for \bar{t} for different number of cross-sections N , series length T and Dickey-Fuller regressions containing either only intercepts or intercepts and linear trends. In the general case where the lag of order p_i may be nonzero, the IPS test shows that a properly standardized \bar{t} has an asymptotic $N(0, 1)$ distribution. The advantage of the IPS method is that it allows the data generating processes to vary across countries with respect to ADF coefficients and error structures. The lag length can also vary across countries rather than imposing a uniform lag length. The Fisher ADF test essentially combines the p -values of the test statistic for a unit root in each residual cross-sectional unit. The test is non-parametric and can be computed for any arbitrary choice of a test for the unit root. The test has a chi-square distribution with $2N$ (where N is the cross section) degrees of freedom. An important advantage of this test is that it can be used regardless whether the null hypothesis is one of the integration or stationary (Narayan, 2007).

RESULTS AND DISCUSSION

We use data for the health care expenditure given as a percentage of GDP and log-levels of per capita GDP for 12 selected countries (Austria, Croatia, Czech Republic, France, Germany, Hungary, Poland, Slovakia, Slovenia, Spain, Sweden and United Kingdom) from WHO Health for All Database spanning the years 1990 to 2005. We also employed log-level data for life expectancy measured in years, and the percentage of people aged 65 and over in the overall population that are sometimes used as proxies for the medical progress. All series enter in logs, except the share of elderly in the overall population and health care expenditures.

The results from the LLC, Breitung, the IPS and the Fisher-ADF tests for the four series are reported in the Table 1. A unit root is detected for the level variables in a large number of series, while the first differences appear to be stationary. The result is less reliable only for the variable population of 65 and over. Our main finding from the LLC, Breitung, IPS and Fisher-ADF tests is that for the two series – health care expenditures and life expectancy, for each of the twelve countries – we were unable to reject the unit root null hypothesis, and we rejected the null hypothesis for the series of per capita GDP and population of 65 and over. However, when we conduct the unit root tests by differentiating to the first degree the series GDP and population over 65, we are able to reject the unit root null hypothesis. Hence, we can conclude that the series GDP and population of 65 and over are integrated to the order one.

Table 1: Results of the Panel Unit Root Tests

LEVELS	LLC	Breitung	IPS	ADF - Fisher
Health care expenditures	-3.39*	-0.17	-2.13*	-1.46*
GDP	0.41	2.77	-1.67	1.96
Life expectancy	-4.41*	-0.92	-2.81*	-2.51*
Population 65 and over	-0.46	0.92	2.26	2.18
FIRST DIFFERENCES	LLC	Breitung	IPS	ADF - Fisher
Health care expenditures	-6.42*	-2.41*	-4.83*	-4.88*

GDP	-6.83*	-2.58*	-3.21*	-3.57*
Life expectancy	-12.79*	-5.31*	-4.81*	-7.66*
Population 65 and over	-9.47*	-0.81	-3.92*	-4.79*

Source: own calculations

A * indicates rejection of the null hypothesis of nonstationarity at least on the 0.05 level of significance.

We also examined the relationship between per capita GDP in purchasing power parity, a health spending to GDP ratio, life expectancy and infant mortality. Both health spending to GDP ratio and per capita GDP have a statistically significant and positive impact on infant mortality for the panel of 12 countries. The elasticity on per capita GDP and infant mortality is 0.26, implying that an increase of 1 per cent in per capita GDP (at PPS) leads to a decrease of 0.26 per cent in infant mortality rate, ceteris paribus. The effect of per capita GDP (at PPS) on life expectancy is moderate. Furthermore, health spending to GDP ratio generates a positive effect on infant mortality rate, and in this panel the elasticity on health spending to GDP and infant mortality is about 0.12, but there is a weak effect of health spending to GDP on life expectancy. This illustrates that health spending, as the share of GDP, is not a key determinant of longer life expectancy, both at birth and at the age of 65.

CONCLUSION

There are several implications that can be found in this paper. We initially approved the findings of previous researchers regarding the existence of a unit root for the level variables and the first differences to be stationary. Subsequently, we examined the relationship between the health care spending to GDP ratio and per capita GDP, infant mortality rate and life expectancy, both at birth and at the age of 65 for 11 EU countries and Croatia. The increase in health spending to GDP ratio has a positive effect on infant mortality rate, but the effect on life expectancy is not very strong. Higher income per capita has greater positive impact on the infant mortality rate decrease. We cannot confirm that per capita GDP, both in purchasing parity and real terms, strongly influences the health spending in the countries observed in this analysis. Regarding the health outcomes in selected countries, those with lower per capita income and per capita health spending can obtain good health care system performance. We demonstrated that Croatia, with relatively low per capita GDP and per capita health spending, achieves better health outcome than comparable countries of the European Union. The gap between the effectiveness (outcomes) of the health care systems observed in this analysis is relatively narrow compared to observations available from the data for GDP per capita and per capita health spending.

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NOTES

FUZZY DATA ENVELOPING ANALYSIS AND PERFORMANCE OF BANKS: AN APPLICATION TO TURKISH COMMERCIAL BANKS

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ABSTRACT

Data Enveloping Analysis (DEA) has become an increasingly popular management tool since 1978. However publications on Fuzzy DEA are widespread. This paper measures efficiencies of Turkish Commercial Banks with fuzzy observations. As a result foreign banks more efficient than the state-owned and privately owned banks in Turkey.

INTRODUCTION AND PREVIOUS RESEARCH

Data Enveloping Analysis (DEA) is a new data oriented method to measure the performance and efficiency of firms. It evaluates the performance of a set of peer entities. These peer entities are called Decision Making Units (DMUs) and convert multiple inputs into multiple outputs (Cooper, Seiford and Zhu, 2004, 1). DEA is a non-parametric and linear programming method developed by Charnes, Cooper and Rhodes (1978). This model is called the CCR model. CCR ratio model yields an objective evaluation of overall efficiency and identifies the source and estimates the amounts of the thus identified inefficiencies. Other DEA models are the BCC model (1984), the multiplicative models (1982, 1983) and the additive model (1985, 1987). These models may focus on increasing, decreasing, or constant returns to scale as found in economies that are here generalized to the case of multiple outputs (Charnes, Cooper, Lewin and Seiford, 1994: 24).

In the literature, there are many studies which deal performance and efficiency of banks. In these studies different methods have been used for measurement of performance and efficiency. DEA is a widespread method. Saha and Ravisankar (2000) measured ratings of efficiency of public sector banks in India. They took the data from annual reports for the period 1991-92 to 1994-95 of 25 public sector banks. The results of this study indicate that, with a few exceptions, the public sector banks have in general improved their efficiency scores over the years 1992 to 1995.

Taylor et al. (1997) evaluated the efficiency and profitability potential of Mexican banks between 1989 and 1991. In addition to DEA, linked-cone assurance region (LC-AR) models were used to measure efficiency and profitability. Thus, the DEA and profitability potential analyses show some interesting examples of the effects of changes in the mix of operations (such as the mix of interest and non-interest income and expenses, or international services) or size, on bank efficiency and performance relative to its competitors.

Studies by Gilbert (1984), Charnes et al. (1991), Luo (2003), Bauer et al. (1993), Brockett et. al. (1997) investigate aspects of the performance and efficiency of U. S. Banks. Other banking studies include: Sherman and Gold (1985), Schaffnit, Rosen and Paradi (1997) Charnes et. al. (1990), Rangan et al. (1988), Aly et al. (1990), Berg et al. (1991, 1993), Berger and Humphrey (1992), Berger et al. (1993), Elyasiani and Mehdiyan (1990a,b), English et al. (1993), Ferrier and Lovell (1990) and Wykoff (1992).

An other examples conducted in Turkey is Inan (2000) who evaluated the measurement of banking performance methods and literature for the Turkish banking sector. Altunbaş and Moyneux (1995), Karamustafa (1999) used ratio analysis, Ozkan and Günay (1996, 1998), Cilli (1995), Mahmud and Zaim used parametric methods, Yolalan (1996), Mercan and Yolalan (2000), Cingi and Tarım (2000) used non-parametric methods for measurement of banking performance and efficiency.

Yıldırım (1999) who studied performance of Turkish bank between 1988-1996 period by using DEA method. Atan (2003) measured the efficiency and productivity of Turkish Banking Sector and of 44 banks in Turkey for

the period 1999-2001 with 7 inputs and only 1 output by DEA. Kılılı and Atan (2005) analyzed Turkish banks performance by different DEA methods and compared results of these methods. Oral and Yolalan (1990), Oral, Kettani and Yolalan (1992) measured bank performance of 20 branches in Turkey. They used input-oriented production and input-oriented mixed models.

The studies But any study used fuzzy data envelopment analysis for measurement bank performance and efficiency. This paper analyses the performance of Turkish banks using fuzzy data envelopment analysis.

METHODOLOGY

In DEA, decision making units and input and output data must be measured rightly and precisely. Therefore, Fuzzy Data Envelopment Anaysis is recommended by using Fuzzy Theory. Thus, better efficiency scores are obtained and imprecise cases can be analyzed. Guo and Tanaka (2001) suggested fuzzy CCR model for measurement efficiency. The efficiencies of decision making units (DMUs) are measured with fuzzy observations.

Initially, “n” basic banking inputs and “m” basic banking outputs were considered for each bank and the Chames, Cooper and Rhodes (1978) input-oriented model, CCR were applied. This model to the Fuzzy DEA model is transformed. Upper and lower bounds were added to the original CCR model. Values $x_{ij}^L > 0$ and $y_{rj}^L > 0$ and they were known to be between $[x_{ij}^L, x_{ij}^U]$ and $[y_{rj}^L, y_{rj}^U]$ bounds (upper and lower bounds). In this case, the mathematical formulation of this Fuzzy DEA model is (Apaydın and Güneş, 2008):

$$\max \theta_k^U = \frac{\sum_{r=1}^S u_r y_{rk}^U}{\sum_{i=1}^m v_i x_{ik}^L}$$

$$\theta_j^U = \frac{\sum_{r=1}^S u_r y_{rj}^U}{\sum_{i=1}^m v_i x_{ij}^L} \leq 1, \quad j = 1, \dots, n$$

$$U_r, v_i \geq \varepsilon, \quad \forall r, i$$

$$\max \theta_k^L = \frac{\sum_{r=1}^S u_r y_{rk}^L}{\sum_{i=1}^m v_i x_{ik}^U}$$

$$\theta_j^L = \frac{\sum_{r=1}^S u_r y_{rj}^L}{\sum_{i=1}^m v_i x_{ij}^U} \leq 1, \quad j = 1, \dots, n$$

$$U_r, v_i \geq \varepsilon, \quad \forall r, i$$

where y is the matrix of the output-vector; x is the matrix of the input-vector. $\max \theta_k^U$ yields best efficiency for the upper bound and $\max \theta_k^L$ gives best efficiency for the lower bound.

DATA AND EMPIRICAL SETTING FOR EFFICIENCY

The primary source of data for the empirical analysis are balance sheets, income statements and other data of each bank in the www.tbb.org.tr web page provided by the Banks Association of Turkey (BAT). The sample of this study includes twenty three commercial banks operating in Turkey during the 2001-2007 period (Given in Table 1). However, ten banks are omitted because of data problems. These ten banks are generally foreign subsidiaries. 92 observations are used in the analysis for each year, and total panel data consist of 644 total observations.

Table 1: A Sample of Turkish Commercial Banks Listed

State- owned Banks		Foreign Banks	
S1	Türkiye Cumhuriyeti Ziraat Bankası A.Ş.	F1	Arap Türk Bankası A.Ş.
S2	Türkiye Halk Bankası A.Ş.	F2	Citibank A.Ş.
S3	Türkiye Vakıflar Bankası T.A.O.	F3	Denizbank A.Ş.
Privately-owned Banks		F4	Eurobank Tekfen A.Ş.
P1	Akbank T.A.Ş.	F5	Finans Bank A.Ş.
P2	Alternatif Bank A.Ş.	F6	Fortis Bank A.Ş.
P3	Anadolubank A.Ş.	F7	HSBC Bank A.Ş.
P4	Şekerbank T.A.Ş.	F8	Oyak Bank A.Ş.
P5	Tekstil Bankası A.Ş.	F9	Turkland Bank A.Ş.
P6	Türk Ekonomi Bankası A.Ş.	Foreign Subsidiaries	
P7	Türkiye Garanti Bankası A.Ş.	FS1	ABN AMRO Bank N.V.
P8	Türkiye İş Bankası A.Ş.	FS2	Bank Mellat
P9	Yapı ve Kredi Bankası A.Ş.		

In the literature, two different approaches are used to measure the efficiency of banks. One is the “intermediation approach”, the other is “asset approach”. Intermediation approach is used in this study. Total Bank Deposits/Total Assets and Interest Expenses/Total Assets ratios are inputs and Total Bank Credits/Total Assets and Interest Revenues/Total Assets ratios are inputs in the fuzzy CCR model. Inputs and outputs of the model are given as follows:

Table 2: Inputs and Outputs of the Model

Inputs	Outputs
Total Bank Deposits/Total Assets Ratio	Total Bank Credits/Total Assets Ratio
Interest Expenses/Total Assets Ratio	Interest Revenues/Total Assets

DEA has two limitations for the study of the reliability. If the number of inputs is m and number of outputs p , the number of DMUs will be at least $m+p+1$. Number of DMUs is at least twice as high as the total numbers of variables (Boussofiane, 1991). This study has two inputs and two outputs. $m+p+1$ is equals 5. The number of DMUs is high than 5 ($23 > 5$). In addition the number of DMUs is higher than the double total variables ($23 > 8$).

RESULTS

The technical efficiency scores for the upper and lower bounds are given in Table 2. Banks efficiency scores are generally decline between 2001 and 2003 years in the upper bound. These scores increase between 2003 to 2005. However in 2007 scores declined. Similar changes are observed in the lower bound.

In the upper bound Arap Türk Bankası A.Ş. (2002, 2003), Eurobank Tekfen A.Ş. (2001), HSBC Bank A. Ş., ABN AMRO Bank N. V. (2002 and 2004) and Bank Mellat (2001, 2002, 2004, 2005 and 2006) are efficient. All of these efficient banks are foreign banks or foreign subsidiaries. It is important to note that this situation is valid all foreign banks in the sample of not for the national ones. In the lower bound Akbank T.A.S. (2001),

Arap Türk Bankası A.Ş. (2001), Citibank A.Ş. (2006), HSBC Bank A. Ş. (2001, 2002, 2003, 2005 and 2006) and Bank Mellat (2002, 2004, 2005, 2006, 2007) are efficient. These results are similar to the ones in the upper bound. Only Akbank T. A. S. is a privately-owned bank, the others are foreign banks or foreign subsidiaries in efficient banks, too.

In 2001 HSBC Bank A.Ş, in 2002, 2004, 2005 and 2006 Bank Mellat are fully (relative) efficient because both the upper and lower bound scores are 1.

Table 3: Technical Efficiency Scores (Upper and Lower Bounds) (CCR-I)

	Upper Bound							Lower Bound						
	2001	2002	2003	2004	2005	2006	2007	2001	2002	2003	2004	2005	2006	2007
S1	0,3649	0,1427	0,674	0,1559	0,2758	0,2304	0,1317	0,5269	0,3467	0,3784	0,2846	0,4702	0,7719	0,2685
S2	0,2764	0,1385	0,638	0,1340	0,2255	0,2764	0,1842	0,4215	0,4356	0,3591	0,2490	0,4117	0,7131	0,3715
S3	0,4384	0,2117	0,804	0,1770	0,3736	0,4550	0,2547	0,5345	0,4344	0,3362	0,3162	0,5779	0,7818	0,4964
P1	0,8993	0,2978	0,1340	0,2770	0,5477	0,4948	0,2852	1,000	0,5087	0,4708	0,4648	0,7570	0,8213	0,5454
P2	0,5031	0,1797	0,962	0,1713	0,6435	0,6885	0,4381	0,7531	0,4242	0,4527	0,3565	0,8629	0,9233	0,8211
P3	0,4795	0,2319	0,1089	0,1829	0,4175	0,5107	0,3033	0,7145	0,4482	0,4277	0,3277	0,6324	0,7757	0,5897
P4	0,2615	0,1443	0,722	0,1903	0,4136	0,5237	0,3045	0,3572	0,3511	0,3209	0,3663	0,7226	0,9193	0,6001
P5	0,5423	0,2443	0,1500	0,2338	0,6865	0,7138	0,3659	0,7825	0,5153	0,6444	0,4187	0,8826	0,8196	0,7053
P6	0,5756	0,3799	0,1790	0,2344	0,6763	0,6714	0,3085	0,6543	0,6195	0,6285	0,4108	0,8684	0,8008	0,5889
P7	0,6150	0,2687	0,1123	0,2131	0,5996	0,5985	0,3447	0,6552	0,5140	0,4451	0,3742	0,7976	0,7996	0,6304
P8	0,5876	0,3129	0,1107	0,2130	0,5364	0,4244	0,2265	0,6549	0,5442	0,4133	0,3630	0,6890	0,7466	0,4258
P9	0,3855	0,3247	0,1093	0,1631	0,4226	0,4926	0,2907	0,4162	0,6377	0,5132	0,2990	0,6490	0,7671	0,5554
F1	0,8643	1,000	1,000	0,7772	0,9110	0,4613	0,4182	1,000	0,9292	0,8208	0,7334	0,8468	0,9918	0,6358
F2	0,6784	0,3216	0,1729	0,2486	0,6524	0,6088	0,2357	0,7386	0,5873	0,7102	0,4446	0,9409	1,000	0,4770
F3	0,4515	0,2295	0,1198	0,2279	0,6577	0,7119	0,4273	0,4705	0,4182	0,4674	0,3927	0,8563	0,9307	0,7932
F4	1,000	0,1609	0,731	0,1867	0,4359	0,5316	0,1812	0,8277	0,4094	0,3722	0,3341	0,6168	0,7117	0,3325
F5	0,5537	0,3335	0,1785	0,3003	0,6845	0,6990	0,4108	0,7295	0,6236	0,7147	0,5329	0,9739	0,9406	0,7759
F6	0,4547	0,3353	0,1797	0,2128	0,5166	0,6055	0,3054	0,5704	0,6481	0,6959	0,3791	0,7752	0,9141	0,5879
F7	1,000	0,6260	0,3533	0,4572	0,7071	0,7281	0,4423	1,000	1,000	1,000	0,7602	1,000	1,000	0,8215
F8	0,3474	0,1810	0,1219	0,1894	0,5172	0,5533	0,2941	0,4178	0,4640	0,5762	0,3681	0,7854	0,7412	0,5845
F9	0,4965	0,5756	0,2377	0,2280	0,4914	0,4762	0,3262	0,6532	0,9578	0,8497	0,3879	0,7342	0,6442	0,6270
FS1	0,7372	1,000	0,849	1,000	0,2109	0,2212	0,1749	0,9240	0,9219	0,4065	0,2220	0,3043	0,7643	0,3364
FS2	1,000	1,000	0,4991	1,000	1,000	1,000	0,6898	0,5987	1,000	0,8479	1,000	1,000	1,000	1,000

Models for each inefficient DMUs are made using the data in Table 3. Below, inefficient banks for the year 2001 are classified. The same method is applied to classify the other years. As can be seen in 2001, DMU F7 (HSBC Bank A.Ş) is fully efficient. The remaining 22 banks are not efficient. These banks efficiency scores are measured fuzzy in bound values.

- S1: [0.5269 , 0.3649]
- S2: [0.4215 , 0.2764]
- S3: [0.5345 , 0.4384]
- P1: [1.000 , 0.8993]
- P2: [0.7531 , 0.5031]
- P3: [0.7145 , 0.4795]
- P4: [0.3572 , 0.2615]
- P5: [0.7825 , 0.5423]
- P6: [0.6543 , 0.5756]
- P7: [0.6552 , 0.6150]
- P8: [0.6549 , 0.5876]
- P9: [0.4162 , 0.3855]
- F1: [1.000 , 0.8643]

F2: [0.7386 , 0.6784]
 F3: [0.4705 , 0.4515]
 F4: [0.8277 , 1.000]
 F5: [0.7295 , 0.5537]
 F6: [0.5704 , 0.4547]
 F8: [0.4178, 0.3474]
 F9: [0.6532 , 0.4965]
 FS1: [0.9240, 0.7332]
 FS2: [0.5987 , 1,000]

We can classify these banks according to regret approach. Below is the application of the model on one bank using bound values for the year 2001.

$$R(S1) = \max [\max (0.2764, 0.4384, 0.8993, 0.5031, 0.4795, 0.2615, 0.5423, 0.5756, 0.6150, 0.5876, 0.3855, 0.8643, 0.6784, 0.4515, 1.000, 0.5537, 0.4547, 0.3474, 0.4965, 0.7332, 1,000) - 0.5269, 0]$$

$$= 0.4731$$

$$R(S2) = \max [\max (0.3649, 0.4384, 0.8993, 0.5031, 0.4795, 0.2615, 0.5423, 0.5756, 0.6150, 0.5876, 0.3855, 0.8643, 0.6784, 0.4515, 1.000, 0.5537, 0.4547, 0.3474, 0.4965, 0.7332, 1,000) - 0.4215, 0]$$

$$= 0.5785$$

$$R(S3) = \max [\max (0.3649, 0.2764, 0.8993, 0.5031, 0.4795, 0.2615, 0.5423, 0.5756, 0.6150, 0.5876, 0.3855, 0.8643, 0.6784, 0.4515, 1.000, 0.5537, 0.4547, 0.3474, 0.4965, 0.7332, 1,000) - 0.5345, 0]$$

$$= 0.4655$$

$$R(P1) = \max [\max (0.3649, 0.2764, 0.4384, 0.5031, 0.4795, 0.2615, 0.5423, 0.5756, 0.6150, 0.5876, 0.3855, 0.8643, 0.6784, 0.4515, 1.000, 0.5537, 0.4547, 0.3474, 0.4965, 0.7332, 1,000) - 1.000, 0]$$

$$= 0$$

$$R(P2) = \max [\max (0.3649, 0.2764, 0.4384, 0.8993, 0.4795, 0.2615, 0.5423, 0.5756, 0.6150, 0.5876, 0.3855, 0.8643, 0.6784, 0.4515, 1.000, 0.5537, 0.4547, 0.3474, 0.4965, 0.7332, 1,000) - 0.7531, 0]$$

$$= 0.2469$$

.....
 P1 has the lowest score and thus is accepted as having the high efficiency in the group (22 banks). Because of this P1 is excluded from the list. The same method is applied for the remaining 22 banks, excluding the bank with the lowest score each time until two banks remain. The 23 banks are classified through CCR-I in 2001 and the following efficiency classification is obtained:

P1 > S1 > FS1 > F4 > FS2 > F2 > P5 > P2 > F5 > P3 > P7 > P8 > P6 > F9 > F6 > S3 > S1 > F3 > P9 > F8 > S2 > P4

This Fuzzy DEA model is applied for all the years (2001-2007). As a result of this analysis, classification of these banks is shown in Table 4.

Table 4: Classification of Turkish Commercial Banks

	2001	2002	2003	2004	2005	2006	2007
1	P1	F7	F7	F7	F1	F7	FS2
2	S1	F9	F1	F1	F7	F2	F7
3	FS1	FS1	FS2	FS1	F5	F1	P2
4	F4	F1	F9	F5	F2	F5	F3
5	FS2	P6	F5	P1	P5	F3	F5
6	F2	F6	F2	F2	P6	P2	P5
7	P5	P9	F6	P5	F3	P4	F1
8	P2	F5	P6	P6	P2	F6	P7
9	F5	F2	P5	F3	P7	P5	F9
10	P3	P8	F8	F9	F8	P6	P4
11	P7	P1	P9	F6	F6	P7	P6
12	P8	P7	P1	P7	P1	P1	F6
13	P6	P5	F3	P8	F9	S3	P3
14	F9	F8	P2	F8	P8	P3	F8
15	F6	P3	P7	P4	P4	S1	P9

16	S3	F3	P3	P2	P9	P9	P1
17	S1	S3	P8	F4	F4	FS1	S3
18	F3	P2	FS1	P3	P3	F8	F2
19	P9	S2	S1	S3	S3	F4	P8
20	F8	F4	F4	P9	S1	P8	S2
21	S2	P4	S2	S1	S2	F9	F4
22	P4	S1	S3	S2	FS1	S2	FS1
23			P4				S1

In 2001, the highest efficient bank is P1 (Akbank) and the lowest efficient bank is P4 (Sekerbank). However in 2002 the highest efficient bank is F7 (HSBC Bank) and the lowest efficient bank is S1 (TC Ziraat Bankası). In 2003, 2004 and 2006 the highest efficient bank is F7 (HSBC Bank) again. In 2005 and 2007 the highest efficient bank is respectively F1 (Arap Turk Bankası) and FS2 (Bank Mellat).

CONCLUSION

This study measured the efficiency of banks with using Fuzzy DEA. In the result foreign banks were efficient than the state-owned and privately owned banks. Generally state owned banks are the lowest efficient bank. In this paper fuzzy DEA method and CCR model was used for measurement of bank efficiency. Fuzzy DEA models can play an important role for perceptual evaluation problems comprehensively existing in the real world, finance sectors, for example banking sector. Other DEA models will be applied in other studies.

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ACTIVITY BASED COSTING (ABC) METHOD APPLICATIONS IN HOSPITALS: CASE OF PRIVATE HOSPITAL IN KAYSERI, TURKEY

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ABSTRACT

Today, traditional cost accounting systems are subjected to criticism because they are insufficient. The activity based costing (ABC) method, which is one of the new cost accounting methods, can be considered as an alternative method. In this study, the operation cost of a department of a private hospital will be calculated firstly and then ABC method and the traditional costing methods will be compared. Whereas only one distribution key is used in the traditional method, in activity based costing method a different cost driver is used for each activity.

INTRODUCTION

Since there are many and complicated operations and different output definitions, and also, the human factor is prior importance in hospitals and these institutions have many different disbursement policies, hospitals, by their nature, are to be considered separately from other service enterprises. For this reason, calculating the cost of the hospital services is more difficult when compared to other enterprises. However, despite this difficulty, it is obligatory that the hospital costs are determined correctly and completely; as the hospitals are also the places where the resource extravagance rate is very high.

Today, traditional cost accounting systems are open to criticism because they are inadequate and under these circumstances, the activity based costing method which is one of the new cost accounting methods, can be considered as a different alternative method.

Emmett and Forget's study (2005) concerned with the of costing methods, specially activity based costing accounting. Only 71.8% of managers were aware of it and only 4.7% had implemented it. In addition, only 52% of all hospitals report using any cost accounting systems. ABC was designed, tested and compared with conventional costing by Laurila and others (2000). The allocation of overhead costs was greatly reduced by the introduction of ABC compared to conventional costing. Paulus, van Raak and Keijzer (2002) used ABC and integrated care pathways provides the best information possible for decision-making by health care managers, insurers, care suppliers and governments. Arnaboldi and Lapsley (2004) studied of the introduction of a modern costing technology (ABC) into a health care organization which is undergoing change.

Ridderstolpe and others (2002) described the implementation of a model for process analysis and ABC at a Heart Center in Sweden as a tool for administrative cost information, strategic decision-making, quality improvement, and cost reduction. Waters, Abdallah and Santillan (2001) described the application of ABC to calculate the unit costs of the services for a health care provider in Peru. Rautio, Keski-Nisula and Paakkala (2003) analyzed the costs of the interventional radiology unit and to identify the cost factors in the different activities of catheter-based angiographies and interventional radiology by using ABC analysis. According to them ABC system is suitable for analysing costs in interventional radiology.

Baker and Boyd (1997) gave example of how one hospital reports the results of ABC for a particular procedure in the operating room (OR). Canby (1995) used ABC method to determine costs associated with the x-ray process in a mid-sized outpatient clinic. Yereli (2009) compared traditional and ABC approaches which using a cost analysis of gall bladder surgeries in the general surgery department of one university hospital in Manisa, Turkey.

In this study, the operation cost of a department of a private hospital will be calculated in the first place and then the activity based costing method and the traditional costing methods will be compared.

ACTIVITY BASED COSTING METHOD IN HOSPITALS

This method was put into practice at a private hospital in Kayseri, which was established in 2004. At the hospital, departments of internal diseases, ENT, eye, orthopedics, infantile diseases, pediatrics and gynecology, In Vitro Fertilization (IVF), skin diseases, dental and cardiovascular diseases are available. Along with angiography devices for cardiovascular diseases, echo, effort and holter's systems are also available.

The objective of this study is to calculate the operation costs of the Cardiovascular Surgery (CS) department, using activity based costing method and traditional costing methods, to make a comparison between these methods. Basic financial tables of the hospital were used in this study. Additionally, directors of the accounting department and the purchasing department, officers and doctors of the CS department are personally interviewed. The lists of fixed assets of the CS department were also used in the study.

Cost Allocation of the Patient Admission Activity Costs (F1)

Total costs of the patient admission activity is given below:

F1	Total Cost (TL)
Patient Admission	23.109,10

The costs of the patient admission activity will be distributed according to the "number of patients" and the operation types which are considered to be the output of the CS department. In order to do this, first of all the cost allocation rate will be calculated.

$$\text{Cost Allocation Rate} = \text{Patient Admission Activity} / \text{Number of Patients} \\ = 23.109,10 / 1031 = 22,4143$$

Table 1: Cost Allocation of the Patient Admission Activity Costs (F1)

Type of Operation	Number of Patients (1)	Cost Allocation Rate (2)	(1)x(2)=(3)
Coronary By Pass	324	22,4143	7.262,22
Valve Disease	85	22,4143	1.905,21
Congenital Heart Disease	74	22,4143	1.658,65
Angiography	421	22,4143	9.436,41
Peripheral vascular diseases	127	22,4143	2.846,61
Total	1031		23.109,10

As can be seen in Table 1, the highest patient admission rate is performed by the angiography with 421 patients, which is the highest number of patients. This activity is followed by the congenital heart disease operations with 74 patients.

Cost Allocation of the Activities of Pre-operative Care Cost (F2)

Among the activities of pre-operative care, before the operation there are some pre-examinations done after the patient admission process is completed. For this reason, allocation will be made according to the number of laboratory tests.

Table 2: Number of Laboratory Tests

Operation	Number
Coronary By Pass	324
Valve Disease	85
Congenital Heart Disease	74
Angiography	421
Peripheral vascular diseases	127
Total	1031

The total amount of the activity of pre-operative care is as such :

F2	Total Cost (TL)
Pre-operative Care	125.649,89

“Number of laboratory tests” will be used as the cost driver for the activity costs (Table 2) in question to be distributed to operations and the calculation of the cost allocation rate will be as such:

$$\text{Cost Allocation Rate} = \text{Pre-operative Care} / \text{Number of tests} = 125.649,89 / 8137 = 15,4418$$

Table 3: Cost Allocation of the Activities of Pre-operative Care Cost

Type of Operation	Types of Laboratory Tests (1)	Number of Patient (2)	Number of Tests (1)x(2)=(3)	Cost Allocation Rate (4)	Total (TL) (3)x(4)=(5)
Coronary By Pass	11	324	3564	15,4418	55.034,56
Valve Disease	9	85	765	15,4418	11.812,97
Congenital Heart Disease	11	74	814	15,4418	12.569,62
Angiography	5	421	2105	15,4418	32.504,98
Peripheral vascular diseases	7	127	889	15,4418	13.727,76
Total	43	1031	8137		125.649,89

The cost allocation is very high (55.034,56 TL) for the Coronary By Pass operation, which means that the number of patients and types of laboratory tests are both high. On the other hand the lowest cost allocation is seen in valve disease, although the number of laboratory tests is almost high as coronary by pass the number of patients was low.

Cost Allocation Anesthesia Activity Costs (F3)

The costs of the anesthesia activity will be distributed to the operations according to drug costs. However, while the anesthesia costs are distributed to operations, no costs will be allocated to angiography. The reason for this is that during the interviews made with anesthetists, it is learned that during the angiography process, drug is only given through the inguinal and it is concluded that this can not be regarded as anesthesia.

Also, under the light of the information received from the same doctors, the amount of the cost of the drugs used in each operation type is acknowledged. As a result of the calculation based on the drug costs, the operation kinds are given the coefficient proportionate to the drug costs used, which are shown in Table 4.

First of all, anesthesia cost amount is as such:

F3	Cost (TL)
Anesthesia	91.106,24

Cost Allocation rate is calculated by dividing the stated anesthesia cost into 1095,2.

Cost Allocation Rate = Cost of Anesthesia Activity / Allocation Rate

$$= 91.106,24 / 1095,2 = 83,18685$$

Table 4: Cost Allocation Anesthesia Activity Costs (F3)

Type of Operation	Usage Coefficient for Anesthesia Based on Cost (1)	Number of patient (2)	Coefficient x Number of patient (1)x(2)=(3)	Cost Allocation Rate (4)	Total (3)x(4)=(5)
Coronary By Pass	2	324	648	83,18685	53.905,08
Valve Disease	2,2	85	187	83,18685	15.555,94
Congenital Heart Disease	1,8	74	133,2	83,18685	11.080,49
Angiography	-	421	-	83,18685	-
Peripheral vascular diseases	1	127	127	83,18685	10.564,73
Total		1031	1095,2		91.106,24

The highest number of patients who take up the largest share of anesthesia activity cost is seen in Coronary by pass. It was assumed that the angiography is not included in this activity cost because there is no coefficient specified for this operation.

Cost Allocation of Operation Costs (F4)

The fourth activity is the operation itself. The average operation time of each operation is taken as the basis while distribute the cost of this activity to operations (Table 5). Total costs of the operation activity are shown below:

F4	Total Cost (TL)
Operation	116.263,20

Cost Allocation Rate = Cost of Operations Activity / Total Operation Duration

$$= 116.263,20 / 1741 = 66,77955$$

Table 5: Cost Allocation of Operation Costs (F4)

Type of Operation	Average Operation Duration (One Operation) (1)	Number of Operation (2)	Total Operation Duration (1)x(2)=(3)	Cost Allocation Rate (4)	Total (3)x(4)=(5)
Coronary By Pass	2.5 hour	324	810	66,77955	54.091,44
Valve Disease	3 hour	85	255	66,77955	17.028,79
Congenital Heart Disease	2 hour	74	148	66,77955	9.883,37
Angiography	½ hour	421	210.5	66,77955	14.057,09
Peripheral vascular diseases	2.5 hour	127	317.5	66,77955	21.202,51
Total		1031	1741		116.263,20

Although the largest number of operations appears under angiography category, it doesn't take a huge part in the total cost as this kind of operation takes only half an hour.

Cost Allocation of the Intensive Care after the Operation and Post-Operative Care Processes of the Patients (F5)

This activity includes the intensive care after the operation and post-operative care processes of the patients. The patients who receive angiography stay under care at the hospital for one day only, while the patients who undergo other operations are kept under intensive care for one day and under care service for four days. The costs relevant with these activities will be distributed to operations in accordance with the number of days the patient stayed at the hospital. The amount of the activity costs in question are given below.

F5	Total Cost (TL)
Intensive Care after the Operation and Post-Operative Care Processes of the Patients	100.619,80

The patients of CS stayed at the hospital for a total of 3471 days. Accordingly, the cost allocation rate will be calculated as shown below:

Cost Allocation Rate = Cost of Intensive Care after the Operation and Post-Operative Care Processes of the Patients / Duration of patients stayed = 100.619,80 /3471 = 28,9887

Table 6: Cost Allocation of the Intensive Care after the Operation and Post-Operative Care Processes of the Patients

Type of Operation	Duration of patients stayed (1)	Number of Operation (2)	Duration of patients stayed x Number of Operation (1)x(2)=(3)	Cost Allocation Rate (4)	Total (TL) (3)x(4)=(5)
Coronary By Pass	5 days	324	1620	28,9887	46.961,70
Valve Disease	5 days	85	425	28,9887	12.320,20
Congenital Heart Disease	5 days	74	370	28,9887	10.725,83
Angiography	1 day	421	421	28,9887	12.204,25
Peripheral vascular diseases	5 days	127	635	28,9887	18.407,82
Total	21 days	1031	3471		100.619,80

Calculating the Overhead Costs

The next step is to find the overhead costs distributed to the operations in question. For this, the costs of all activities relevant to the operations are put together.

Table 7: Calculating the Overhead Costs

	Coronary By Pass	Valve Disease	Congenital Heart Disease	Angiography	Peripheral vascular diseases	Total
Patient Admission Activity (Table 1)	7.262,22	1.905,21	1.658,65	9.436,41	2.846,61	23.109,10
Activities of Pre-operative Care (Table 3)	55.034,56	11.812,97	12.569,62	32.504,98	13.727,76	125.649,89
Anesthesia Activity (Table 4)	53.905,08	15.555,94	11.080,49	-	10.564,73	911.06,24
Operation (Table 5)	54.091,44	17.028,79	9.883,37	14.057,09	21.202,51	116.263,20
Intensive Care and Pre-Operative Care Processes of the Patients after	46.961,70	12.320,20	10.725,83	12.204,25	18.407,82	100.619,80

the Operation (Table 6)						
TOTAL	217.255,00	58.623,11	45.917,96	68.202,73	66.749,43	456.748,23

As can be seen in Table 7, almost half of the Overhead Costs belongs to Coronary by pass operations. All operation types apart from the congenital heart disease operations used up almost the same amount of Overhead Costs. The least overhead cost was seen in by congenital heart disease operations. Depreciation cost in overhead costs was direct costs and other costs were indirect costs.

Comparison of Calculating the Overhead Costs with Traditional Method and Activity Based Costing Method

Between the traditional method and activity based costing, there are no differences in terms of direct material and direct labor costs, so the total overhead costs are the same. However there is a difference in the distribution with respect to the types of operations. After the overhead costs of the operations are calculated according to the activity based costing method, the total overhead costs formerly calculated according to the traditional costing are compared below.

Table 8: Comparison of Calculating the Overhead Costs with Two Methods

Type of Operation	Number of Operation	Overhead Costs (Traditional Method) (TL)	Overhead Costs (Activity Based Costing) (TL) (Table 7)	Difference (TL)
Coronary By Pass	324	212.502,05	217.255,00	4.752,95
Valve Disease	85	66.898,79	58.623,11	(8.275,68)
Congenital Heart Disease	74	38.827,54	45.917,96	7.090,42
Angiography	421	55.224,30	68.202,73	12.978,43
Peripheral vascular diseases	127	83.295,55	66.749,43	(16.546,12)
Total		456.748,23	456.748,23	

As can be seen in Table 8, in ABC method, an excess of 4.752,95 TL in Coronary by pass operations, 7.090,42 TL in congenital heart disease operations, and 12.978,43 TL in angiography are observed when compared to the traditional method. Also, a deficient of 8.275,68 TL in valve diseases and 16.546,12 TL in peripheral vascular diseases are seen.

Coronary by pass: This operation has taken the largest share from the operation overhead costs in both methods. The reason for this is that in terms of the traditional method, the operation time is long and the number of operations is many, and in terms of ABC, it might be because this operation is the one that most requires the activity and thus it is the operation with the highest cost. The reason for a difference of 4.752,95 TL between the traditional method and ABC is that the traditional method is solely indexed to direct labor costs, whereas in ABC method, different cost drivers are used.

Valve diseases: The cost of this operation is 66.898,79 according to the traditional method, whereas it is 58.623,11 TL according to ABC. ABC made a deficient loading of 8.275,68 TL to this operation because this operation is one of the operations that require the least activity. Thus, it is appropriate that it is given less share in the overhead costs.

Congenital heart diseases: The cost of congenital heart disease operations is 38.827,54 TL according to the traditional method, and 45.917,96 TL according to ABC. ABC has laid an excess of 7.090,42 TL on this operation.

Angiography: ABC has laid an excessive of 12.978,43 TL to this operation, whose number is the highest and duration is the shortest, yet second only to coronary by pass operations the total cost. Despite the assumption that anesthesia activity is not used here, the reason for the excess can be understood if it is taken into consideration that angiography takes up 41% of the patient admission activity, 26% of pre-operative care activity, 12% of operation and intensive care activity. As the traditional method solely focuses on the working hours directly, the cost of angiography which lasts an average of ½ hours is calculated as lower.

Peripheral vascular diseases: The cost of this operation is calculated as 83.295,55 TL by the traditional method, whereas it was calculated to be 66.749,43 TL by ABC. For this reason, ABC made a deficient loading of 16.546,12 TL. That this cost is high according to the traditional method is because the number of operations is high and the duration of the operation is long. However, when activity consumptions are taken into consideration, it is observed that this operation consumes the activities other than operation and intensive care less than Coronary by pass and angiography. As a result, the difference is understandable because it requires less activity.

Calculating the Overhead Costs According to Activity Based Costing

According to activity based costing, the calculations of the overhead unit costs are made as shown below:

Table 9: Calculating the Overhead Unit Cost According to Activity Based Costing

Type of Operation	Overhead Costs (TL) (1)	Total Operation Duration (Hour) (2)	Cost of Operation for one hour (1)÷(2)=(3)	Average Operation Duration (One Operation) (4)	Overhead Unit Costs (TL) (3) X (4)= (5)
Coronary By Pass	217.255,00	810	268,22	2.5 hour	670,55
Valve Disease	58.623,11	255	229,89	3 hour	689,67
Congenital Heart Disease	45.917,96	148	310,26	2 hour	620,52
Angiography	68.202,73	210.5	324,00	½ hour	162,00
Peripheral vascular diseases	66.749,43	317.5	210,23	2.5 hour	525,58
Total	456.748,23	1741			

Comparison of Overhead Unit Costs

The unit operation costs of CS department can be shown as follows, both according to the traditional method and activity based costing method:

Table 10: Comparison of Unit Cost of Overhead Costing

Type of Operation	Number of Operations (1)	Traditional Method (TL) (2)	Activity Based Costing (TL) (3)	Difference (TL) (2)-(3)=(4)
Coronary By Pass	324	655,87	670,55	14,68
Valve Disease	85	787,05	689,67	(97,38)
Congenital Heart Disease	74	524,70	620,52	95,82
Angiography	421	131,17	162,00	30,83
Peripheral vascular diseases	127	655,87	525,58	(130,29)
Total	1031			

Taking Table 10 into consideration, we can list the operations from the highest cost to the lowest as shown below:

Table 11: Ordering of Overhead Unit Cost

	Activity Based Costing (TL)		Traditional Method (TL)	
1	Valve Disease	689,67	Valve Disease	787,05
2	Coronary By Pass	670,55	Coronary By Pass	655,87
3	Congenital Heart Disease	620,52	Peripheral vascular diseases	655,87
4	Peripheral vascular diseases	525,58	Congenital Heart Disease	524,70
5	Angiography	162,00	Angiography	131,17

As can be seen, the unit costs of the two operations with same durations (Coronary by pass and peripheral vascular diseases) are the same in the traditional method. However, ABC calculated the unit cost of Coronary by pass operation as 670,55 TL, and the unit cost of peripheral vascular diseases as 525,58 TL. According to both methods, the highest unit cost belongs to the valve disease operations. The traditional method calculated the unit cost of valve disease operations as 787,05 TL, whereas ABC calculated it as 689,67 TL. The lowest unit cost belongs to angiography according to both methods. However, ABC made an excess of 30,83 TL.

According to the traditional method, the overhead costs of the hospital are distributed to CS department by using direct distribution method.

Activity based costing method focuses on activities instead of departments. When starting the application of ABC method on departmental basis, the traditional distribution results are used as department cost. Afterwards, the activities that form the starting point of activity based costing are determined as such: patient admission, pre-operation care, anesthesia, operations, intensive care and post operative care. The costs are distributed to these activities through first step cost drivers. After this, the activity costs were loaded to cost targets (operation types) by way of second step cost drivers.

During the selection of first and second step cost drivers, it was not possible to apply much flexibility. One of the reasons of this is that labor cost is still at the foreground in hospital enterprises, and the other is that sufficient registration and document archiving is not being done at the hospital within the existing system.

CONCLUDING REMARKS

As it is well known enterprises are organizations established to meet people's needs and to make profit. That the main activity fields of hospital enterprises are to improve and protect human health separates the hospitals from all other enterprises, including other service enterprises. However, this quality of hospitals is not an obstacle for the hospitals to be perceived like other enterprises.

In parallel to the technological developments, the cost profile of all enterprises has changed in time. The share of the direct material and direct labor costs within the total costs has decreased, whereas the overhead costs have become dominant within the total costs. As a natural result of this, the problem of the overhead cost distribution arises. The decrease in the relationship between labor costs and the overhead costs (the increase in automation and decrease in direct labor costs), which are the classical distribution keys used to distribute overhead costs to products, caused labor costs to be no longer a proper distribution key.

Activity based costing (ABC) is a cost distribution method developed against the traditional method. This method aims at calculating the indirect costs of the enterprise through activities. According to this method, the cause of the costs arising in enterprises is the activities; that is, the activities cause the costs. The goods and the services that constitute the output of the enterprises and that are called the cost targets come out as a result of the consumption of these activities. Thus, there are two stages at the core ABC: First is Activity resources and second is Activity consuming cost targets.

The distribution keys used in the calculation of resource consumption by activities are called the first stage cost drivers, and the distribution keys used in the calculation of resource consumption by cost targets are called the second stage cost drivers.

Whereas only one distribution key is used in the traditional method, in activity based costing method a different cost driver is used for each activity and in this way, a more correct cost information is derived; however, a cost driver that is incorrectly chosen can cause incorrect costing and also bring along additional loads to enterprises. The most laborious part of ABC is the selection of cost drivers and the measurement of these drivers. An incorrectly chosen cost driver can cause incorrect costing and incorrect costing can cause financial loss in enterprises.

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THE LINKAGE BETWEEN ORGANIZATIONAL JUSTICE, CREATING FACADES OF CONFORMITY AND JOB ENGAGEMENT: WHAT ALL THESE RELATIONS MEAN FOR THE ORGANIZATIONAL CHANGE MANAGEMENT?

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ABSTRACT

Within this research model the impact of organizational justice variables (procedural, interactional and distributive justice) on two important organizational behavior variables will be investigated namely: creating facades of conformity and job engagement. These two dependent variables of the research model are relatively new constructs in OB literature and they have important effects both on individual and organizational level outcomes especially during an organizational change, therefore, investigating the degree of creating facades of conformity and job engagement is worthwhile to search.

LITERATURE REVIEW

Organizational Justice

In recent years, increasing attention has been given to justice constructs resulting in a literature that is flourishing (Colquitt and Greenberg, 2003) and it is currently one of the most researched topics in industrial psychology with over 300 studies having been published in the last 25 years (Nowakowski and Conion, 2005).

*Organizational justice refers to staff perceptions of fairness of treatment received from an organization and their behavioral reaction to such perceptions (James, 1993). In organizational justice theory, perceptions of fairness in organizations are explained by categorizing employees' views and feelings about their treatment and that of others within the organization (Greenberg, 1987). The methods used to make the perceptions and the treatment of those affected through three related theories. The first relates to employee perceptions of outcome fairness, which Homans (1961) labeled *distributive justice*. The second is *procedural justice* (Thibaut and Walker, 1975), which focuses on employee perceptions about the fairness of procedures used to make decisions (Folger and Cropanzano, 1998). The third is *interactional justice* (Bies and Moag, 1986), which focuses on perceptions about the fairness of the interpersonal treatment that employee receive during implementation.*

Previous studies in the area of organizational justice have suggested justice to be consistently related to employee work attitudes and behaviors (Folger and Konovsky, 1989; Greenberg, 1990). That is, if employees perceive the outcomes of their evaluations to be fair or perceive the process by which outcome allocation decisions are made to be fair, they will be likely to achieve higher performance, will display more extra role behaviors, will be more committed to their organizations and their supervisors, will have higher levels of trust and will display less counterproductive work behavior and harmful political behaviors. Also, organizational justice has been a cornerstone in organizational change as it has been shown in many studies to be predictive of higher levels of openness to change, cooperation with change and satisfaction with change. Today, it is

unquestionable that addressing justice issues is the key to successfully implementing organizational change. Effective change is not simply a matter of clearly articulating an energizing vision and getting people to “buy in” to the desired outcome of the change; it is crucial to focus on the justice aspects of the change process. So, within this article, as the main purpose, addition to the impact of perceived justice on creating facades of conformity, also the effect of the interaction of perceived justice and creating facades of conformity on “job engagement”- on an important employee attitude will be searched.

Creating Facades of Conformity

Hewlin (2003) recently introduced theoretically the concept of facades of conformity (FOC). It means false representations created by employees to appear as if they embrace organizational values. Creating facades of conformity is a theoretical concept coined to describe employees who act as if they embrace an organization's values when they really don't in order to survive and/or succeed within that organization. Facades of conformity are a possible consequence of value incongruence. The decision of whether to create facades of conformity rather than openly express personal values, may reflect a range of fears and concerns such as “Will I be passed over for a promotion if I show my true feelings?”

Major organizational changes, such as a corporate merger or acquisition, redefine the work environment for employees (Ahuja and Katila, 2001). These changes might cause a degree of misfit between the relatively stable personal work values (of the employee) and those of the changing work environment (Bordia et al., 2004). When an environment of rapid, sometimes unpredictable organizational change is coupled with individuals who do not necessarily embrace the change, a perception of misfit between employee and organization may arise. Because of personal and organizational antecedents such as job insecurity, subjective reward systems, employees can not express their true opinions and feelings about the change, the result of which an employee creates facades of conformity instead of resisting to survive in this new work environment. A facade is the face, especially an artificial or false front. During the change process, employees present facades of conformity that is usually crafted specifically to create a favorable impression such as following the change missions or programs. By pretending that they support the change, employees would have pursued the goal of satisfying change agents in a way that will not create unnecessarily bad impressions of their public image in that organization. However emotionally or cognitively they experience something disturbing as they are acting as a real self. Therefore, a person may behave in a certain way to convey a certain impression, yet feels an entirely different emotion. This contradiction between inner self and outside face will cause stress for those individuals. When behaviors are incongruent with values, individuals will feel tremendous discomfort, emotionally and physically. They will not function optimally.

Within this context, it can be hypothesized that when the justice perceptions of employees is high, creating facades of conformity will decrease; because, in fairness environments, employees will get adequate and necessary explanations and information for the organizational decisions and their level of trust to their managers and the organization as whole increase as they will be treated in respect and dignity. In this justice and trust environment, employees will be able to express their feelings without fear and they don't need to make any manipulations in their behaviors, attitudes and words. The impact of organizational justice and creating facades of conformity is connected to a very important attitude of employees namely “job engagement” as the dependent variable of the study.

H1: Organizational justice has a positive explanatory power on “creating facades of conformity” behavior of the employees.

Job Engagement

In recent years, there has been a great deal of interest in employee engagement. Although employee engagement has become a hot topic among practitioners and consultants, there has been practically no empirical research in the organizational behavior literature. Instead of traditional organizational structures and a strong emphasis on economic principles, the focus in modern organizations is on the management of human capital. This means that- in the words of Dave Ulrich (1997) “Employee contribution becomes a critical business issue because in trying to produce more output with less employee input, companies have no choice but to try to engage not only the body but the mind and soul of every employee.” Instead of just “doing one's job”,

employees are expected “to go to the extra mile.” Thus, employees are needed who feel energetic and dedicated and who are absorbed by their work. In other words, organizations need engaged workers (Schaufeli and Salanova, 2008). Maslach and Leiter (1997) define engagement as the antipode of burnout. Conversely, Schaufeli et al. (2002) view engagement and burnout as two independent but closely related states. These researchers define engagement as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication and absorption. The possible consequences of work engagement pertain to positive job-related attitudes, individual health, extra-role behaviors and performance. Many have claimed that employee engagement predicts employee outcomes, organizational success and financial performance (Harter et al., 2002).

Within the context of this article, we can hypothesize that in organizational justice environments “job engagement” attitudes of the employees can easily prevail. Previous research in the literature approves that justice perceptions increases the extra-role behaviors and performance of the employees. When employees perceive that they are treated fairly with respect and dignity they will be more inclined to their job and organizational goals. In terms of social-exchange theory and “the norm of reciprocity”, employees will show more extra role behaviors to compensate this fair environment. So the second hypothesis of the article is that:

H2: Organizational justice has a positive explanatory power on job engagement attitude of the employees.

With this theoretical background, theoretical research model of this article can also be exhibited as in Figure 1:



Besides the expected direct impact of organizational justice on creating facades of conformity and the impact of organizational justice on job engagement, the mediating role of “creating facades of conformity” on the impact of organizational justice on job engagement will also be tested. Organizational justice may have a direct impact on job engagement attitudes of the employees, but creating facades of conformity can increase this effect and also creating facades of conformity may have more explanatory power on job engagement comparing organizational justice. So the third hypothesis of the article is:

H3: Creating facades of conformity mediates the impact of organizational justice on job engagement.

METHOD

Sampling and Procedure

Participants: With convenience sampling method, chosen on convenience of access, participants completed the study’s instruments on a voluntary basis. The sample of this study will include white color employees working full time in private organizations in wide range of industry sectors (manufacturing, education, including, computer services, accounting and customer relations), experienced an organizational change over the last one year in Istanbul, Turkey.

Procedures: Questionnaires are distributed to those volunteered to participate in this study by visiting the companies and taken back within 15 working days. The surveys were also accompanied by a letter explaining the focus of the study. It was reminded the participants that their responses were completely confidential.

Measures

Creating facades of conformity scale which is developed by Hewlin (2003) for her own dissertation is used to measure facades of conformity variable. The scale is composed of twelve items. The 5th, 7th, 8th, 9th and 12th items were reversed.

Job engagement scale used in this study, namely, “Utrecht Engagement Scale” was developed by Schufeli et al. (2002). It consists of seventeen items which were designed to assess three components of engagement; vigor, dedication and absorption. Some sample items are for vigor “I feel vital and strong when I work”, for dedication “My work still inspires me” and for absorption “Time flies when I am working”. There is no reverse item in this scale.

Organizational justice scale developed by Moorman (1992) was used. There are six items measuring distributive justice and twelve items measuring procedural justice (including interactional and informational justice). There is no reverse item in this scale.

FINDINGS AND RESULTS

To be able to test the impacts of model variables, factors are computed and the reliability analysis were done to all of the factors by SPSS 17.0 version. Creating facades of conformity scale was computed two factors. The KMO measure of sampling adequacy revealed a value more than .50, which means that it is statistically appropriate to rely on the sampling to see if the correlations are meaningful. In addition, loadings under each factor were examined and those items that have low factor loadings were excluded from the analysis. Thus, the 4th, 6th and 11th items were discarded due to low loadings and contextual misfit with the two main factors. Two factors yielded a KMO value of .773 and the Bartlett’s test of sphericity yielded a significant result with a $p=.000$. Therefore, it was concluded that the data is appropriate for carrying out the factor analysis and that the factor analysis results are valid. Two factors were named as “masking true feelings” and “being free of hypocrisy” in this study.

Secondly, all of the items of “job engagement scale” were entered to the factor analysis. At first, SPSS computed 3 factors but the third factor is only composed of Q8. Therefore this one item is excluded from the analysis and the factor analysis repeated. Q12 and Q5 were also excluded from the analysis because of their low factor loadings. SPSS computed two factors but again the second factor has only one item therefore this factor (composing Q13) was excluded from the analysis. At the end, one factor composing of 11 items was calculated as “job engagement” factor. Cumulative variance, reliability scores and factor loading are exhibited in Table 2.

Lastly, organizational justice scale items were entered to factor analysis. SPSS computed 2 factors as it is in Moorman’s original scale. One factor is “distributive justice” and second factor is “procedural justice”. Only one item (Q1) in distributive justice factor is excluded from the analysis since it decreases the reliability of the factor structure. In the literature, some researchers define “informational” and “interactional” justice as a separate factor from procedural justice whereas in this study informational and interactional justice is unified in one factor as “procedural justice”.

To test the explanatory power of independent variables on the dependent variable a series of multiple regression analysis were conducted. In the first analysis to test H1 (*organizational justice has a positive explanatory power on “creating facades of conformity” behavior of the employees*), procedural and distributive justice variables were regressed on first “masking true feelings” and secondly “being free of hypocrisy” factors of the facades of conformity behavior, so two regression models were tested. As the results indicate (see Table 1), procedural justice has a meaningful explanatory power on masking true feelings. The Beta co-efficient .549 which indicates a moderate to high impact of procedural justice on masking true feelings. The total explanatory power of the model (R square) is 30.2 %. These results verify the important contribution of procedural justice on creating facades of conformity. When it comes the second sub-component of creating facades of conformity “being free of hypocrisy” as it seen in Table 2, distributive justice has a meaningful explanatory power on this variable. The impact of distributive justice on being free of hypocrisy is (Beta coefficient) .348 whereas the explanatory power of the model is .113 (low-to moderate). These analyses proved the explanatory power of justice on creating facades of conformity and H1 is accepted.

Table 1: The Explanatory Power of Organizational Justice on Masking True Feelings

VARIABLES	R SQUARE	F	SIGNIFICANCE F	BETA	T	P
<i>VARIABLES THAT ENTERED IN TO THE REGRESSION</i>	.302	46,276	.000			
<i>PROCEDURAL JUSTICE</i>				.549	6,803	.000
<i>INDEPENDENT VARIABLES: Procedural and distributive justice</i>						
<i>DEPENDENT VARIABLE: Creating facades of conformity: "Masking true feelings"</i>						

Table 2: The Explanatory Power of Organizational Justice on Being Free of Hypocrisy

VARIABLES	R SQUARE	F	SIGNIFICANCE F	BETA	T	P
<i>VARIABLES THAT ENTERED IN TO THE REGRESSION</i>	.113	14,877	.000			
<i>DISTRIBUTIVE JUSTICE</i>				.348	3.857	.000
<i>INDEPENDENT VARIABLES: Procedural and distributive justice</i>						
<i>DEPENDENT VARIABLE: Creating facades of conformity: "Being free of hypocrisy"</i>						

In the second regression model, the explanatory power of organizational justice on "job engagement" was tested and distributive and procedural justice was regressed on job engagement. As it is exhibited in Table 3, procedural justice entered to the regression equation as the independent variable. The impact of procedural justice on job engagement is .348 and the total explanatory power of the model is 47%. Distributive justice together with procedural justice has no meaningful impact on job engagement; therefore, H2 is supported. That is organizational justice has a positive explanatory power on job engagement.

Table 3: The Explanatory Power of Organizational Justice on Job Engagement

VARIABLES	R SQUARE	F	SIGNIFICANCE F	BETA	T	P
<i>VARIABLES THAT ENTERED IN TO THE REGRESSION</i>	.469	97,994	.000			
<i>PROCEDURAL JUSTICE</i>				.348	3,587	.000
<i>INDEPENDENT VARIABLES: Procedural and distributive justice</i>						
<i>DEPENDENT VARIABLE: Job engagement</i>						

At last, mediating role of "creating facades of conformity" between organizational justice and job engagement was tested. According to Baron and Kenny's regression model, mediating analysis is done in 3 steps with a hierarchical regression analysis. First the impact of independent variable (organizational justice) on the dependent variable (job engagement) has to be tested. Secondly, the impact of mediating variable (creating facades of conformity) on dependent variable is tested and in the third step independent and mediating variables entered into the model together. If mediating variable has more impact than independent variable or the impact of independent variable decreases with the inclusion of mediating variable, we can say that there is a mediation effect. The steps of the hierarchical regression analysis were presented in Table 4. Creating facades of conformity especially masking true feelings sub-component has a very high explanatory power on job engagement and the explanatory power of the model is quite high (R Square: .621). Comparing the effect of organizational justice variables on job engagement, this impact is larger. In the last step of hierarchical regression, organizational justice and creating facades of conformity were entered to the analysis together. The variables which have a meaningful impact on job engagement are "procedural justice" and "masking true feelings". When entered to the analysis together with creating facades of conformity variables the impact of procedural justice does not change dramatically. The Beta impact of masking true feelings is larger than procedural justice, but the impact of procedural justice also protects its explanatory power. Without the contribution of creating facades of conformity, procedural justice still has a good explanatory power on job

engagement. This result shows us that creating facades of conformity doesn't have a mediating role on the impact of organizational justice on job engagement, therefore, H3 is rejected. However, organizational justice and creating facades of conformity can be taken as two important determinants of job engagement attitude.

Table 4: The Mediating Role of Creating Facades of Conformity between Organizational Justice and Job Engagement

VARIABLES	R SQUARE	F	SIGNIFICANCE F	BETA	T	P
<i>VARIABLES THAT ENTERED IN TO THE REGRESSION</i>	.621	84,442	.000			
<i>MASKING TRUE FEELINGS</i>				.771		.000
				.178	12,718	.004
<i>BEING FREE OF HYPOCRISY</i>					2,942	
<i>INDEPENDENT VARIABLES: Creating facades of conformity</i>						
<i>DEPENDENT VARIABLE: Job engagement</i>						
VARIABLES	R SQUARE	F	SIGNIFICANCE F	BETA	T	P
<i>VARIABLES THAT ENTERED IN TO THE REGRESSION</i>	.672	101,298	.000			
<i>MASKING TRUE FEELINGS</i>				.564	8,297	.000
<i>PROJEDURAL JUSTICE</i>				.367	5,398	.000
<i>INDEPENDENT VARIABLES: Creating facades of conformity sub components, Organizational justice sub-components</i>						
<i>DEPENDENT VARIABLE: Job engagement</i>						

Above all, the most important point is that what all these relations mean for the organizational practitioners and what the managerial implications of this study findings. One of the important finding is that the employees' fairness perception increases the level of job engagement is proved. Job engagement may be the last sustainable competitive advantage that post modern organization seeks and is an important social capital for the companies which create extra role behaviors and this performance can be reflected in the bottom-line results of the companies. It is an emerging psychological construct that purports to measure individuals' level of psychological presence at work. As it is stated in the literature part, engagement means more proactive, dedicated, creative and collaborative employees and companies need such employees to run their business especially in change processes. Employee contribution becomes a critical business issue because in trying to produce more output with less employee input, companies have no choice but to have engaged employees: energetic and dedicated employees who are absorbed by their work. It is clear that companies have to create justice climates for their employees in order to increase their engagement level and to take advantage of their human capital. For the future studies, some other variables such as the personality factors (self-efficacy, political skill, and core self evaluations) can be included into the research model.

In today's business world, employers and managers seek for trustworthy and reliable employees that they can count on, especially in difficult times such as organizational change; additionally they value effective workplace communication which is very important for smooth and efficient functioning of any organization; however, by creating facades of conformity, employees hide their true feelings from their colleagues. This action might be accepted as a negatory behavior. Additionally, by not expressing true opinions and feelings about their value incongruence or other personal concerns about the change might cause serious problems in the organization prospectively and abrogates the opportunity to fix the related problems and stimulate a healthy debate over the validity of the decisions. If employees create facades of conformity, their behaviors also signal some important and critical issues regarding to their work environment such as poor communication and mistrust

to others. Also, masking true feelings takes its toll on individual work related outcomes such as job engagement. The impact of creating facades of conformity on job engagement is also empirically proven in this study. If employees have an attitude to mask their true feelings, their level of job engagement decreases. Additionally, organizational justice also has a good explanatory power on creating facades of conformity. As no previous studies had tested the empirical associations between *perceived fairness*, this study is the first attempt to search this impact and found that perceived fairness has an effect on masking true feelings. Resistance to change literature explains that how people are treated and how the change is implemented can have considerable influence on employees. Research in organizational justice also has shown that when employees see themselves as being treated fairly, they develop attitudes and behaviors required for successful change - even under conditions of adversity and loss (Cobb et al., 1995). In contrast, when organizational decisions and managerial actions are deemed unfair, the affected employees experience feelings of anger, outrage and a desire for retribution (Greenberg, 1990). In our study it was expected to find a negative impact of perceived fairness on creating facades of conformity. Contrary to what has been previously explained for fairness in literature, this study found that perceived fairness has a positive impact on masking true feelings. It can be explained that if an employee was treated fairly or change was implemented equitably in their organization in the past, he or she would not express his or her contrariety by resisting and instead be patient and keep his or her silence by masking their real intention believing that things can change in a positive way or they can benefit from change one way or another without drawing any attention.

We believe that our study findings will have substantial importance for managerial roles within employee relations, human resources and management strategies. This study adds to the evidence the crucial importance of organizational justice in organizational change processes and employee attitudes towards change. The findings of this research will suggest that necessary footsteps should be taken prior and after the change in order to have a less confusing and more peaceful workplace and also to establish more supportive and trustable relationships between employees and managers.

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STRATEGIC CONTROL IN INTERNATIONAL COMPANIES: A CASE STUDY

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ABSTRACT

Globalization forces companies to look for new markets for their business. On one hand international operations enable companies to use their resources more effectively. But on the other hand, internationalization brings about number of problems associated with the strategic control of subsidiaries. In order to gain competitive advantage from the multinational scope of business, firms should secure the effective implementation of corporate-level strategies and policies while at the same time allow for the right degree of subsidiaries' autonomy. The paper presents the main results of an empirical research of forms and mechanisms of strategic control with respect to market and cross-cultural peculiarities.

INTRODUCTION

The strategic aspects of international development, globalization and the opening of new markets attracted remarkable interest of researchers. The problem of adjusting the firm-level strategy while entering a foreign market to the cultural peculiarities of the company's home and foreign cultures has been extensively studied (Barlett and Ghoshal 1995, Kogut 1985, Kogut and Harbir 1988, Levitt 1983, Ohmae 1990, Prahalad and Doz 1987, Duning 1993). The finding of this research was that international expansion strategy depends on several factors, both pertaining to the international context and company specifics.

Another research question that has been studied is "what occurs after the international strategy has been chosen and a company has already entered a new market?" A number of factors which influence behavior of companies after entering foreign markets have been identified (Ghoshal and Nohria 1993, Li 1995; Sharma 1998; Harzing and Noorderhaven 2008; Soledad and Mody 2004, Morrison, Ricks and Roth 1991). At the same time, the problem of executing strategic control of foreign subsidiaries in its relation to cross-cultural issues has not got appropriate attention in the literature.

Thus, the aim of this paper is to analyze, what forms and mechanisms of strategic control become more effective depending on the chosen strategy of international expansion, business environment, culture and market specifics.

THEORETICAL UNDERPINNINGS

Analysis of existing literature has shown that two aspects of company's international strategy dominate the interest of researchers: choice of international market entry strategy, including its organizational forms, and choice of company's strategic control of its international operations.

International expansion strategy

The decision on foreign market entrance strategy is made at the corporate level. International expansion is usually expected to promote profitability growth in the long-term. The use of advantages offered by operations on foreign markets may be favorable for the attainment of company's strategic goals. These advantages, which are unavailable to the companies working only in their domestic markets, are: economies of scale due to higher production and sales volumes and placing manufacturing facilities in the regions with lower costs. Nevertheless

not all companies make attempts to enter foreign markets. This is because such a strategy requires substantial sophistication of the company's management to handle the political and economic risks of working in foreign markets and of cross-cultural differences in management practices.

There are two main alternatives at the ends of the spectrum (with a number of intermediate options in-between) may be examined from the perspective of standardization of company's operations:

1. *Multinational strategy*, based on accounting for and using of peculiar national features of particular segments of the world market on which the company operates;
2. *Globalization Strategy*, based on application of standardized approach towards particular segments of the world market on which the company operates with only minor changes in products, services, policies and procedures.

The choice of strategy is determined by two major economic factors: the possible degree of standardization of the world market and the economies of scale for the product or service in question. The choice of one of these strategies is also based on the company's decision concerning the degree of core competences' centralization. This requires considering of opportunities for the coordination and management of administrative costs (Morrison, Ricks and Roth 1991).

On one hand, the strategy of the parent company can be focused on centralization of the basic functions in the head office, while delegating some authority to foreign subsidiaries. This approach requires accurate specification, what areas of responsibility need to be delegated to foreign subsidiaries.

On the other hand, the head office can distribute functional areas of responsibility between various countries in such a way that the competitive advantages of each subsidiary can be used in the most effective way. This approach involves the highest administrative costs. Moreover it requires a high level of complex integration mechanisms and also the sharing and supporting of the same organizational culture in all international divisions of a company.

The evolutionary approach to the study of international expansion strategies has been suggested by Birkinshaw and Hood (2001). According to this theory one can distinguish three stages of development of a company: paternalism, expansionism and liberalism. The paternalism stage (according to Birkinshaw and Hood this was typical for the first half of the twentieth century) presumes that a company innovates in the home country and then distributes new products and services to foreign subsidiaries. The expansionism stage presumes that innovation also occurs in selected foreign countries, but the task of identification and promotion of these innovations is assigned not to foreign subsidiaries, but rather to special "scanning units." Finally, the liberalism stage corresponds to the situation when valuable ideas can emerge anywhere in the world. The more distant is the subsidiary from the headquarters (HQ), the more their employees become less constrained by norms and belief structures of the parent company and thus more open to innovation.

Forms of strategic control

Companies may implement strategic control through Corporate Centers (CC), which in different markets play different roles. There are many publications, describing and analyzing roles of CC. Most of them, however, do not cover cross-border aspects of control (Goold and Campbell 1987, Johnston and Gill 1993, Simons 1994).

We are basing our further study on the work of Nathaniel Foote, David Hensley, Max Landsberg and Roger Morrison (2003). In their paper "Role of the corporate center" authors have suggested a set of distinguished roles that CC may play in the international activity of companies. These roles constitute a certain continuum.

On one pole there is the "Financial holding" role. A "Financial holding" type company consists of a set of independent business units that have weak communications with the corporate center. In this model the functions of the corporate centre include first of all of the financial control through the tasks of budgeting and careful profit and cash flows management. The role of the CC also includes hiring, performance evaluation and firing unit managers. Thus a head office does not attempt to co-ordinate activity of business units or to attempt to create any synergism between units.

On the other pole we find so-called "Operator" who usually develops only one line of business, but has some profitable divisions that either work in different regions, or produce different goods. Between these poles there are "Strategic architect" and "Strategic controller". Corporate center as a "Strategic architect", realizes two basic functions. First, it generates the general strategy while business units have freedom for development of their own initiatives. Second, it monitors the subsidiaries businesses, periodically initiating discussions concerning general strategy of divisions. The head office as "Strategic controller" focuses on careful and often functional analysis of business units' strategy and undertakes more efforts in achieving a synergy effect.

The choice of form of strategic control is influenced by set of both internal and external factors. First of all, the company, making the decision on the form of strategic control, appreciates international strategy as a vector of foreign subsidiaries' development. There are also other significant factors, such as market structure, power distribution between players, and general industry dynamics. However it is necessary to consider cross-cultural issues as they influence control implementation directly. In practice, it is usually not easy to specify a company as one belonging to the certain type as combined forms are often used. Moreover, forms of strategic control differ across the set of subsidiaries. In order to diagnose the form of strategic control one needs to analyze a company's internal processes and especially the mechanisms of control used with respect to a company's subsidiaries.

Mechanisms of strategic control

There are four different (although complementary) mechanisms by means of CC can assure that activities of different (included foreign) subsidiaries are in line with the strategy, targets, and standards of the mother company. These are: centralization of procedures (decision-making in the first place, but not only), formalization of procedures, output control and socialization of employees in different subsidiaries (Björkman, A., Piekkari, R. 2009).

Centralization means that certain processes are carried out exclusively at the parent company (in case of management — decisions are taken only at headquarters). This creates a number of advantages. First, CC may be sure that decisions and processes are in line with standards. Second, centralization may lead to higher efficiency of resources' utilization, as far as from the mathematical point of view, under conditions of perfect information any allocation of resources may be only equally efficient as centralized decision and never higher. Third, if there is a need to change the procedure in question, it may be done faster and cheaper. Fourth, centralization is an effective remedy against stealing resources, information drain and so on because it limits the number of employees involved. At the same time, centralization leads to longer decision-making cycles. It may lead to a lower quality of decisions due to the fact that not all information is available at CC and it is difficult, if ever possible, to take into account the entire specific circumstances of problem situations in each subsidiary. Centralization decreases the diversity of the company operations and thus makes it more vulnerable to certain risks.

Formalization stands for imposing of formal (written) rules, policies and procedures. Of course centralization may also be implemented through formalization (there is a document, stating that particular decisions have to be made by the CC exclusively). But there are numerous instances when the CC allows subsidiaries to make decisions by themselves but prescribe them how to act. So we have a distributed execution of standardized procedure. This creates the opportunity to take decisions faster and base them on more reliable information.

Output control means that subsidiaries are obliged to report certain numerical indicators to the CC. It differs from formalization also in the sense that while formalization attempts to control the process, output control concentrates on results. Generally speaking, subsidiaries are given more degrees of freedom. There is minimal need in training (what has to be reported and when, and what does it mean).

Finally, the CC may not want to decide everything, or to strictly prescribe how to act, or to control the results. Instead, it may attempt to encourage all employees to share the same goals, values and attitudes. This is in the long-run the most efficient way to assure the uniformity of operations across subsidiaries. It eliminates the need for strict control and extensive training not to speak about lengthy instruction manuals. Two-way information flows between HQ and subsidiaries are typical for this mechanism. But the reliability may vary and is always a problem. It is also time-consuming at the implementation phase: usually it is much easier and faster to issue another instruction rather than obtain changes in employees' behavior as a result of socialization. That is why it is usually combined with other mechanisms.

We have summarized different elements of international expansion strategy in Table 1.

Table 1: Different Elements of Company International Strategy and its Implementation

Types of international strategy	Stages of international operations development	Forms of strategic control	Mechanisms of strategic control

Multinational / Global	Expansionism / Liberalism / Paternalism	Financial holding Strategic architect Strategic controller Operator	Centralization Formalization Output control Socialization
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If a company chooses multinational strategy, most likely geographical expansion will have more features of liberalism, i.e. giving subsidiaries more freedom in decision-making. Consequently, a corporate center will play a role of “Financial holding” and strategic control will be carried out by certain indicators (output control). Otherwise, choosing globalization as company’s basic strategy, type of its international operations more likely will referred to as paternalism. In this case CC will act as “Strategic controller” or “Operator”, and operations will be centralized. Moreover, different aspects of subsidiaries’ activity may be controlled through various mechanisms. Certainly, there are cases when companies combine various strategies and forms of control to achieve competitive advantages through more flexibility on one hand, and alignment to internal processes on the other.

METHODOLOGY

In our research we have used various methods of data analysis. A methodology of this research is based on the single case-analysis (Yin 1994). Specific research tools included structured in-depth interviews with top and middle management, based on 60-questions questionnaire covering various aspects of the company activity and study of company primary documents.

COMPANY IN QUESTION

The object of this research is a multinational company (MNC), based in Finland and operating in some European countries including Russia. We have focused our research on the specific issue of strategic control of MNC’s Russian subsidiaries. The company has been working for 5 years on the Russian market through the set of subsidiaries registered under the Russian law. The company has significantly expanded its operation during this period. The MNC operates in a growing market sector which has not been impacted by cyclical effects. Even in the times of financial crisis the company has not does not stop its operations and even expects total profit growth, especially in Western Europe. The MNC operates on both the business to business (B2B) and business to government (B2G) markets. The main customers in Russian are business organizations and municipalities. One of the company’s clear advantages is its brand as an experienced, responsible and innovative expert in ecological services.

RESEARCH FINDINGS

In order to characterize the cultural peculiarities of the two nations concerned, we have applied Hofstede’s (Hofstede, 1980) cultural dimensions approach. According to Hofstede’s research of culture characteristics Russia and Finland are described by the following indicators

Table 2. Hofstede's Estimates for Finland and Russia

	PDI	IDV	MAS	UAI
Finland	33	63	26	59
Russia	93	39	36	95

Source: http://www.geert-hofstede.com/hofstede_dimensions.php

where PDI - Power Distance Index, IDV – Individualism, MAS – Masculinity and UAI - Uncertainty Avoidance Index. Both national cultures demonstrate high levels of uncertainty avoidance (UAI). Russia has presumably higher level of power distance (PDI) and masculinity (MAS).

The Russian market may be described in the following terms. While in the US and Western Europe the interest of enterprises and organizations in environmental certification is high, as it is a tool for gaining leadership in markets, Russian companies do not have a significant stimulus to acquire environmental certification of their production systems. The environmental legislation in Russia differs substantially from that in EU countries. In Russia the business of environment protection is concentrated basically in big cities and there are different rules in each region.

In order to identify particular features of the company's market environment that influence control implementation we have used Porter's Five Forces Model (Porter 2008). This model appears the most relevant for our analysis as it covers the most significant factors of the business microenvironment.

Consumers of service are basically municipalities. Although the MNC has corporate clients, the largest share of services falls on municipal bodies, such as housing service companies and city authorities. This influences company business processes, in particular processes of external communication with representatives of authorities.

Service quality significantly depends on subcontractors. In Russia the network of subcontractors in this sector is poorly developed. Basically these are former state enterprises which were fragmented during privatization. At the same time the small business sector on which the MNC interacts with in Finland has not yet developed in Russia. Therefore the mechanisms of interaction with suppliers needed to be adapted to existing Russian conditions. The MNC is compelled to make internal hires of employees instead of outsourcing services, which has been the MNC's common practice in other foreign markets.

There are significant *entry barriers* for potential competitors since there are close relations and trust on between the municipalities' top administrators and the MNC. The main customers of the MNC are city government where it provides services. Therefore it is very difficult for a newcomer to enter this market and to compete with companies that have entered it earlier.

It is difficult to name any *substitute of providing services*. Environmental services are peculiar enough by their nature. Therefore it is difficult to find services which could be regarded as substitutes. At the same time, power of this market force is insignificant.

The main *competitors* are municipal organizations. The MNC faces competition from other organizations having close connections with city authorities, but so far it is superior in its quality of services provided.

The MNC has an extensive document management system (DMS) including procedures for making all essential decisions that indicates timeframes, decision-makers, their discretion and their responsibilities. The MNC faces the problem of transfer of the DMS, originally developed in Finland, to Russia. Every mechanism of the DMS taken alone has both advantages and disadvantages, thus suggesting reasonable combination of them. This constitutes the first foundation for the subsequent analysis of DMS: we attempt to attribute every component of the DMS as a manifestation of our research framework regarding centralization, formalization, output control or socialization.

As far as the document is organized in line with such areas of the MNC activities such as management, DMS itself, finance, human resources, purchasing, communications and customer relations, it provides the opportunity to understand the application of various mechanisms in various areas. We have found that the use of mechanisms was not proportional across these areas. Some of them were better centralized, other — better formalized and so on (see Table 3).

Table 3. Mechanisms of Strategic Control, Used by MNC Across Areas

Area of activity	Dominant subsidiary control mechanisms
General management	Centralization, Formalization (in part)
Risk management	Centralization
IMS maintenance	Centralization, Formalization (in part)
Internal audit	Centralization
Control of documentation and records	Formalization
Finance	Output control, Formalization
HR	Formalization
Purchasing	Formalization
Communication	Centralization
Sales	Centralization
Brand management	Centralization

DISCUSSION AND CONCLUSION

One can clearly see from the table 3 that although formalization appears to be the very approach on which Finns and Russians are most prepared to agree and act together, it is definitely underused at the expense of centralization. This is not in line with the cultural peculiarities of the two nations. We have noted that in terms of CC-subsidiary relationships peculiarities of the Russian culture preclude lower tolerance to centralization but favors formalization. Output control appears to be underused as well.

High level of UAI means that in both countries employees have needs for rules and instructions. Thus there is a favorable outlook for the implementation of all types of formalization. At the same time, features of the Russian culture preclude Russian employees to focus on career development rather than quality of life to greater degree than their Finnish counterparts. Higher levels of remuneration are more important to Russians. Assertiveness is valued higher than intuition. Along with high PDI this means that an ideal manager is a kind of — “good father”, demanding, but caring. This implies high level of concentration of power in the hands of the subsidiaries’ CEOs. In terms of CC-subsidiary relationships it precludes lower tolerance to centralization.

The MNC operates Russian subsidiaries as its own internal divisions. But according to the Russian law the General Director of a Russian subsidiary possesses full sovereignty in his or her decisions. But according to the procedures adopted by the MNC the rights and responsibilities of the GD are considerably limited.

The general understanding from the series of interviews and documentation analysis is that the MNC is currently operating on the first stage of development in terms of geographical scope: the *paternalism stage*, at least with respect to Russian subsidiaries. In other terms, the MNC adheres to *globalization strategy* that means that the company adheres to centralization of its basic functions with certain account of local features, and also to distribution of elements of a value chain in various countries. This strategy requires coordination and integration of the overall value chain. If this requirement is realized successfully effective business processes can become a steady competitive advantage of the MNC. To keep the MNC’s strategy in line with its internal business-processes the CC likely plays a role of “*Strategic controller*”. The “strategic controller” is responsible for major investments, allocates resources, and coordinates subordinates to gain synergy.

This method of operation can be justified by the requirements of the initial phase of entering the Russian market. On the other hand, environmental services are characterized by strict legal requirements. Moreover the quality of service is difficult to determine. Consequently, a MNC which aspires to keep its reputation as reliable partner needs to supervise constantly both its own subsidiaries and external subcontractors. This provides additional justification for the choice of the globalization strategy.

The mechanism for decreasing administrative costs and transfer of resources and control over them was necessary for implementation of the MNC’s strategy, Therefore it is logical that the company aspires to document its internal processes to a greater degree. This is also in line with the role of the CC as “Strategic controller”. Nevertheless, in our opinion, some functions such as relations with municipalities (government relations) and marketing should be delegated to local managers as they understand the country and market specificity better than representatives of the head office (CC).

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U.S. CHAMBERS OF COMMERCE: MERELY SOCIAL NETWORKS OR VENUES FOR PROMOTING BUSINESS ETHICS?

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ABSTRACT

Chambers of Commerce will celebrate their centennial in America in 2012. William Howard Taft, the 27th president of the United States of America, spearheaded the foundation of this association of business people throughout the nation whose membership in 2009 numbers three million businesses, 3000 state and local chambers, and American Chambers in some ninety locations throughout the world. While Chambers of Commerce are well known for its promotion of social engagement, its role in the promotion of business ethics is not that clearly understood. There is no present research to indicate the Chambers' role in this important endeavor. This paper will study the history of the Chamber of Commerce in America and consider if, in fact, their important gatherings are strictly for social ends or also include ethical ends. If the former is the case, the paper will seek ways to enhance the Chambers' role in building upon its concern for ethics promotion.

INTRODUCTION

On a rather regular basis, business representatives throughout the world gather in public spaces to share in solidarity building corporate alliances. These gatherings might be seasoned with a speaker engaging the assembled in a particular topic and generally include some kind of hospitality to nourish body and mind. This is not the G-7 summit where world leaders come together to strategize on how to tackle pressing global economic problems. The meetings referred to here are assemblies of Chambers of Commerce, a group of committed women and men that meet in an agreed upon location "over a meal" for the sake of discussing critical issues effecting the local business environment.

Chambers of Commerce are legion; the numbers of cities that have a chamber of commerce are astounding. Yet, for the most part, the public assessment of this important civic group is suspect and their appreciation is minimal. Often, a given community's regard is a disinterested disposition for Chambers of Commerce have been reduced primarily to repasts and venues not necessarily for problem-solving or strategic planning. This paper seeks to rectify the popular image of the chamber of commerce. It will do this in three ways. First, it will review the history of the Chamber of Commerce highlighting some of the original purposes that Chambers were founded. Then it will isolate efforts presently underway by Chambers of Commerce. While the paper contends that Chambers of Commerce have gone awry when they veered off-course from their original navigation and somehow earned their rather unpopular designation as a lunch club, it will not focus attention on this issue. A cursory review of Chambers of Commerce websites can substantiate this in their advertising of afternoon meal or *social* networking opportunity. Finally, the paper will suggest ways in which to retrieve the foundational tasks of Chambers of Commerce and restore it to its rightful place as an unelected representative civic body that can attend to both domestic and international corporate concerns. This paper restricts itself to dismantling the popular notions of Chambers of Commerce being mere social networks in the United States, but with obvious deference to other countries for informational purposes.

HISTORY OF CHAMBERS OF COMMERCE

History records that the first chambers of commerce were founded in the late sixteenth century in Marseille, France and Brugge, Belgium. Across the Atlantic, an English-speaking chamber was being chartered in 1768 in the States in New York. By 1870, close to fifty Chambers of Commerce would be formed in this nascent land. Subsequently, others would be established in America all with the purpose of promoting free enterprise and assisting the public in expressing their economic concerns to the federal government. This advocacy role of Chambers of Commerce became particularly important after the Civil War. It was the New York Chamber of Commerce that took leadership in circulating a petition to repeal the income tax associated with the aforesaid war. In April 1871, Roscoe Conkling, a senator from New York, presented the New York Chamber's roster of signatures to the Senate while James Brooks, a representative from New York, did the same in the House. (Eddlem)

In the United States of America, the formation of a national chamber of commerce surfaced in 1911. In a December 1911 speech to Congress, the then-President William Howard Taft (1857–1930), early on in his term, expressed his concern for a "central organization in touch with associations and chambers of commerce throughout the country and able to keep purely American interests in a closer touch with different phases of commercial affairs." Taft's hope was realized the following year when in April 1912, over 700 representatives from commercial enterprises and trade organizations assembled in Washington, D.C. to form a cohesive group that would represent business interest. Thus, the beginning of the U.S. Chamber of Commerce, with its own headquarters, sanctioned by the federal government as a central force to encourage, extend, and defend rallying point for promoting and defending free enterprise and individual opportunity." The building, originally owned by early American pioneer Daniel Webster, has the words of a speech Webster gave in 1825, commemorating the fiftieth anniversary of the battle of Bunker Hill, Charlestown, Massachusetts, affixed to its wall:

Let us develop the resources of our land, call forth its powers, build up its institutions, promote all its great interests, and see whether we also, in our day and generation, may not perform something worthy to be remembered.

Some, like Eddlem, have suggested Taft's move to centralize Chambers of Commerce into a singular clearing house signaled the beginning of the end of the Chamber's role in challenging government and deferring to big business' strong arming tactics and efforts to lobby. They trace this evolution to Franklin Delano Roosevelt's "New Deal" that celebrated big government, grand deficits, and greater scrutiny of business. Part of Roosevelt's "New Deal" was the National Industrial Recovery Act which gave rise to the National Recovery Administration. It was disapproved by Congress, but the U.S. Chamber of Commerce supported the NRA built on Benito Mussolini's "corporatist economic plan" of state control. Henry I. Harriman, then-president of the National Chamber of Commerce at the time acknowledged the NIRA as a piece of legislation whose "sincere and probably effective efforts to coordinate and rationalize American industry along democratic lines and to assure economic security." (DiBacco, 225)

MEMBERSHIP AND STRUCTURE OF CHAMBERS

In 2009, the Chamber's membership includes over three million businesses, three thousand state and local chambers, 830 associations, and over ninety American chambers abroad all seeking to promote and extend democracy, individual opportunity, and free enterprise. Essentially a chamber of commerce is a networking vehicle for businesses, but more than just a lively exchange for the purpose of fostering individual corporate interest. In an ideal Chamber of Commerce configuration, all interested businesses parties would seek to build a dynamic corporate environment where all flourish. In this environment then, Chamber members would assemble on a regular basis to raise immediate and long-term business and consequent concerns and plan favorable responses. Ideally, they would not only attend to their important interests but serve as advocates for more economic just society..

Even with the large number of chambers and membership, the size of a chamber is not fixed. It can have a handful of people and extend to a magnificent group like Paris' which boasts over 300,000 and ones in China's which claim even larger membership. The composition of a chamber can be city or town, county, or regionally based, leading up to an international chamber of commerce. Chambers of commerce can work synergistically with local governments for economic development of area, for example in promoting tourism or establishing visitors' bureaus. There are also amalgams of chambers of commerce on state, national, and

international levels. For example, there is the Eurochambre, the International Chamber of Commerce (ICC), and American Chamber of Commerce Executives (Worldchambers).

With regard to structure, there is a hierarchy in Chambers that include a board of directors or executive council. This latter group of business people is charged with setting the agenda and outlining policy for a chamber. In turn, the board or council hires a staff to run the day to day operations. Staff responsibility involves assisting the board or council in setting agenda to tackle common economic concerns that effect the local and surrounding community. The board or council hosts the aforesaid networking opportunities to lead membership in a sensible about viable action steps to forge a hopeful economic future. This can involve engaging government officials and, where necessary, even involve overt political action. In some countries, Chambers of Commerce can assume an arbitrating role commonly the served by a “Better Business Bureau,” but this is not the case in the United States.

Chamber s are generally one of the following models: compulsory (public law), continental (private law), or bilateral. The United States and other English-speaking countries such as the United Kingdom and Canada are examples of the continental or private law model. Unlike in the compulsory or public law model, where corporations are legally bound to participate in the Chamber of Commerce, businesses in countries that subscribe to the continental or private law archetype are not obliged to join their Chambers of Commerce. In the interest of economic development, however, they are strongly encouraged. In this continental or private law arrangement, the relationship between government and corporations is consultative, at best. Often those with the loudest voice or largest membership are attended to.

The aforesaid model differs from the other two operative models. Those businesses in nation states that hold a compulsory or public law model, such as those countries that are part of the European union, have no choice but to become part of the Chamber of Commerce. The role of these Chambers is attentiveness to foreign exchange, mentoring, and offering some services to companies. Unlike the continental or private law model, businesses *must* be consulted whenever a change in legislation or alteration in commerce is considered.

Lastly, the bilateral Chamber of Commerce is comprised of both corporations and individuals from two different countries who seek to enhance the quality of business in each of their respective countries. Such is achieved through consideration of professional interests, bilateral trade agreements and investment prospectuses. This arrangement is often regarded as a “win-win” situation in an ideal relationship.

RECOVERING ORIGINAL PURPOSES

On paper, Chambers of Commerce seem like an ideal venue for not only assembling businesspersons but also strategizing how to respond to the pressing economic concerns of the local economy. The national Chamber of Commerce website (<http://www.uschamber.com/issues/default>) does list several critical timely issues that they are dealing with including counterfeiting and piracy; economy and taxes, health care; homeland security and defense issues; immigration; labor and workplace reform; and, retirement and pension issues. They attend to these and other areas closely linked to the American business by establishing policy committees, councils, and task forces. These groups formulate policy and lobby the federal and state government to support legislation that resolves pertinent issues. If a national Chamber can do such yeoman work, how can a local chapter be comfortable being a mere “lunch club?” This is not to say that some Chambers of Commerce have not done significant work. All is not in vain. Some Chambers have had more than just lunch at their meetings. Mark Van Fleet (18-19) notes some of the outstanding work of some of America’s Chambers in the last twenty years:

Among its various areas of focus, the Rochester Chamber has formed the International Business Council. Its backbone is the seminar program series. These seminars include topics such as doing business in Canada or the EC, foreign sales corporations, etc., as well as basic exporting seminars. The Chamber has gained recognition for its promotion of export services from many organizations, including the U.S. Department of Commerce's "E" Certificate for Excellence, and the Governor's Award for Achievement for Export from the state of New York.

The Greater Detroit Chamber of Commerce, in addition to its endeavors within the city of Detroit, is extremely active in developing international activities and trade promotion at the local level. Among the projects which it offers to members is the export leads program. The Chamber's Export Promotion Program has assisted hundreds of area companies with trade leads. For several years, the Chamber has been trying to identify foreign markets for their goods. Chamber research, trade missions, and access to the U.S. Department of Commerce's Trade Opportunities Program, or "Hot Tops," have served as valuable tools in identifying leads. The Chamber shares leads, free of charge, to help companies gain access to the international marketplace.

The US&FCS San Diego District Office cosponsors seminars and other trade-related activities with the Greater San Diego Chamber. The San Diego area has been pro-active in promoting international trade and in conducting surveys and innovative studies.

The World Trade Division of the Chicagoland Chamber of Commerce organized five committees to pursue international business activities in specific geographic markets, including Canada, Eastern Europe and the Commonwealth, Europe, Mexico and South America, and the Pacific Rim. The Chicago District Office is represented on all five committees and assists the groups in hosting trade delegations, sponsoring special trade events that highlight foreign markets, and educating local companies about the legal, economic, and cultural aspects of international markets.

These are positive signs that Chambers of Commerce can have a considerable effect on the economy and, in turn, the worker and workplace. More needs to be done. In reviewing the history of the Chamber of Commerce in America, its structure, and some of the moves already in place to make economic policy more just, it is hoped that more local and state Chambers take their own roles seriously and move from making meals to making moves.

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THE DYNAMIC EFFECTS OF ADVERTISING EXPENDITURES AND FIRM VALUE: AN APPROACH FOR THE CONSUMER DISCRETIONARY SECTOR

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ABSTRACT

This study has as its principal objective to analyze the relation among advertising expenditures, the business cycle and firm value. It is important to consider the dynamic effect of advertising expenditures. Data of American companies from the consumer discretionary sector from 1998 to 2007 were employed to test the relation through panel data technique. The results indicate a positive relation of advertising expenditures with firm value and their dynamic effects explains some aspects of the behavior of the consumer discretionary sector. The multidisciplinary character of this study points out congruence between marketing and finance disciplines.

INTRODUCTION

Nearly all marketing activities aim to increase sales and profits (Ambler et al., 2004). Many authors claim that expenditures on advertising are the most effective way to achieve such goals (Dekimpe e Hanssens, 1995; 2000; Gruca and Rego, 2005; Mela et al., 1997) for two reasons: First, advertising expenditures are generally greater than expenditures for other marketing activities (Aaker and Jacobson, 1994); second, its purpose of publicizing companies' goals and products fits a specific time period. This way, it can be considered as tangible (Graham and Frankenberg, 2000; Zinkhan and Verbrugge, 2000). Furthermore, advertising expenditure information is disclosed by publicly traded companies in their financial reports (Shah and Saeed, 2008).

Nevertheless, measuring contributions of advertising expenditures poses challenges to marketing executives who are constantly under pressure not only to perform those activities (Day and Fahey, 1988; Doyle, 2000; McNaughton et al., 2001; Rust et al., 2004; Zinkin, 2006) but also to demonstrate, as the pertinent literature demands, that advertising expenditures can be linked to firm value (Lehmann, 2004). Whatever else these pressures may mean, they definitely highlight the inadequacy of traditional performance measures such as market share and sales revenue to shed light on this question. The implication of this article is that finance literature ignores the contribution of marketing activities in the creation of company value. The financial approaches to advertising expenditures rarely involve trying to evaluate their benefits (Srivastava et al., 1998). However, Zinkhan and Verbrugge (2000) defend that marketing and finance have different lines of research, but the approaches are complementary. Lehmann (2004) adds that there is a gap being filled. Published material, particularly from the Marketing Science Institute (MSI) and from the Journal of Business Research (JBR), underlines the growing attention that this problem has been receiving.

This article intends to evaluate the marketing assets and activities from a financial perspective, hoping to reduce the lack of interaction between marketing and finance disciplines. It specifically analyzes the relation between advertising expenditures and firm value through an evaluation of dynamic effects of advertising expenditures on firm cash flow. It also considers the macroeconomic conditions that may influence the decisions of how much is to be spent in advertising.

By way of a multiple linear regression model using panel data, the article tests the relation between the advertising expenditures and their dynamic effects and the GDP (Gross Domestic Product) with firm cash flow. Quarterly data—from 1998 to 2007—are used, extracted from Capital IQ's database, which provides business accounting data on a quarterly basis. It uses a sample from the Consumer Discretionary sector of North American Companies, which is in line with what Chauvin and Hirschey (1993) indicate: Firms, in the consumer discretionary sector, have a greater advertising intensity than firms from other sectors. Being so, they are more appropriate for this research.

This article is presented as follow: In the next part we discuss relevant studies about advertising expenditures and firm value. In the third part we describe the methodology followed by the results. At the end of this article, we present the final considerations.

OVERVIEW OF THE THEORETICAL FRAMEWORK

The literature in the marketing and finance disciplines has an important role in determining the contribution of advertising expenditures to firm value. On one hand the marketing evaluates the contribution of demand to firm results and highlights factors that are important. On the other hand, finance concentrates on quantifying the impact of demand.

Research over the last decades indicates that to achieve superior performance, firms need to obtain a competitive advantage (Barney, 1986). According to Rao and Bharadwaj (2008) and Srivastava *et al.* (1998;1999) the marketing expenditures related to marketing assets, such as brand, client loyalty and new product development can create competitive advantage since they are difficult to replicate and the benefits last long. Erickson and Jacobson (1992) go beyond questioning how a company can obtain a competitive advantage over its competitor, for example, increasing advertising or research and development expenditures. In fact, many studies show that advertising expenditures are more important and effective in obtaining a competitive advantage (Dekimpe and Hanssens, 1995; 2000; Gruca and Rego, 2005), since they increase the potential gains of the marketing assets; (Mela *et al.*, 1997); they are generally greater than expenditures for other marketing activities (Aaker and Jacobson, 1994), and allow that marketing aspects become more tangible, since the expenses are apparent, disclosed, and defined in a specific time frame (Graham and Frankenberg, 2000; Shah and Saeed, 2008; Zinkhan and Verbrugge, 2000).

Doyle (2000) and Luo and Donthu (2006) stated that advertising produces multiple and simultaneous results, such as visible sales and positive product performance results; and non-visible impacts in client behavior and brand reputation. If applied together with research and development expenditures, advertising can accelerate cash flow, reduce its volatility and increase the residual firm value (Srivastava *et al.*, 1998; 1999). According to Vakratsas and Ambler (1999), advertising induces two effect types: the persuasive effect and low involvement effect. The first effect is more aggressive and can be perceived by the increase in sales through consumer purchase behavior. The second effect is defensive, since the idea of advertising is to maintain the product in the consumer's mind. In this case, the brand is preserved and the sales do not decrease. According to the authors, in the long term, both effects tend to generate firm value.

Finance literature that deals with marketing contributions emphasizes the quantitative techniques that allow an empirical investigation of its actions and activities (Zinkhan and Verbrugge, 2000). For example, Little (1979) presents a complete analysis of concepts and models. On one hand, marketing is concentrated on the client, brand and/or product, evaluated by market shares and sales growth. On the other hand, finance emphasizes the efficiency of marketing assets in working capital management, inventory, stock market prices, stockholder's equity, among others (Dekimpe and Hanssens, 2000; Zinkhan and Verbrugge, 2000). The data also influence both disciplines: marketing commonly examines a specific company at *firm-level* through time series analysis; finance commonly aggregates data by sector and/or activity or *industry-level* through cross-section or panel data techniques. Concerning the variables used in this study, finance research commonly selects advertising expenses as a proxy for marketing activities.

The phenomenon of advertising expenditures, according to Molinari and Turino (2006), has been traditionally analyzed in both microeconomic and macroeconomic contexts. Recent studies show that aggregating advertising

form and determining its effects on aggregate demand and on the economy can be evaluated by business cycle models. Molinari and Turino (2007) concluded that advertising affects aggregate demand and presents procyclical behavior and high volatility. Dixit and Norman (1978) stated that advertising affects consumer welfare and increases sales. In this case, advertising can be evaluated with respect to its effects on the matrix of consumption, leading to greater work force intensity. This work force involvement is triggered by consumption level dissatisfaction, when advertising is intensified. To reach a higher level of consumption, consumers tend to work more (Molinari and Turino, 2007). The effect of economic recession is highlighted in various papers. Picard (2001) indicated significant reductions in advertising expenditures during economic recession. During this period, print media are even more affected than electronic media, which appears to be intuitive, since the latter requires less investment. This author also shows that the tendency is to cut advertising expenses in recession time, however, those that kept or increased advertising during a recession period experienced sale increases in the short term. The literature is vast and controversial when discussing the causality between aggregated advertising, demand and the economy.

Among the studies presented above, methodology is determinant when evaluating marketing actions and firm value, especially advertising expenses. Economic aspects are also taken into account in the models. This kind of investigation is growing and currently is characterized by the demand for improved and sophisticated models of analysis.

DATA AND METHODOLOGY

The sample in this article was non-probabilistic, defined by the criteria of accessibility, comprised of North American companies listed on the *NYSE* or on *Nasdaq Capital Market*, of the *Consumer Discretionary* sector. The sample was extracted from Capital IQ's database (a division of *Standard & Poor's*) and totaled 545 companies from 1998 to 2007, on a quarterly basis. From the total of 545 companies, we worked with those that had complete and consistent available data for advertising expenditures for 10 years, that is, without missing values. Taking these criteria into account, the sample included 29 companies.

The financial variables in the model were: (i) Gross Profit; (ii) Advertising Expenditures; (iii) Total Assets and (iv) United States Gross Domestic Product. The variables were expressed in real terms, adjusted by the Consumer Price Index with base date of 4Q2007. In addition, to neutralize the effect of the firm size, the procedure presented the financial firm values (except for the GDP) as a percentage of the firm's total assets.

The quantitative data treatment includes multiple linear regression models using panel data. Panel data consider the variable in both time and space dimensions, highlighting some advantages: (i) it conjugates a diversity of individual behaviors, with the existence of dynamics of adjustment and (ii) it works with more quantity and variability of data. The panel data technique also separates the non-observed effect that affects the dependent variable. In this case, one estimates the fixed effect model. When the non-observed effect is not correlated with independent variables, it becomes a random effect model (Wooldridge, 2003). According to Wooldridge (2003), in applied studies, it is possible to decide about the fixed and random models without evaluating the correlation of the non-observed effect with independent variables, or even by the *Hausman Test*. When we consider the data collected as a non-random sample, it is normal to think of the non-observed effect as a parameter to estimate, using the fixed effect model, found in this study. The regression assumptions were tested to assure unbiased estimators. In case of violations, proper adjustments were made.

Hypotheses

Based on the difficulty of evaluating the contribution of marketing expenditures on firm value, the current concern among professionals in this area, the hypothesis of the model can be stated as follows: that marketing expenditures, represented by the advertising expenses, have a positive relation with firm value, considering the dynamic effects of those expenditures and business cycles.

Model Specification

The study first assumed that cash flow, a parameter employed to calculate firm value, is based on the value of net revenues less the costs of goods sold and advertising expenses, following Nguyen (1985):

$$\pi = pQ - cQ - Adv \quad (1)$$

where: π - cash flow ; p - unit price; Q - units sold; c - variable costs; Adv - advertising expenses.

The equation (1) defines the cash flow (π) as being represented by net revenue (pQ), excluding the variable costs (cQ) and the advertising expenditures (Adv) during the period. We highlight that the inclusion of fixed costs is not necessary in this case, since the main goal is to capture the effect of advertising on sales, excluding the effects that generate them.

Feichtinger et al. (1994) and Molinari and Turino (2006; 2007) state that marketing activities are designed to generate demand for the firm's products, while production policies are created to satisfy this demand and minimize variable costs. Being so, the first change suggested in this study is that cash flow has two effects: first according to Nguyen (1985) and Feichtinger et al. (1994), is the internal effect of advertising expenditures to increase the volume of sales. The second is the effect of business cycles, given by the gross domestic product, considered as an external factor that affects sales without control by the firm. To analyze these effects, we assume that price is constant. The relationships of advertising expenditures and business cycles with firm cash flow is first presented as:

$$\pi = f(Adv, GDP) \quad (2)$$

According to Little (1979), Molinari and Turino (2006;2007) and Nguyen (1985), the effect of advertising expenses has a dynamic characteristic, it means that, spending an amount today, the effect can last into future periods. One can notice the dynamic effect through lags. Being so, it is possible to analyze the relation of the lagged advertising effect in a firm's cash flow, together with the suggested internal and external effects, mentioned above. Therefore, the relationship can be expressed by a dynamic model:

$$\pi_t = \alpha + \sum_{n=0}^{\infty} \delta_n Adv_{t-n} + \sum_{n=0}^{\infty} v_n GDP_{t-n} + \sum_{i=2}^4 \phi_i Saz_i + u_t \quad (3)$$

where: Saz_i - seasonal *dummy* as $i=2, 3$ and 4 , representing the 2nd, 3rd and 4th quarters, respectively; u_t - idiosyncratic error or error term.

ANALYSIS AND RESULTS

To obtain evidence about the relation of the advertising expenses impacts on firm value, considering the dynamic effect of these expenses and the business cycles, a multiple linear regression model was applied with panel data according to equation (3). The obtained results are:

$$\pi_t = -0.0147 + 0.166Adv_t + 0.136Adv_{t-1} - 0.104Adv_{t-2} + 0.678Adv_{t-4} + 0.010GDP_t \quad F_{statistic} = 81.323 \quad R^2_{ajust} = 0.717(4)$$

(0.009) (0.003) (0.002) (0.005) (0.000) (0.004) (0.000)

An initial analysis refers to the significance of the model ($F_{statistic}=81.323$; $p_{value}=0.000$ e $R^2_{ajust}=0.717$). The results were analyzed at a significant level of 5%. The model was adjusted for heteroskedasticity. The *Durbin Watson* = 1.99 shows the no residual autocorrelation. The p_{values} are shown in parentheses, below the constant term and variable coefficients.

The regressions indicate that the effects of the advertising expenses of the same period ($+0.166Adv_t$) are positive on cash flow, as well as same period gross domestic product ($+0.010GDP_t$). The one period lagged advertising effect ($+0.136Adv_{t-1}$) and the four period lagged advertising effect ($+0.678Adv_{t-4}$) are also positive. However, the two period lagged advertising effect is negative ($-0.104Adv_{t-2}$). The dynamic effect of three period lagged advertising expenses, as well as those of the seasonal *dummies*, is not significant.

The positive effect of advertising expenses in the same period is intuitive and can be even stronger depending on the advertising content. For example, if there is a price promotion, this effect is strong in the short run, meaning that the cash flow effect can be observed in the same period that the expenses occur (Dekimpe and Hanssens 1995; Mela *et al.*, 1997). The persuasive effect can also be observed (Vakratsas and Ambler, 1999). The one period lagged advertising effect ($+0.136Adv_{t-1}$) is also intuitive, especially in that the coefficient value is lower than that of same period expenses ($+0.136 Adv_{t-1} < +0.166 Adv_t$). This result accompanies the *goodwill* theory (Clarke, 1976, Dekimpe and Hanssens, 1995; Little, 1979; Mela *et al.*, 1997). The four period lagged positive advertising effect ($+0.678Adv_{t-4}$) can be explained by the fact of the repetitive main dates of consumption such as Christmas, Thanksgiving, birthdays, commemorative dates like Mother's, Father's and Valentine's Day. If the advertising was really effective, it will have a repetitive effect in the following year's quarterly consumption. The effect can be even stronger, or have a double effect, highlighting the magnitude of this coefficient, since it is a result of a positive image provided by the company's advertising expenditure as well as on positive experiences clients in a previous year, adding to the fact that today the company still has a positive image (*Feedback Effects*) (Bass 1969). On the contrary, even having a positive experience in a previous year, if the company does not keep a positive image today, the consumption may not repeat itself. This result also presents evidence about client repetitive purchase behavior and a low involvement effect (Vakratsas and Ambler, 1999), where the intention of advertising expenditures is to keep the product's image in the client's mind for a longer period.

The two period lagged negative advertising effect indicates that it is really an expenditure without a two period lagged contribution to firm cash flow. This result denotes that advertising campaigns can have a promotional character, with an immediate effect in the current and next quarters linked to price promotion. If this short term character is true, the longer lagged period effects appear to be negative (two quarters) or insignificant (three quarters). The positive four quarter lagged effect reflects the repetitive major dates of consumption and a positive image effect.

SUMMARY AND CONCLUSIONS

Though the regression analysis stated, we found evidence of the relationship between the advertising expenditures and firm value in the Consumer Discretionary Sector. The results indicate a positive effect of advertising expenditures and GDP in the same period on firm cash flow. A first period lagged effect showed to be positive; however, a two period lagged effect showed to be negative. The positive effects in the same and next period showed that the advertising expenditure has a promotional character and a short term impact. The explanation of the four periods lagged positive effect may be found in the positive image provided by the firm advertising expenditures as well as on positive experiences clients may have had in a previous year. It also includes the effects of shopping on special dates such as Christmas, Thanksgiving, Mother's Day, Father's Day and Valentine's Day. But the two periods lagged negative effect needs further explanation. In this time frame, previous advertising expenditure can be seen as a real expense that did not contribute to cash generation. This may result from the fact that the advertising expenses, if promotional, caused positive effects basically in a very short term, changing into a negative effect after two quarters. Even if the character of the advertising was taken to be institutional, the negative effect could be explained by higher than necessary advertising expenditures.

In sum, the results indicate that advertising expenditures bear a positive relation to firm value through their impact on cash flow. The dynamic effects observed explain some characteristics of the consumer discretionary sector. Consequently, this study provides support to a more convergent view of both marketing and finance as disciplines. It is also expected that the marketing executives may benefit from the results presented and find a different and more appropriate alternative to justify their advertising expenditures over time.

The objective of this study was to highlight evidence of the relation of advertising expenditures to firm value. The results also could help to answer some questions raised by marketing executives related to this issue. This study aimed to corroborate the relevance highlighted at the beginning of the work, especially concerning the

dynamic effects of those expenditures and the uncertain variations of economic activity. Finally, the study attempted to improve the interface between the marketing and finance disciplines.

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AN APPLICATION OF FUZZY SETS IN ORKUT USABILITY

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ABSTRACT

Nowadays, This paper presents a methodology using Fuzzy Sets aimed at future comparison studies of statistical packages. Such methodology was applied in order to obtain the usability of the Orkut Social Network Website. Users' opinions were collected through questionnaires, which provided the preliminary values of the usability of this site. In order for the initial result of our research to be scientifically achieved, the universe of users to be studied was limited. So, the research was centered on the graduate student users of the business administration course of IBMEC-RJ. The methodology employed hereby is innovative as was developed by a 25-member study group at Ibmecc-RJ in 2006 using the fuzzy logic to process the information collected and to present a final result for usability.

INTRODUCTION

The need for information quality makes software tools an underlying part of information systems. Such tools are a great means of production of both academic and non-academic papers.

Currently, Teaching and Company using information technologies take part in people development and, therefore, in the development of nations. Nevertheless, their implications, limitations, possibilities and specificities must be considered.

The impact prompted by computers onto the Teaching system and the Society is imminent. Over the past twenty years, the computer is known to have become an ever-integrating part of everyday life Brazilians. On a daily basis, more and more computerized devices are launched in the market – just remember what certain appliances, vehicles, telephones and even the computer itself were like some years ago.

This paper is intended to assess the operating system of Orkut website from the viewpoint of its usability, that is, its ease of use, the efficiency and effectiveness in performing its tasks as well as in the final satisfaction the system provides its users with.

SYSTEMS USABILITY

Usability is aimed at designing systems interfaces that allow for easy, pleasant, efficient and effective interaction. Such interaction must provide the skills for building transparent interfaces so as not to render the use of it difficult, thus enabling users to have full control of the environment without becoming a hindrance during interaction.

When a system has a user-friendly interface and enables the user to use it intuitively, usability may become a factor of motivation and have its user as an ally; whereas in case such motivation is not achieved, that situation might revert and become a factor of rejection on the part of the system (PRESSMAN, 1992)

Several techniques exist for assessing systems usability: those based upon questionnaires applied to the users, those based upon formal models, knowledge basis, checklists, interaction essays or monitoring systems (CYBIS, 2003).

In the case of software already existing and being used, the most adherent technique is that of questionnaire application, since nobody else is better qualified than the users themselves to give an opinion about the usability of the system. They are the ones who keep an everyday contact with the system.

THE FUZZY LOGIC

The first notions of the Fuzzy Logic were developed by Jan Lukasiewicz (1878 – 1956) in 1920. Instead of using rigid rules and a line of logic thinking based upon premises and conclusions, Lukasiewicz attributes levels of pertinence $\{0, \frac{1}{2}, 1\}$ to classify vague and inaccurate concepts. A short time later, he expanded that set to all values contained in the interval $[0,1]$. Yet, the first publication on Fuzzy Logic dates back to 1965 by Lotfi Asker Zadeh, a professor at the University of Berkeley, California (CEZAR, MACHADO and OLIVEIRA JR., 2006).

The power of the Fuzzy Logic stems from its ability to infer conclusions and generate replies based on vague, ambiguous and qualitatively incomplete and inaccurate information. With this regard, the fuzzy systems have the ability to ‘think’ in a very similar way to humans (OLIVEIRA JR., 1999).

The fuzzy logic is based upon the theory of the Fuzzy Sets. This is a generalization of the Traditional Sets theory to solve the paradoxes generated from the “true or false” classification of the Classical Logic. Traditionally, a logical proposition has two extremes, namely: either “completely true” or “completely false”. Nevertheless, in the Fuzzy Logic, a premise ranges in the ‘true’ level from 0 to 1, causing it to be partially true or partially false. Upon the implementation of the “true level”, the Fuzzy sets theory expands the Traditional Sets theory. The groups are labeled qualitatively (by using such linguistic terms as: high, warm, active, small, near etc.) and the elements of these sets are characterized by varying the level of pertinence (a value that indicates the level at which an element belongs in a set). For example, temperatures between 30° (thirty degrees) and 40° (forty degrees) belong to the “high temperatures” set, although the 40° temperature has a higher level of pertinence in this set (OLIVEIRA JR. et al, 2007).

In a way that is not well understood, humans have the capability to associate a level of pertinence to a certain object without understanding consciously how to reach it. For example, it would not be difficult for a student to assign a level to the teacher in the “good teachers” set. Such level is achieved immediately with no conscious analysis on the factors that influence such decision (CEZAR, MACHADO and OLIVEIRA JR., 2006).

The level of association is not probability! Basically, it is a measure of the compatibility between the object and the concept represented by the Fuzzy Set. For instance, number 0.7 is the compatibility of the 35° temperature with the definition of the Fuzzy Set for high temperatures. That figure (0.7) is not the probability of 35° being a high temperature, for it is already defined as 35° (CEZAR, MACHADO and OLIVEIRA JR., 2006).

The conventional systems theory is based upon algebraic, differential or difference equations (“crisp” mathematical models). For some types of systems, mathematical models can be obtained such as the electromechanical models, since the laws of physics behind the process are well-understood and well-defined. However, on a daily basis, we come across countless practical problems, whereby an acceptable level of information required for the physical modeling to be made becomes difficult to obtain. Moreover, such task is time-consuming and costly. These systems can be found in chemical and food-processing industries, in financial institutions, in biotechnology, amongst other areas. A large part of such systems can only be obtained through the knowledge of specialists who directly take part in the process under consideration. That knowledge, very often, may be vague or inaccurate to be expressed by mathematical models (BARRETO, 2001).

METHODOLOGY

This paper carries applied research characteristics, since it aims at using an actual case to base its analysis upon. The applied research is prompted by the need to solve concrete problems with a practical purpose (VERGARA, 2000).

The system chosen was that used in the Orkut social network website. That website is a virtual space that allows for interaction of millions of people through many different media such as texts and pictures. Since it gathers millions of people in that virtual network space, studying it becomes important as a way to better assess the quality of that virtual networking.

A questionnaire was applied in order to assess the usability of the Orkut in a sample of 18 student users of the second term in the Business Administration and Systems Administration of Ibmecc-RJ in late 2006.

In order to assess usability, the first step was to refer to the ISO (International Organization for Standardization), which establishes that standardization is one of the items considered with regard to software quality through its standards 9126 and 9241.

The ABNT (Brazilian National Standards Organization) is the official agency in Brazil accountable for the discussion and edition of technical standards in the country. It is the representative of ISO in Brazil.

However, the ISO standards do not carry a set of criteria or metrics to assess systems usability. For that reason, the metrics used in this study will be those presented by Santos (2007), who established a set of metrics to assess system usability on the basis of a review in the Brazilian literature of scientific bases between 1995 and 2006.

According to Santos (2007), the metrics considered for usability assessment as well as those to be used in this research are as follows:

- Ease to learning
- Ease to remembering
- Error control
- Efficiency
- Effectiveness
- Satisfaction

Ease to learning or intelligibility, according to the ISO 9126 (2003), is the capability of the software to enable the user to learn how to handle it.

Such metrics is being assessed in accordance with the following constructs:

- A) User's ease to complete a task for the first time;
- B) The user's first impression upon using the system;
- C) The number of attempts into learning how to complete a task;
- D) The time required to learn how to accomplish a task successfully;
- E) User's ease to learn a task;
- F) The number of different possibilities the system provides in order to accomplish the same task; for example: standard path versus shortcut keys, shorter paths, macros, specific keys etc;
- G) Productivity gain in relation with the quickest way whereby the user manages to accomplish a task in comparison with the standard way the system offers by default;
- H) The flexibility of the system to carry out tasks in different ways such as: shortcut customization, values, menus, macros etc.;
- I) The capability of the system to guide through its execution with hints, help, warnings etc;
- J) The speed to accomplish a task successfully in the system for the first time.

The ease to remembering, according to Nielsen (1993), assesses the functionalities of the system so they are easy to remember, even after their not being used after some time and without the need for new coaching.

This metrics is being assessed according to the following constructs:

- A) Remembering how to perform a task after some time without using the system;
- B) Ease to remember how to use the system;
- C) Agility to remember the system's use after some time without using it.

Error control, or operability, according to the ISO 9126 (2003), is the capability of the software to enable the user to operate and control it.

This metrics is being assessed by the following constructs:

- A) The amount of errors provoked by the system;
- B) The time elapsed before the system resumes normal operation when an error occurs;
- C) The feeling regarding the amount of errors provoked by the system;
- D) Re-work due to the amount of errors provoked by the system, which causes some loss of information;
- E) The time spent until the task is resumed from the point it stopped when an error occurs;
- F) Satisfaction regarding recovery from error on the part of the system undo, redo, return, save before shutting down etc.;
- G) Clarity of error messages presented by the system;

Efficiency, also called operability, according to the ISO 9126 (2003), is the capability of the software to enable the user to operate and control it.

This metrics is being assessed by the following constructs:

- A) System performance;
- B) Swiftness to accomplish tasks;
- C) System productivity;
- D) Keeping the system under control.

Effectiveness, according to Quesenbery (2001), assesses how the tasks were exactly accomplished and how often they produce errors.

This metrics is being assessed by the following constructs:

- A) Amount of steps required to accomplish a task;
- B) The time required to accomplish any task in the system;
- C) The appropriate number of steps required to accomplish a task in the system.

Satisfaction, or attractiveness, according to the ISO 9126 (2003), is the capability of the software to attract the user, to be pleasant.

This metrics is being assessed by the following constructs:

- A) Interaction with the system's interface;
- B) Accomplishment of tasks in the system regarding the clarity of the messages, error recovery etc.;
- C) User's feeling upon using the system as whole.

After collecting the data and consolidating users' opinions, a methodology was applied using the Fuzzy Logic in order to find a fuzzy triangular figure resulting from the frequencies of users' opinions for the set of constructs making up the metrics being assessed.

The fuzzy triangular figures are special fuzzy numbers with two very important characteristics, namely: MODA and AMPLITUDE. Moda represents the value of the fuzzy number the pertinence of which is equal to 1 (one). Amplitude is half the base of the fuzzy number and represents the interval of confidence of that number. Amplitude is inversely proportional to the confidence in the value of the pertinence function (BRAGA, BARRETO & MACHADO, 1995).

The Likert scale was used for the reply to each question (MATTAR, 1997). The size of the Likert scale used to measure usability was five points: (from Very Low to Very High).

RESULTS

The statistics to the opinions answered in the questionnaire filled out by the 18 users as well as the description of the basic statistics a presented below. After that, the resulting fuzzy triangular numbers for each metrics and the interpretation for them are presented.

Statistical Description of the Sample

For the 'ease to learning' metrics, as per Table 1, considering this system is used for teaching statics to beginners, it can be noticed that the system's interface has one discreet 'ease to learning'.

Table 1: Sample results for the 'ease to learning' metrics

Construct	1 (Total Dissatisfaction)	2	3	4	5 (Total Satisfaction)
A	0%	4%	14%	50%	32%
B	0%	0%	39%	57%	4%
C	0%	4%	25%	50%	21%
D	0%	7%	32%	46%	14%
E	0%	4%	14%	64%	18%
F	4%	39%	18%	21%	18%

G	0%	11%	39%	39%	11%
H	4%	18%	39%	36%	4%
I	4%	21%	39%	25%	11%
J	0%	18%	29%	50%	4%

For the ‘ease to remembering’ metrics, according to Table 2, by observing that Table separately, the users show certain ease to remember actions accomplished by the system, but it is still very little.

Table 2: Sample results for the ‘ease to remembering’ metrics

Construct	1 (Total Dissatisfaction)	2	3	4	5 (Total Satisfaction)
A	0%	0%	14%	36%	50%
B	4%	4%	11%	43%	39%
C	0%	0%	7%	39%	54%

For the ‘error control’ metrics, according to Table 3, apparently, the users have a mean level of satisfaction.

Table 3: Sample results for the ‘error control’ metrics

Construct	1 (Total Dissatisfaction)	2	3	4	5 (Total Satisfaction)
A	4%	32%	50%	14%	0%
B	0%	43%	39%	18%	0%
C	18%	43%	29%	11%	0%
D	7%	29%	29%	18%	18%
E	7%	36%	46%	11%	0%
F	7%	32%	36%	25%	0%
G	4%	14%	61%	21%	0%

For the ‘efficiency’ metrics, as per Table 4, apparently, the users have a mean level of satisfaction. The disproportionality amongst the analyzed constructs can be further observed: construct A tends to total dissatisfaction, construct B tends to total satisfaction and construct C lies in an exactly mean position. This demonstrates that, with regard to efficiency, the software is not very coherent, with a great variance in relation with the queries assessed.

Table 4: Sample results for the ‘efficiency’ metrics

Construct	1 (Total Dissatisfaction)	2	3	4	5 (Total Satisfaction)
A	0%	14%	50%	29%	7%
B	0%	11%	43%	43%	4%
C	0%	11%	14%	71%	4%
D	0%	14%	11%	64%	11%

For the ‘effectiveness’ metrics, as per Table 5, the users have a mean level of satisfaction.

Table 5: Sample results for the ‘effectiveness’ metrics

Construct	1 (Total Dissatisfaction)	2	3	4	5 (Total Satisfaction)
A	0%	11%	43%	43%	4%
B	0%	11%	14%	71%	4%
C	0%	14%	11%	64%	11%

For the ‘satisfaction’ metrics, as per Table 6, apparently, the users have a mean level of satisfaction. A chief issue is stressed out here concerning construct B, which tends to total dissatisfaction. The size of the sample must be increased before stating that the software should be improved with regard to this item.

Table 6: Results for the ‘satisfaction’ metrics

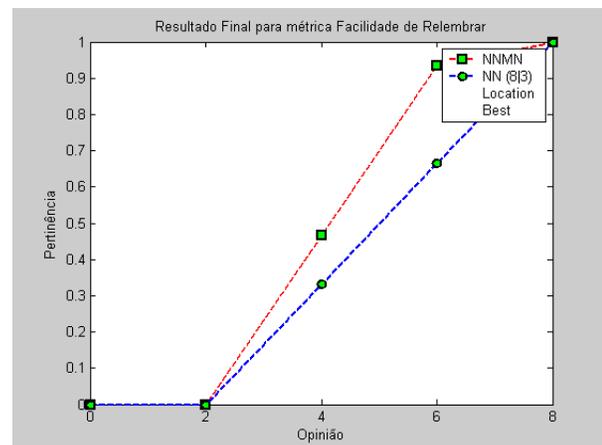
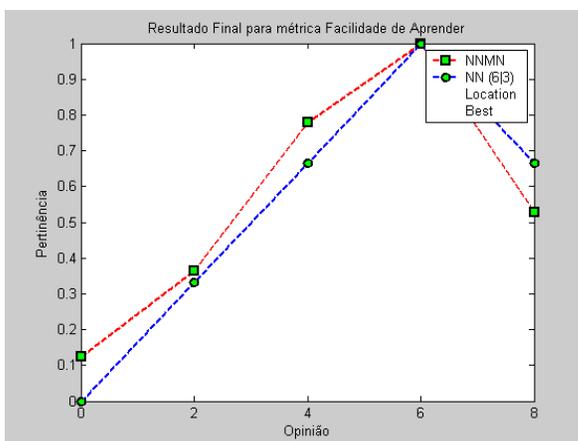
Construct	1 (Total Dissatisfaction)	2	3	4	5 (Total Satisfaction)
A	0%	7%	25%	61%	7%
B	11%	29%	43%	14%	4%
C	0%	7%	4%	71%	18%

Fuzzy Numbers

The calculations required for the analysis, using the fuzzy logic as from the results of the metrics, were made through the MatLab mathematical software, which generated the graphical results for each metrics under study. The graph presented for each metrics represents two sets. The first set, typified by a line with square-shaped markers, represents the fuzzy number (FN) for the mean of all frequencies found for the questions in the metrics. The second set, typified by a line with asterisk-shaped markers, represents the fuzzy number (FN) in the triangular shape more similar to the first set, which is the final result for the assessed metrics.

a) *Ease to learning*: The triangular fuzzy number obtained to measure the ease to learning is represented in Figure 1. It can be noticed that the mean opinion is 6 (high satisfaction) with amplitude 3, thus pointing to considerable dispersion according to the interviewees’ opinions. The results consider the ‘ease to learning’ metrics as good, but it is recommended to increase the sample and redo the calculation in order to achieve higher reliability in the result.

Figure 1 – Graph for the ‘ease to learning’ metrics Figure 2 – Graph for ‘ease to remembering’ metrics



b) *Ease to remembering*: The fuzzy triangular number obtained for measuring the ‘ease to learning’ metrics is shown in Figure 2. It can be noticed that the mean opinion is 8 (very good satisfaction) with amplitude 3, thus pointing to high dispersion according to the interviewees’ opinions. This was the best assessed metrics by the users of that software. The software can be said to be excellent regarding the ‘ease to remembering’ metrics. However, even with this result, the sample size has to be increased in order to reduce the result amplitude.

c) *Error Control*: The fuzzy triangular number obtained for measuring error control is shown in Figure 3. As opposed to the ‘ease to remembering’ metrics, it can be noticed that the mean opinion for Error Control is 4 (mean satisfaction) with amplitude 3, thus pointing to high dispersion according to the interviewees’ opinion. This was the metrics with the worst performance.

The system can be said to moderately adequate regarding error control and this item should get a greater focus for future improvements in the system. Even with such result, the sample size should be increased in order to reduce the result amplitude.

Figure 3 – Graph for ‘error control’ metrics

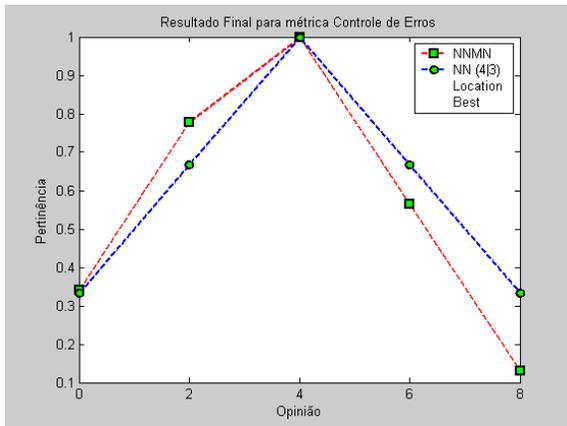
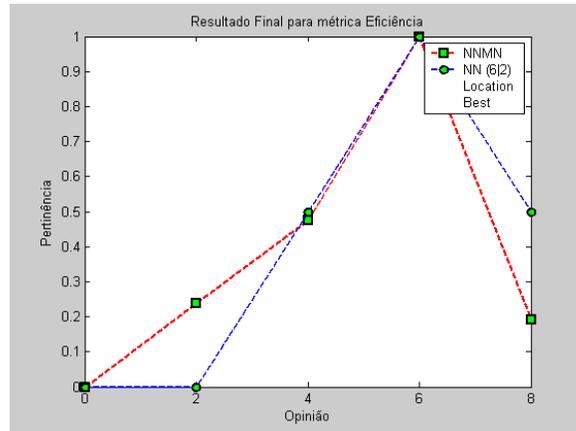


Figure 4 – Graph for the ‘efficiency’ metrics



d) *Efficiency*: The fuzzy triangular number obtained for measuring the ‘efficiency’ is shown in Figure 4. It can be noticed that the mean opinion is 6 (high satisfaction) with amplitude 2, thus pointing to low dispersion according to the interviewees’ opinions.

The system can be said to be well adequate regarding the efficiency.

e) *Effectiveness*: The fuzzy triangular number obtained for measuring ‘effectiveness’ is shown in Figure 5. It can be noticed that the mean opinion is 6 (good satisfaction) with amplitude 2, thus pointing to small dispersion according to the interviewees’ opinions. The system can be said to be adequate regarding the effectiveness. Moreover, since dispersion was small, this result can be assumed as having quality and being adherent to the universe of the research.

Figure 5 – Graph for the ‘effectiveness’ metrics

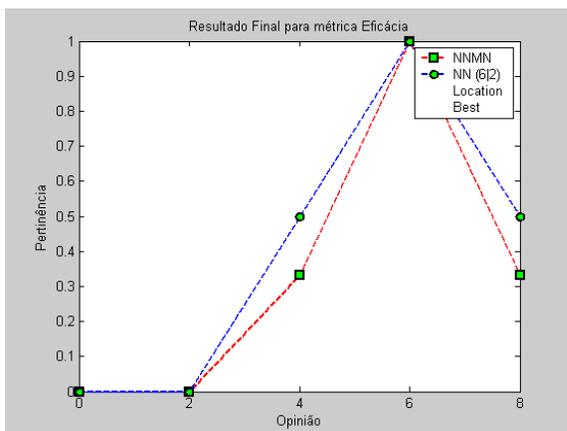
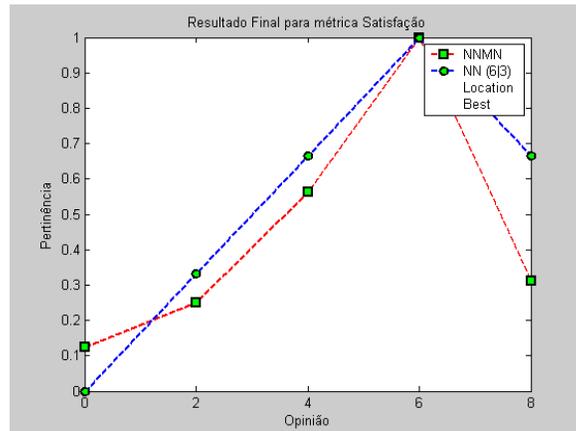


Figure 6 – Graph for the ‘satisfaction’ metrics



f) *Satisfaction*: The fuzzy triangular number obtained for measuring ‘satisfaction’ is shown in Figure 6. It can be noticed that the mean opinion is 6 (good satisfaction) with amplitude 3, thus pointing to high dispersion

according to the interviewees' opinions. The system can be said to be adequate regarding satisfaction. Even with such result, the sample size should be increased in order to reduce the result amplitude.

CONCLUSIONS

The results achieved through this study aim at presenting a new criterion for assessing systems usability. Depending on the system under analysis, that result can be interpreted as customer retention, profit increase, productivity increase, employee satisfaction, amongst other benefits.

In the case of Orkut, an easier system to use means fewer frustrations in the first few accesses to the website, thus leading to greater user retention as well as longer periods of connection at each access. These are contributing factors for the website to have even more users who interact better and better and more often.

After analyzing the partial results of this research, an assessment of Orkut usability was achieved, as per below:

- Users have a mean ease to learn how to use the Orkut;
- The users have excellent ease to remember how to use the Orkut, even after a given period of time has passed without them using it;
- The users appear to be dissatisfied regarding error control;
- The users found Orkut has good efficiency;
- The users found Orkut has good effectiveness;
- In general, the users were satisfied with using the Orkut.

With an aim at broadening the research, new opinions will be collected in the internet for other users of the Orkut throughout Brazil. In that case, there is an interest in segmenting the user samples by time of experience in using systems to verify whether the final satisfaction increases or not.

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IDENTIFICATION AND ELIMINATION OF CRITICAL COMPROMISES AS A PROGRESSIVE BUSINESS DEVELOPMENT STRATEGY IN UKRAINE.

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ABSTRACT

This paper develops a strategic framework for progressive business development in Ukraine based on a concept of identification and elimination of compromises. In some industries in Ukraine, particularly in highly competitive mobile services, low-cost strategy is a predominant competitive strategy. Although the industry evolved since its early days, the fundamental compromises of cost, service, and coverage have not been addressed by service operators. Authors suggest a strategic framework process consisting of four stages that would allow managers to focus on systematically identifying industry's critical compromises (or trade-offs) and on developing new business models to eliminate those critical compromises.

INTRODUCTION

Ukrainian business environment can safely be described as undergoing initial stages of formation. Market is still characterized by the basic process improvements aimed at developing better working relationships with customers and more comprehensive offerings of products and services to the customer. Methodologies for improvements (in processes, products, and services) are mostly copied from the Western business practices. For many companies it is a constant struggle to generate innovative ideas for developing new products and services, to find and establish new markets, to discover what customers want most.

Traditional understanding of the competitiveness was based upon assumption that a company would make their customer willing to accept a compromise in exchange for either better pricing, or faster delivery, or better quality. For the most part, companies have difficulties managing all three factors (price, time, and quality) and typically would offer their customer a choice of a compromise. Customer would select one of the three priorities they are willing to sacrifice, and the company would deliver on the remaining two. In their quest to find what customer really desires, most companies focus their innovative process improvement on finding compromises their customer is willing to accept.

Business strategies in many Ukrainian markets today could still be characterized by slogans of "Faster", "Stronger", "Higher", or "Cheaper". Companies would target one of the competitive priorities within their industry and focus their process improvements on achieving comparatively better results compared to the competition along the chosen priority. This leads to compromising the remaining non-targeted competitive priorities and ultimately, the customer must choose which competitive priority they must sacrifice in order to obtain product or service.

Few companies, however, are interested in finding out which types of compromises customers are not willing to accept. With the development of the global information networks, the necessity to compromise is becoming more of the past. Thus, progress could be described as moving beyond the limitations created by compromises. Progress in business development would be considered as the removal of the barriers created by compromises. In order to achieve such progress, critical compromises must be identified with the industry and eliminated through the development of new business-models or systems.

Progress cannot always be a one-way street to success. Progress may be associated with mistakes and losses. However, the primary difference between those companies that purposely pursue the strategy of progressive development vs. those companies that simply undergo intensive development is the ability of the former companies to turn their mistakes into new winning solutions.

Firstly, progress creators have the ability to learn from their mistakes and find new possibilities via systematic screening of their own mistakes and those of their competitors. This process is not just confined to the accumulation of an experience and enhancement of the knowledge-base. Rather, it is a process of developing new competences based on the analysis of the past mistakes.

Secondly, progress creators are capable of finding new possibilities that contribute to formation of company's improved competitiveness. These new possibilities often involve the identification of critical business's or industry's compromises followed by their systematic elimination. Identification of compromises is typically approached through answering a question of what customer is willing to deny themselves in order to obtain product or service. Thus, the process of identifying and eliminating compromises creates an additional value for the customer. Considering that the price customer pays no longer reflects the cost of the product or service, but rather their added value, companies that are capable of identifying and then eliminating compromises in their business model find themselves at a competitive advantage.

The process of elimination of a compromise requires a system-wide approach. It does not just involve replacing one element of the system with a different one. The process has to lead to a creation of new systems or business models. For instance, American company CarMax that sells used cars, changed used-car buying experience by switching to a fixed price no-negotiation strategy. Sales associates now receive bonuses based on volume of cars sold, which leads to an increase in the number of cars sold instead of increased selling price of the car, as it is widely accepted in the industry.

In this study, we build a strategic framework that should help managers in a process of developing a systematic approach to identification and elimination of business and industry compromises based on the specifics of Ukrainian business environment and consumer behavior.

NATURE OF UKRAINIAN MARKET

Ukrainian market generally is not ready to pursue the progressive business strategy associated with the identification and elimination of critical business or industry compromises with all its consequences. In some ways, Ukrainian business environment has a tendency to convince itself of the winning in a way of the progressive business development, while in reality, only few battles have been won. Thus, e.g., it can be seen everywhere, when Ukrainian companies claim they successfully created the "brand", while customers never heard of such a "brand"; when interview with one employee upon completion of a project is referred to as a systematic evaluation of the entire personnel; when change in the competitive tactic is referred as strategic elimination of compromises. Until companies start referring to their actions based on the reality, not on the complex fancy names borrowed from the Western business practices, it will not be possible to distinguish between the true progressive business strategy aimed at the removal of compromises and the various competitive tactics aimed at improving business development.

Table 1.

Intensive Growth	Elimination of Compromises
<i>System of knowledge Management</i>	<i>Management of successes and failures</i>
<i>Overly complex names of approaches, systems, processes, methods</i>	<i>Simple names, corresponding to realities of implementation</i>
<i>Trade-off between time, price, quality</i>	<i>Satisfying critical necessities, no tradeoffs</i>
<i>Discrete improvements</i>	<i>Systematic process of improvements</i>

In practical terms, it is not hard to see the difference between the strategy of elimination of compromises and the strategy of the growth through tactical actions aimed to promote business development (see Table 1). Consider, for example, a 16-year old teenage who gets a cell phone as a present with the contractual obligation for service with a mobile service operator X. Parents determine budget for the mobile phone. The budget is not big enough to allow the teenager to communicate with friends without restrictions. Thus, customer would have to choose among several compromises in order to be able to talk more:

- 1) Use phone only in emergencies and instead use text-messaging for communication purposes.
- 2) Sign up with several providers at favorable prices and exchange mobile cards all day long.
- 3) Economize elsewhere in the daily budget and save extra money to pay for the additional cell phone minutes.

Mobile service providers for the pre-paid customers focus on increasing ARPU (average revenue per user). They tend to entice customers to sign up with the services by offering lower prices, then attempt to sell them more content. Thus, along with the mobile service, customer often gets bundles of additional services, which are constantly being updated via new offers and new actions from the service provider. Although this strategy would promote growth, it is hard to agree that this approach would lead to the elimination of fundamental industry compromises for a mobile service customer (such as a teenager mentioned above), as well as to a progressive business development for the service provider.

HOW TO FIND WHICH COMPROMISE TO ELIMINATE?

With the increased competitiveness in most industries, the challenge of identifying which of the compromises to eliminate (or how to identify a critical compromise) becomes a major task in the progressive business development process. Below in Figure 1, four stages (which could be considered as guidelines) are proposed.

First stage: Internal focus – there is always a choice. Both the company and the customer have choices. Besides the three mentioned earlier priorities of cheaper product, faster delivery, and better quality, there are many other factors that account for customer’s selection of the product they choose to buy or the service provider they choose to buy it from. Among those are the factors of reliability, sincerity, impressiveness, novelty, etc. In addition, customers are often bound by the selection of “better among the worst”, or “the only attainable”, or “the first able to find”. By asking a question of what customer denies themselves when buying a particular product or service from the provider, company can identify those compromises that should be targeted for the elimination.

The development of the mobile services in Ukraine went through three phases of changes in the nature of the industry’s compromise:

- 1) Only one choice of service provider for a customer;
- 2) More than one service provider, all are expensive, but may be the service is better;
- 3) Many service providers, cheaper, but less coverage.

This process illustrates the first stage of the progressive compromise elimination process. Service providers simplify and optimize customer priorities by offering customers a choice of how to talk cheaper, with added convenience of a service and having an optimal coverage. Thus, the strategy of the progressive compromise elimination must be a winning strategy for both the company and the customer.

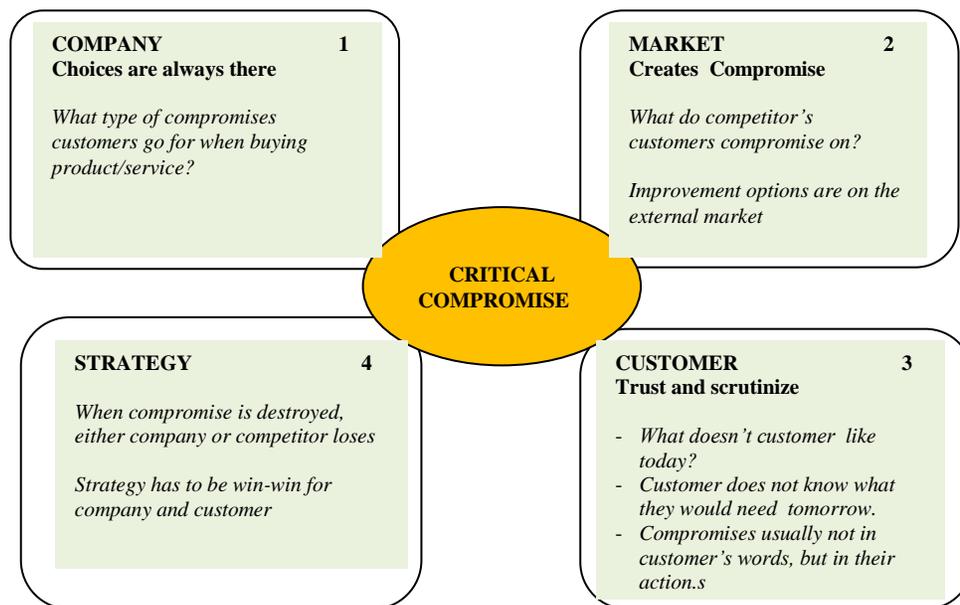
Second stage: External focus - compromises are created by the market. In Ukrainian mobile services, for example, the next critical compromise after the establishment of the mobile connections came in a form of a price for calls: “How much to pay for the calls?” Competitors, competitor’s product offerings, competitive struggles in the industry all create compromises. Consequently, search for the critical compromise to eliminate

should focus on external factors. In mobile services in Ukraine, for example, with the substantial increase in the number of service providers, the next attempt to eliminate a compromise became the price of calls to other service providers at the same rates. This could hardly qualify as elimination of the compromise since customer still has to choose what to spent money on and how to optimize expenses for their mobile services.

Third stage: trusting the customer but keep scrutinizing customer’s choices. This strategy is really aimed at understanding customer’s most intimate wishes that ultimately drive customers to their choices of product/service providers. Electrolux, for example, company known as a global leader in home appliance and electronics, asks their customers to install video cameras in their homes in order to observe how they use the appliance and what kind of compromises they make in using a particular piece of equipment.

Mobile service operators in Ukraine, for instance, achieved considerable progress in working with their customers. There are call-centers now, centers for servicing subscribers, and around-the-clock support. Operators discovered new possibilities in selling mobile content and banked on the new technologies to teach customers how to use these technologies and thus generate more revenues. This in itself does not represent an elimination of a critical compromise, rather a new direction in the strategy of generating new market demand.

Figure 1.



Fourth stage: win-win strategy. When the critical compromise is eliminated in the industry, someone has to lose. Every company would prefer if the loser is a competitor. Customer could become a loser if, for example, he/she accepts a compromise and decides to spend more money to talk more. Company might become a loser if it decides to partially sacrifice profits in order to increase market share or achieve status of the industry leader. However, not all strategies have to lead to losses. Win-win strategies are possible and the development of such strategies is the most crucial step in the successful industry development.

WAYS TO ELIMINATE COMPROMISE – MOBILE INDUSTRY SOLUTIONS.

In the mobile industry example, money seems to be the most critical compromise. Operators try to design their services with the goal of generating the most revenue from their customers, while customers try to optimize (or minimize) mobile services expenses. The two sides seem to be on the opposite sides, while the win-win strategy implies that the two sides are on the same side. How can a mobile operator earn money from the customer and at the same time partially reimburse the customer for the minutes used, while gaining a competitive advantage?

Ukrainian mobile operators started offering bonuses to customers for incoming calls. As it was mentioned above, elimination of business or industry compromises involves modifying existing systems and creating new business systems. While bonuses that Ukrainian mobile operators pay their customers for incoming calls are certainly an element of the system, they do not destroy the fundamental compromise. For instance, one possible scenario for eliminating the compromise between lowering company's expenditures vs. increasing ARPU is mobile advertising. Customer agrees to receive advertisement messages and is compensated by having an additional bundle of services. Thus, profit from advertising is shared between the operator and the customer. This would be an example of a new business-process.

Few companies in Ukraine are willing to look for the critical compromise either in their business or in the industry, and even fewer are willing to eliminate one. Unfortunately, long term strategies for business development do not prevail in the mobile service industry. Most mobile service providers are focused only on short-term profits, thus eventually losing customer's loyalty and trust. One mobile service operator in Ukraine, for instance, sends advertising messages to customers without customer agreeing to it. Profit from the advertising is not shared with the customer. The value system of this operator is clearly focused on short-term profit gains and completely ignores any possibility for developing long term relationships with the customer. Bad word-of-mouth about such advertising messages sent to people's phones at 3 am. spreads very quickly.

Scenario that would lead to progressive elimination of fundamental compromise in the industry would not involve a new set of actions or promotion from the company. It would have to involve creation of a new business system, system based on principals other than principles of compromise. This would be a new development process and being first always carries risks, however, benefits could be substantial.

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STRATEGIC DECISION MAKING IN TIMES OF GLOBAL FINANCIAL CRISIS

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ABSTRACT

The presented paper is a brief presentation of findings based on research lead on a group of small and medium businesses. The study has been made in conditions of global financial crisis and its effects, such as fall of production volumes in numerous companies. A number of indexes describing the actual economic situation and short – term prospects of discussed businesses has been presented to their medium- and high level executives in order to point out those most useful when taking strategic decisions. The sample structure consisted of companies with Polish and foreign capital operating locally and internationally. Obtained answers have been grouped in two sets accordingly to the actual situation of a given enterprise. The first group contains indexes preferably used by managers in times of economic instability, whereas the second group shows possible changes in preferences of economic indexes utility in times of prosperity. Research methodology included Delphi method and expert questioning for data gathering and Pareto – Lorenz analysis for interpretation of findings. The study ends with proposals of applications of research outcome into further research directed towards elaboration of a synthetic index facilitating strategic decision making in international companies.

INTRODUCTION

The ongoing financial crisis affects most of economies in the World. The effects of past investments into disputable financial instruments, such as subprime mortgages happened to be disastrous for various industry branches. Many companies, both operating locally and internationally, face serious problems – falling sales, lack of liquidity and personnel reduction being not the only ones to deal with. Additionally, fluctuating currency exchange rates in some Central- and Eastern European countries, i.e. Poland, cause strongly growing costs of foreign debt servicing. Together with lower income from taxes this causes higher budgetary deficit and social tensions. In such an instable situation any economic predictions or forecasts cannot be taken as a credible base for mid- and long – term strategic planning. As a result, decision making became much more difficult than in times of prosperity. This is the reason for which the author of the present paper has questioned decision - makers on various managerial positions which of the indexes describing the level of actual development of their businesses they take into account when making decisions in their everyday work. The present paper is a presentation of recent research led between medium and high level managers in chosen Polish and foreign companies operating internationally. The principal goal of this study was to find some common patterns and reasoning behind strategic decision making in times of economic instability in the World.

1. RESEARCH METHODOLOGY

The research methodology consists of two methods. The classical Delphi method is the first one, devoted mainly to data gathering and can be further divided into two stages. A brief description of Delphi – type questioning can be found below.

Literature studies provide various definitions of the Delphi method. Adler & Ziglio (1996) understand it as “...a structured process for collecting and distilling knowledge from a group of experts by means of a series of questionnaires interspersed with controlled opinion feedback”. Duval, Fontela and Gabus (1975) underline the value of expert opinions for decision – makers in a situation of permanent lack of full scientific knowledge in their daily routine. Helmer (1977) adds that “*Delphi represents a useful communication device among a group of experts and thus facilitates the formation of a group judgment*”.

The Delphi method is a tool of group evaluation of a given complex problem or task by a panel of independent experts, based on a set of criteria, common for all the questioned people. The problem is usually defined in form of one or more questionnaires. Several scientists described its main characteristics as “*anonymity, controlled feedback and statistical response*” (Adler & Ziglio, 1996, Dalkey, 1972, Fowles, 1978, Helmer, 1977). These features allow the experts to make their own independent evaluations, minimizing the risk of external influence. According to Fowles (1978) the classical Delphi process consists of following phases: 1. Team formation; 2. Panel and experts selection; 3. Development of first round Delphi questionnaire; 4. Questionnaire tests (formulation of questions, proper wording, etc.); 5. Expert answers for first round questionnaire; 6. First round response analysis; 7. Preparation and testing of second round questionnaires; 8. Expert answers for second round questionnaires; 9. Second round response analysis and repetition of steps 7 to 9 – if necessary; 10. Final report elaboration. It should be noticed that experts’ role is not to present the common statement based on a majority vote. The outcome of Delphi questioning comes in form of statistics, preferably presented in a graphical form.

A question about the number of experts to be involved into questioning seems to be crucial for obtaining stable and reliable results. Hanson & Ramani state that “*respondents to the questionnaire should be well informed in the appropriate area*”. Although some contrary opinions can be found in the literature, the author grants the reason to Hanson & Ramani. Scientific praxis allows ascertaining that a higher degree of expert knowledge allows the limitation of number of experts. Depending on the nature of study it can be even downsized to 5 highly qualified respondents, because any increase in number of completed questionnaires is not bringing meaningful changes in obtained responses.

The applications of Delphi method vary from academic research and education, through public health issues and economic forecasting understood as help for decision making, up to an exploration technique for forecasting of directions and trends of technological innovation as well as a tool enhancing discussions between experts (Cornish, 1977, Fowles, 1978 and Wissema, 1982). Recent applications focus on cross – impacts of analyzed events, which is also the case of the present study.

The second stage of data gathering is an evolution of Delphi method. It had a form of direct interviews with chosen experts in economic forecasting, business management and decision – making. The reason for additional questioning came from the specificity of research based on questionnaires. Although it proves to be very useful and an undisputable economic tool widely applied in various types of research, it limits the possibilities of answers to questions included in the questionnaire. Another reason is that an important part of questioned people tend to mark questionnaire answers only, without going into deeper explanations, despite the presence of “another” field meant for providing answers that have not been included in the questionnaire itself or for writing larger explanations.

The second method has been used for presentation and analysis of acquired data. As graphical form of presentation of results seems to be the most transparent, a modified Pareto – Lorenz Diagram has been chosen for this purpose. The Pareto – Lorenz diagram, known also as the ABC method, is based on a discovery of

Vilfredo Pareto stating that 80% of results is comes from only 20% of causes. According to Szumnarska (1996) *“The Pareto – Lorenz diagram [...] is applied to identify and measure the importance of analyzed issues. Only these problems will be identified, which although being in minority towards the rest (20%), bear a dominant influence on analyzed issue (80%).”* The 20 – 80 proportion should not be seen as dogmatic, but it is the most likely to happen. In fact we can state for sure that 100% of efforts will never cause 100% of effects. The Pareto – Lorenz rule applied to the present study can be transposed into a proposal to managers of using only these indexes of economic condition of an enterprise that bring the highest certainty of optimal decision - making. Analyzing a bigger number of factors – including these less relevant – proves to be much less efficient and will not bring expected higher quality of taken decisions.

The method structure is built of the following steps (Szumnarska, 1996):

- identification of type of analyzed problems (i.e. economic indexes);
- determination of time span of analysis (day, shift, year, etc.) for later evaluation of decision - making effects;
- finding the frequency of occurrence of particular categories (i.e. reasons of wrong decision - making);
- setting data in diminishing frequency of occurrence order, calculation of proportional and cumulated frequencies;
- assigning scales for axes: horizontal – categories and vertical – frequency of occurrence (absolute value) and cumulated proportional value;
- putting values onto the graph in increasing order – frequencies of occurrence for each category (Pareto diagram) and curve of cumulated proportional values (Lorenz curve).

The questions of the questionnaire for the discussed study cover the following issues: region of operation of analyzed companies; years of experience on the market; legal form; territorial coverage (regional, national, international, global); percentage of foreign capital involvement; number of employees and employment structure (size of employment, type of contract, language skills, education); income from local, regional, international and global markets; level of profit / loss in past time periods; willingness of consulting services use; which indexes describing the actual economic situation and short – term prospects of respondent’s business are being used by company’s management at times of crisis; how would their preference towards applied indexes change in a situation of economic prosperity. The core of presented research has been included in the last two questions.

2. INDEXES DESCRIBING THE DEVELOPMENT LEVEL OF INTERNATIONAL ENTERPRISES

Literature studies revealed the existence of more than 100 indexes describing directly or indirectly the level of actual development of an enterprise. Initial talks with small- and medium – enterprise managers that took place before Delphi questioning and expert interviews, resulted in limitation of indexes number to 18. The reasons for rejecting such an important number of indexes at early stage of research provided by questioned managers we can be divided into five groups:

- mathematical complexity of several indexes – complicated equations difficult to apply without sophisticated mathematical knowledge;
- lack of data necessary for calculation or evaluation of some indexes;
- lack of time – a group of economic indexes created mainly for comparison purposes could not be used when quick decision – making is needed;

- lack of credible data from past time periods – a part of indexes required for application non – available or non – credible historical data;
- non – conformity with analyzed profile of the enterprise.

Finally the set of 18 indexes has been chosen by the managers for further evaluation:

1. Product life cycle – “A new product progresses through a sequence of stages from introduction to growth, maturity, and decline. This sequence is known as the product life cycle and is associated with changes in the marketing situation, thus impacting the marketing strategy and the marketing mix” (Gorchels, 2000). For the purposes of the present study this index should be seen as percentage of company products in each of the stages of product life cycle (introduction, growth, maturity and decline).
2. Product diversification – this index shows the size of product portfolio of the given enterprise. Although in general opinion wider range of products provides sales continuity in case when a product or a group of products stop bringing satisfying profits, Ramírez – Alesón and Espitia Escuer (2002) state that “firms with intermediate levels of product diversification have the highest performance, while the firms with low and high levels of diversification show significantly lower performance, which performance is not significantly different between them.”
3. Flexibility – from the economic perspective this index shows the aptitude and reaction time of enterprise towards changes in its market environment. Growing innovativeness level and immediate technology development of modern industry branches force companies to adapt to new market trends very quickly.
4. Level of cash on bank account – easy check of enterprise short – term financial liquidity. If used as an index, it should focus on constant analysis of capital inflows and outflows instead of checking its momentary levels. The supervision should also include trend check, i.e. seasonal peaks and shortages in bank account position.
5. Innovativeness – “An innovation is an idea that creates a measurable economic value. Any innovative activity has to be preceded by an “invention”, which is not directly meant to bring profit in terms of money. However, an innovation should at least imply a hope for creating net income” (Gawlik, 2009). This index presents the importance of innovations in strategy of the analyzed company.
6. Capitalization – value of an enterprise based on equity price. Provides information on available capital levels for operational activities and further development.
7. Equity price – especially watched by stock owners. Often limited to being a tool for assessment of management efficiency. Unfortunately its ability of revealing alarming changes in condition of the enterprise is too often neglected.
8. Number of clients – the analysis of portfolio of clients can provide some information on enterprise dependence on key contracts. Although a lower number of purchasers can enhance specialization towards their specific needs, a bigger number increases the level of enterprise independence and stability in times of recession or trouble on buyers' side.
9. Investment / income ratio – the percentage of funds reinvested into enterprise development. Reveals the approach of key stakeholders towards future development of the enterprise.
10. Level of income – general level of enterprise net profit after taxes.
11. Level of employment – number of people employed in the enterprise.

12. Structure of backlog of orders – popularity of particular products, directions of trade, size and type of clients, dominant payment methods and order volumes plus other information relevant for the composition of business partners portfolio.
13. Survival ratio – income to fixed costs ratio – index presenting the relation between costs that need to be covered on a regular basis (wages, leasing, office rent, administration, etc.). This index shows directly the minimal level of money needed yearly by the company to survive neither without creating liabilities nor realizing profits.
14. Parts Per Million (PPM) - ratio of complaints / faults in each million of produced parts. Used mainly in production companies.
15. Return on capital – measure of company effectiveness in managing the money invested in its functioning.
16. Floating assets level – amount of accounts receivable, cash, inventor and outstanding shares. Generally, an index showing company aptitude of maintaining a proper development (sales) / working capital ratio, i.e. growing sales require higher stock levels, which require increase of financing capabilities. An appropriate level of floating assets allows the company to operate without taking costly bank loans or instantaneous sales of assets to finance its regular operational activities.
17. Geographical range of activity – field coverage of company operations and market presence.
18. Operating profit – Earnings Before Interest and Taxes (EBIT) – measure of enterprise earning derived from its activities before deducting the payments of interest to stakeholders and income taxes to the government.

Please note that in the above group of indexes both qualitative and quantitative coefficients can be found. This comes from the fact that regular every – day planning involves an entire set of activities based rather on experience acquired during years of operation and managerial routine than on scrupulously prepared mathematical calculations. Simplicity of an economic index does not necessarily mean low utility. Sometimes it can be even the opposite, which will be proven – at least in some cases – in the following chapter.

3. SYNTHESIS OF STUDY RESULTS

The questionnaires accompanied by an introduction letter have been sent to more than 100 small and medium enterprises which resulted in 31 received answers (29 in electronic form, 3 on paper). The questionnaire return ratio level reaching nearly 30% seems quite high for this type of questioning. The reason probably can be found in the fact that electronic and paper dispatch has been preceded by phone conversations with targeted people.

It should be noticed that the research presented in this paper have been made in times of advancing global financial crisis (first quarter of year 2009). This could be one of the explanations of low manager's assessment of utility of such indexes as *equity price*, *capitalization* or *innovativeness*, typically very closely watched by managerial boards. The questionnaire included also the question “*How would your answers differ if asked in times of prosperity?*”? Responses varied, accordingly to enterprise profiles, but a general trend towards enhancement of product related indexes (*product life cycle*, *structure of backlog of orders*), innovation (*innovativeness*, *investment / income ratio*) and income level (*equity price*, *return on capital*) could have been observed. Also *geographical range of activity* and *number of clients* gained some points. Few respondents stated that their competitive advantage has been even strengthened by crisis and recession. Although differences in respondents' crisis – prosperity answers proved to be very interesting, they will not be interpreted here and remain, a vast field for possible further research.

Table 1: Aggregated values of expert evaluations for significance rank: 1 – 4

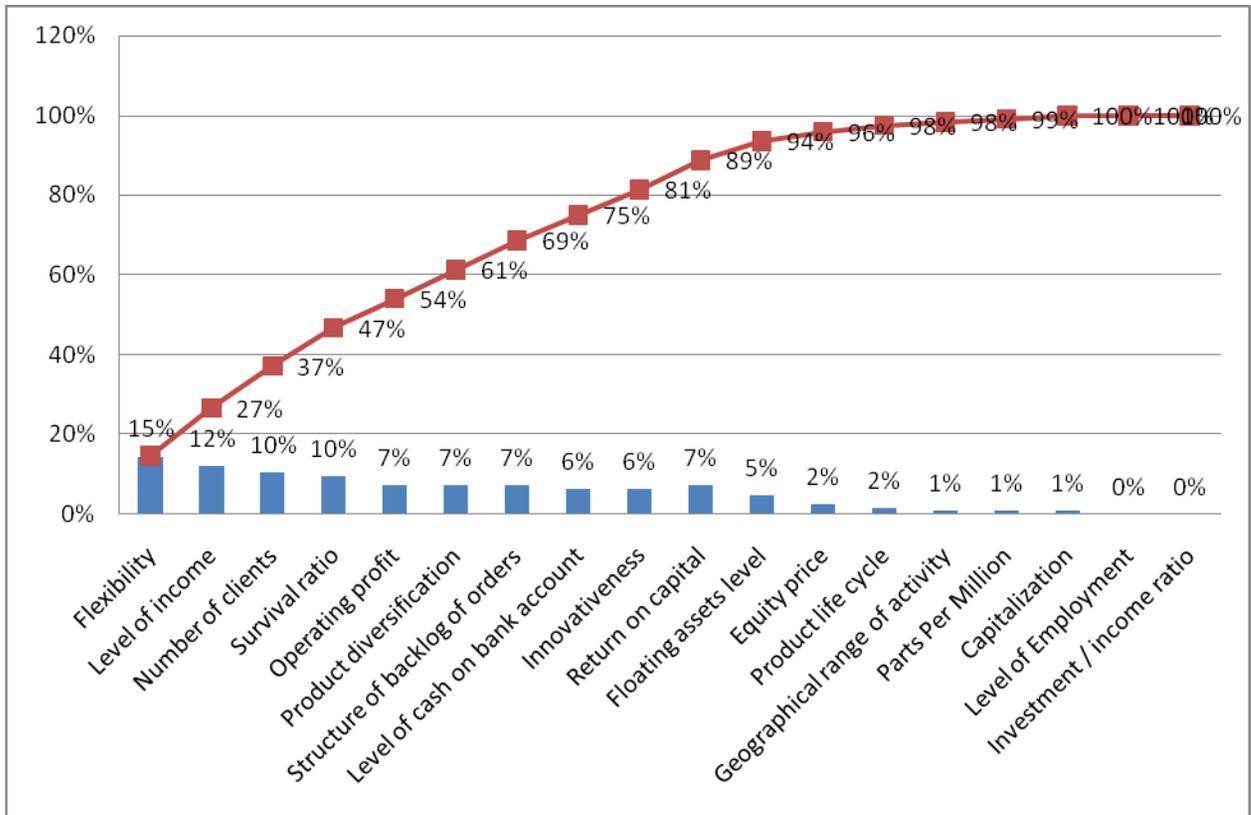
RESPONSES IN TIMES OF RECESSION			Significance Rank: 1 - 4			
Expert Ranking	Index	Average Rank	Number of Answers	Percentage of Answers	Cumulated No of Answers	% of Cumulated No of Answers
1	Flexibility	4,47	18	15%	18	15%
2	Level of income	5,21	15	12%	33	27%
3	Number of clients	6,57	13	10%	46	37%
4	Survival ratio	5,89	12	10%	58	47%
>4	Operating profit	7,64	9	7%	67	54%
>4	Product diversification	7,52	9	7%	76	61%
>4	Structure of backlog of orders	7,82	9	7%	85	69%
>4	Level of cash on bank account	7,86	8	6%	93	75%
>4	Innovativeness	8,04	8	6%	101	81%
>4	Return on capital	8,48	9	7%	110	89%
>4	Floating assets level	7,79	6	5%	116	94%
>4	Equity price	12,86	3	2%	119	96%
>4	Product life cycle	12,24	2	2%	121	98%
>4	Geographical range of activity	11,31	1	1%	122	98%
>4	Parts Per Million	13,35	1	1%	123	99%
>4	Capitalization	13,73	1	1%	124	100%
>4	Level of Employment	11,76	0	0%	124	100%
>4	Investment / income ratio	12,28	0	0%	124	100%

Source: Gawlik, R., own elaboration based on research

The above given table 1 shows aggregated values of expert evaluations of utility of all 18 indexes of international companies actual development. *Number of answers* values represents the number of experts that attributed highest ranks to a cumulated group of four indexes with highest average rank (significance rank 1 – 4). *Percentage of answers* says about the percentage share of *number of answers* in a total of 100%. *Cumulated number of answers* can be calculated by adding the current *number of answers* to preceding position from the same column with its percentage value marked in the last column – *percentage of cumulated number of answers*.

Research outcome presented in Table 1 indicates that 47% of decisions made by managers of international enterprises can be made on basis of 22% of indexes only. This percentage represents 4 indexes out of 18 that in most expert evaluations obtained highest ranks (between 1 and 4). These were namely *flexibility*, *level of income*, *number of clients* and *survival ratio*. The resulting Pareto – Lorenz diagram can be found below:

Fig. 1: Pareto – Lorenz diagram for aggregated values of expert evaluations for significance rank: 1 – 4

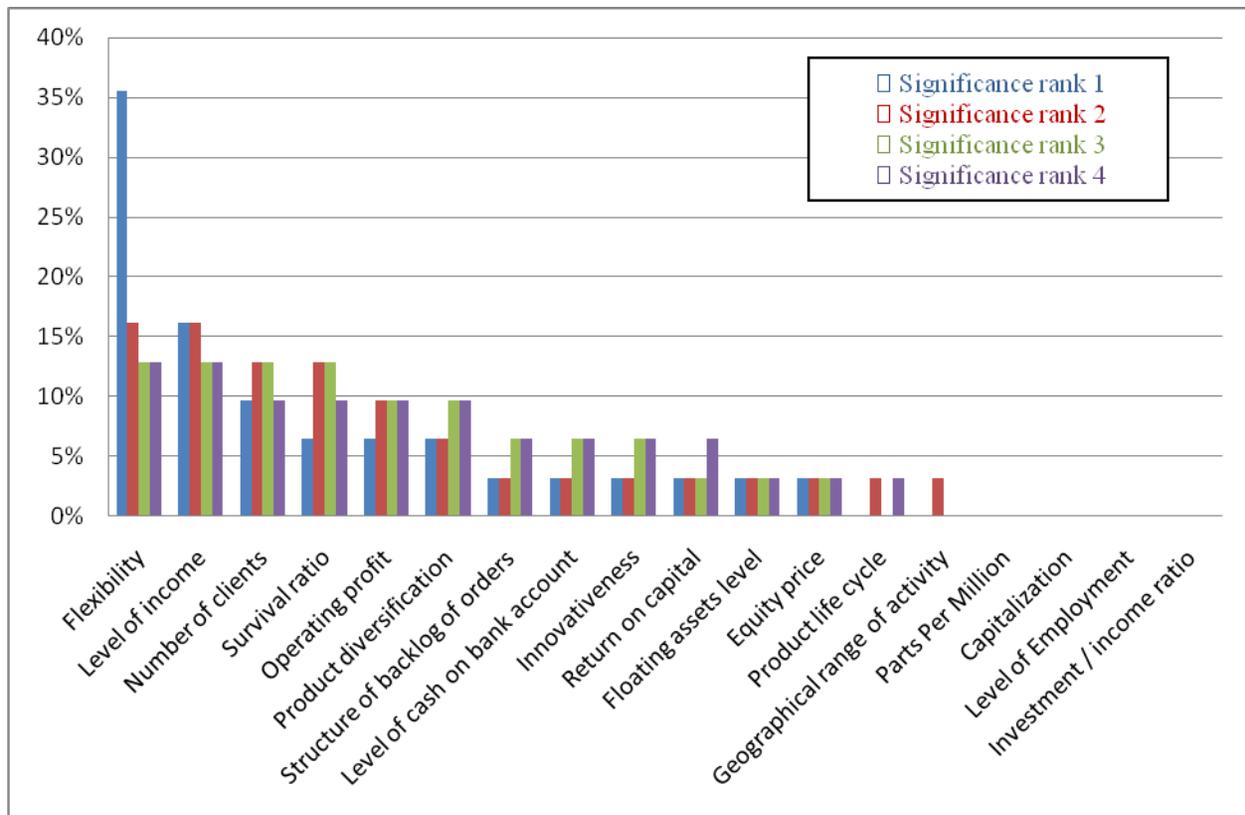


Source: Gawlik, R., own elaboration based on Table 1

Although the *reasons ratio* level (22%) is close to the value from Pareto – Lorenz method, the other side of proportion, the *effect side* appears to be less satisfactory (47%). This is why the author decided to perform a second Pareto – Lorenz analysis focused on each index separately. Its results show that most of experts agreed that between indexes describing the actual state and development level of international companies *flexibility* plays the crucial role (average percentage of votes above 20% for each significance rank from 1 – 4). Also *level of income*, *number of clients* and *survival ratio* were declared as relatively important (average percentage of votes above 10%). Clearly irrelevant were factors such as *parts per million*, *capitalization*, *level of employment*, *investment / income ratio*, *geographical range of activity*, *product life cycle*, *equity price*, *floating assets level*, *return on capital*, *innovativeness*, *level of cash on bank account* and *structure of backlog of orders* (average percentage of votes lower than 5%). The problem arises with a small group of factors with average percentage of votes between 5% and 10%, namely *operating profit* and *product diversification*. Their importance seems too high to neglect them during decision – making, but their influence does not seem to be extremely high. This issue will be commented in concluding remarks.

The expert evaluations of utility of examined indexes for each of the significance ranks from 1 to 4 have been presented in an aggregated form on Fig. 2 below.

Fig. 2: Share of significance ranks 1, 2, 3, and 4



Source: Gawlik, R., own elaboration based on research

CONCLUDING REMARKS

The synthesis of study results indicates that at this stage of research it is difficult to build one synthetic index of actual condition and development level of international companies. The analysis resulted in finding some indexes of wider utility, regardless of company profile. It seems though that making decisions only on their basis could prove too simplistic. Thus the author proposes to explore further this field, particularly in the area of multicriterial decision – making in turbulent environments. The idea of expert questioning itself seems to bring satisfactory results, but there is a need of applying more sophisticated scientific apparatus for analysis. The Analytic Hierarchy Process seems to be an appropriate method for pair – wise comparisons of various types of economic indexes by group of independent experts under a pre – adopted set of criteria. Should external circumstances or criteria importance change, the method offers the possibility of adapting the hierarchy of indexes in form of a simulation in new business environment. The research outcomes in this area will be published in subsequent scientific works.

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PROFILING CORRUPTION PERCEPTION IN NIGERIA: ROLE OF RELIGION AND GENDER

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ABSTRACT

This study investigates attitude towards corruption and the role of gender, religion, education and age using a Nigerian survey data. It also seeks to establish how attitudes towards corruption relates to some other reported ethical measures such as Islamic work ethics, money ethic and corruption perception. Over 3800 questionnaires were administered with 1833 or about 48% response rate. Results revealed no significant gender differences in corruption but women reported being more religious. Also Christians rated the incidence of corruption as higher than Muslims although the sample size skews significantly in favour of the former. Older and more educated people also rated corruption incidence higher.

INTRODUCTION

To claim that corruption is African is to quip about a serious universal issue that is pervasive and endemic afflicting all parts of the world in different forms and varying degrees. Corruption is a predicament that has afflicted many societies at one time or the other in the course of their history and that still bother them to some degree presently. In western economies where corruption no longer appears to play a major role, no one would claim that it has been totally defeated (Merz, 2004). What is, perhaps, true is that corruption is pronounced in Africa, perhaps more acknowledged in Africa and expected more in Africa and the rest of the developing world. However, it is perpetuated by people of all countries perhaps more in Africa, with the connivance of Africans, and hence Africa has an unfavourable reputation for corruption. Hope (2000) claims the pandemic has reached cancerous proportions and become a matter of global concern in sub-Saharan Africa. It has permeated virtually all institutions, both public and private, governmental and non governmental, and has become a way of life and a principal method for the accumulation of private property afflicting all groups and people from all levels of life including professionals (Mulinge & Lesetedi, 2002).

Some writers (e.g. Osoba, 1996; Mulinge & Lesetedi, 1998) have argued that corruption is a by-product of traits of fraudulent antisocial behaviour derived from British, French and other colonial rulers. Mulinge & Lesetedi (1998) further explained that, among others, the introduction of monetary economy, the use of divide and rule technique, the faulty and inappropriate constitutions, and the centralisation of power entrenched in many African countries accounted for laying the foundation for corruption. They, however, conceded that corruption in Africa cannot entirely be attributed to colonialism. After all, self-determination since the late 1950s allowed African leaders the opportunity to choose what was good for their people. In some African countries a decent level of good governance with relatively transparent and non-systemic corruption has been provided and this is widely acknowledged, for example in the case of Botswana but in many others such as Nigeria and Kenya this does not seem to be the case (Mulinge & Lesetedi, 2002; Gbadamosi, 2006a).

Corruption is one of the most written about concept in academia. The literature on the subject is intimidating as all aspects of this social ill have been well documented, its nature, extent, causes, measurement, and consequences among others. Interestingly, it is a subject that has cut across nearly all disciplines. It has been the domain of political science, economics, philosophy, history, sociology, anthropology, psychology, management, and law among others. Political scientist often discusses political corruption (as it relates to good governance and development) while economists often discuss economic corruption (as it relates to cost of corruption and development) and between the two disciplines the output has been most dominant. In the behavioural sciences,

much less of the behavioural dimension of corruption has been reported in the empirical literature. This paper will focus on the behavioural dimension of corruption using sample from Nigeria. How do people generally understand and perceive corruption in behavioural terms?

Defining Corruption: A variety of corruption definition available in the literature has been well captured (for example, Jain, 2001; Svensson, 2005; Sampford et al, 2006) and will not be dwelt on in this paper. Nevertheless, we find the definition of Osoba (1996) instructive and adopted it for our purpose: ... *a form of antisocial behaviour by an individual or social group which confers unjust or fraudulent benefits on its perpetrators, is inconsistent with the established legal norms and prevailing moral ethos of the land and is likely to subvert or diminish the capacity of the legitimate authorities to provide fully for the material and spiritual well-being of all members of society in a just and equitable manner (p. 372)*. It is the cumulative of this socially undesirable behaviour that we refer to as corruption and it is people's attitude to such behaviour that is the interest of this paper.

Recently, Linder and Linder (2008) distinguished between corruption leading to personal enrichment and a second type aimed at increasing the competitive ability of the company. They further argued that corruption in some cases is not lack of honesty; rather depending on competition, market conditions and considerations it can be a requirement for surviving in the market. A similar question that research into corruption seeks to know is whether certain behaviour that people manifest is morally wrong (which is the domain of ethics, philosophy and morality); whether such behaviour is economically expensive (covered by economists, business and financial analysts); and whether it is legal (covered by lawyers). In this paper we refer to corruption as something 'negative' / 'bad' and thus seek to understand its behavioural manifestation better. In a global sense, we attempt to capture the attitude of people towards corruption. Attitude towards corruption may play a critical role in the persistence of corruption and thus understanding and being able to measure it may provide useful addition to the retinue of knowledge already in the public domain.

Gender, Age & Corruption

Some studies have shown that women tend to be less corrupt than men (Dollar, Fishman & Gatti, 2001; Swamy, Knack, Lee & Azfar, 2001; Torgler & Valev, 2004). Swamy et al (2001) found that women are less involved in bribery, and are less likely to condone bribe taking. Using cross-country data, a larger proportion of women than men believe that illegal or dishonest behaviour are never justifiable and that corruption is less severe where women hold a larger share of parliamentary seats and senior positions in government and comprise a larger share of the labour force (Swamy et al, 2001). Similarly, Collier (2000) in his corruption reduction argument noted that in fighting against corruption Africa need learn the value of decentralised government and the need to include more women in the political process from other societies.

Noting the seeming neglect of the relationship between age and corruption in the economics literature, Torgler and Valev (2004), using the World Value Survey data, found that the variable 'justifiability of corruption' is significantly lower for the age group 30 to 65+ than for the reference group below 30. They noted that the age effect becomes stronger for each higher age group and is substantial in magnitude. Recent findings of Alatas, Cameron, Chaudhri, Erkal and Gangadharan (2006) seem more interesting. They found that while women in Australia are less tolerant of corruption than men, there are no significant gender differences in attitude towards corruption in India, Indonesia and Singapore. This suggests that the gender differences found in the previous studies (e.g. Swamy et al, 2001) may not be nearly as universal as stated and the relationship between gender and corruption may be more culture-specific. These evidence, taken together, provides some support for the idea that, at least in the short or medium term, increased presence of women in public life will reduce levels of corruption (Swamy et al, 2001) and more elderly people in political and public administration positions will likely reduce the incidence of corruption (Torgler & Valev, 2004). However, these evidence remains inconclusive, at least outside of Western countries, hence the need to engage in more comparative international studies especially in Africa and other developing countries. Our study contributes to bridging this gap.

Corruption in Nigeria

Corruption in Africa is well documented including its causes, symptoms, and consequences (see for example, Collier, 2000; Hope, 2000; Mulinge & Lesetedi, 2002). Collier (2000) argued that corruption persists in Africa because it becomes acceptable; because it becomes safe; and because people expect it to continue and these are

the most difficult forces to tackle. Moral norms, risks of punishment and inherited reputations all tend to perpetuate honesty in honest societies and corruption in corrupt societies (Collier, 2002). Poor pay has been indicated as another major reason for public sector corruption in Africa (see for example Van Rijckeghem & Weder, 2001; Mulinge & Lesetedi, 2002). Empirical evidence in this respect is however inconclusive. In cross-country studies, Rauch and Evans (2000) and Treisman (2000) find no robust evidence that higher wages deter corruption, while Van Rijckeghem and Weder (2001) find that it does. Svensson (2005) thus argued that while the systematic evidence on the relationship between pay and corruption may be ambiguous, most findings generally provide convincing evidence that paying higher wages can deter corruption under certain circumstances. Nevertheless, the argument that higher wages may reduce corruption ignores the other problems related to the general level of underdevelopment in many of these countries. These problems increase the financial outlay requirement of citizens in many respects including: poor infrastructure, poor or absent pension scheme, poor public schools and hospitals, and absence of other basic utilities such as electricity, water, telecommunication etc.

There is no dearth of writing on corruption in Nigeria as the country has notoriety for this vice with most authors agreeing that it will be difficult for the country to develop if corruption within the system continues at its present level. A Google search with the two words “corruption” and “Nigeria” generated 2,030,000 hits and a Google scholar search reduced it to 46,000 hits (March 2009). In Nigeria, corruption manifests itself in a variety of ways and in all sectors from the social, political and bureaucratic to the educational and cultural. A man’s source of wealth is of no concern to his neighbours, the public or the government. In Nigeria (and some African countries), this decay in socially acceptable behaviour is palpable. The behaviour that used to be completely unacceptable – a taboo of sort – some four decades ago, modified to become tolerated or sometimes ignored two decades ago and recently over the last decade have actually become celebrated and applauded. Using four scales that measures corruption across countries, Svensson (2005) reported Nigeria as the only country to appear in the bottom 10 percent of the most corrupt countries on all four lists. Perhaps if we start our investigation from a country visibly high in corruption perception we may learn some lessons as future studies replicate the investigation in other African countries.

Hypotheses: The primary objective of the study is to investigate attitude towards corruption and corruption perception in Nigeria. Specifically, the study attempts to test three hypotheses:

1. There is no relationship between corruption perception, on the one hand, and religion, gender, education, and age on the other
2. There is no relationship between attitude towards corruption, on the one hand, and religion, gender, education, experience and age on the other
3. There is no relationship between attitude towards corruption, corruption perception, Islamic work ethics, and money ethics

RESEARCH METHODOLOGY

Sampling and Respondents’ Characteristics

The study is a cross-sectional design and data was collected from employees from the private and public sector in Lagos, Nigeria. About 3,800 questionnaires were administered in Lagos (which is the commercial hub of Nigeria) to randomly selected employees in several organisations. A total of 1842 were returned with 1833 being usable representing 48.24 percent response rate, 9 questionnaires were omitted from analysis for various types of incompleteness.

Over 62 percent respondents were males, with majority of them between 21 and 40 years old (about 78%), about 50 percent were married and most worked either in the private sector (45.9%) or were self employed (15%). About 67 percent had more than a high school qualification with about 41 percent possessing university degrees and 60 percent have worked for more than 5 years. Over 74 percent were Christians and about 24 percent being Muslims, only 26 (1.5%) did not indicate their religion. About 99 percent of respondents were Nigerian citizens, the remaining 1 percent either did not answer the questions or they were citizens of neighbouring countries.

Measuring Instrument and Reliability

Attitude towards corruption: was measured using a 20-item scale on a 5-point Likert-type scale ranging from ‘strongly disagree’ to ‘strongly agree’ developed for the purpose of this study. Face validity was established using a cross-section of African academics and it was also pilot tested with a small group of Africans at a management development workshop to clean up ambiguity and other related issues. Cronbach alpha obtained for this sample is .62. Some examples of the items include: (1) Corruption can never be eliminated in this country and (2) Prayers can help reduce and remove corruption.

Work ethics (Islamic): was measured using a 17-item measure of Ali (1988) cited in Yousef (2000) on a 5-point Likert-type scale ranging from ‘strongly disagree’ to ‘strongly agree’. The Cronbach alpha obtained in this sample is .78. Some example of the items include: (1) Life has no meaning without work and (2) Creative work is a source of happiness and accomplishment.

Money ethic scale (MES): was measured with the six-item measure of Tang *et al.* (2002). The Cronbach alpha for this scale in our sample is .62 which is slightly lower than the reported .68 in an earlier African sample (Gbadamosi & Joubert, 2005). The scale has however been examined in many different countries in Asia, Europe and the USA (Tang *et al.* 2002). Some example items are: (1) Money is the root of all evil and (2) Money is a symbol of success.

Corruption perception: a 5-item measure on a five-point scale from ‘always’ to ‘never’ was used for this purpose (Gbadamosi, 2006b). It measures aspects of corruption perception and some items are included in Table 1. The Cronbach alpha obtained for this scale is .64.

DATA ANALYSIS AND FINDINGS

Table 1 reports result on the corruption perception measures. This finding indicate that bribes and tips are (at least) sometimes required to get things done (up to 83%) and that organisations (at least) sometimes have to pay bribes and tips to get things done (up to 80%). It is also discouraging that it is difficult to get help elsewhere when faced with a potentially corrupt situation; with about 33 percent reporting there is ‘rarely’ help to there is ‘never’ help. Similar poor results were reported for the same measures in both Swaziland and Botswana, with the percentage required for tips and bribes being up to 79 percent in Swaziland (Gbadamosi & Joubert, 2005) and up to 69 percent in Botswana (Gbadamosi, 2006b). With respect to whether help can be obtained elsewhere those reporting ‘rarely’ to ‘never’ in the two countries is closer to the findings in Nigeria (31% in Swaziland and 24% in Botswana).

Table 1: Corruption perception

Item statements (This is the case in this country):	Always	Frequently	Sometimes	Rarely	Never
1 Individuals pay bribes and tips to get things done.	253 [14.6%]	315 [18.2%]	879 [50.7%]	173 [10.0%]	115 [6.6%]
2 Organisations pay bribes and tips to get things done.	161 [9.3%]	279 [16.1%]	821 [47.5%]	311 [18.0%]	157 [9.1%]
3 If a public official acts against rules, help can be obtained elsewhere.	159 [9.4%]	218 [12.8%]	756 [44.5%]	423 [24.9%]	144 [8.5%]

Using a single item respondents were asked to rate corruption in the country using the options high, medium and low: ‘how would you rate the incidence of bribery and corruption in the country?’ A total of 1439 (84.5%) rated corruption as high, 233 (13.7%) rated it as moderate and a mere 30 (1.8%) rated it as low. There is no doubt that Nigerians are highly critical of their own country, recognise the problem and do not pretend it does not exist. How does this rating compare along the lines of respondents’ religion, gender, education and age? Crosstabulation results show no significant differences between men and women on the rating of the incidence of bribery and corruption. However, Christians rated the incidence as higher than Muslims (chi square 25.726, d.f. = 4, $p < 0.000$); the more educated respondents rated corruption incidence higher (chi square 29.932, d.f. = 10, $p < 0.001$). The older respondents rated it as higher than the younger ones (chi square 48.960, d.f. = 10, $p < 0.000$) with respondents under 20 years being generally more tolerant of corruption and this finding supports Torgler and Valev (2004).

The 20-item attitude towards corruption scale was subjected to confirmatory factor analysis (CFA) and details of the result are reported in another paper (Gbadamosi and Bello, 2009). Prior to this the suitability of data for factor analysis was assessed. The correlation matrix revealed coefficients of 0.3 and above; the KMO value was good (0.74) and the Bartlett’s Test of Sphericity reached statistical significance ($p < .000$), supporting

the factorability of the correlation matrix. The result reveals further that the scale is a multidimensional measure loading on 4 factors and showing very strong internal consistency among the factors. The percentage of total variance of all 20 items explained by the four factors is about 40%. In all the factor analysis shows some evidence of construct validity and with a reliability coefficient (Cronbach's alpha) of 0.62 the scale is good.

Further analysis of data – crosstabulation – was performed. Selected items of the attitude towards corruption scale items against religion, education, gender and age are reported hereafter. On whether '*corruption can never be eliminated in the country*', significantly more women than men hold this view ($p < 0.30$) and respondents with lower education ($p < 0.000$) also supports this view. There are no significant differences in religion or age for this item. *Can a good and committed government reduce corruption?* There were no significant differences in the religious affiliation and gender for this item. However, significantly more educated ($p < .014$) and younger respondents ($p < .017$) agree with this statement. There are no significant gender differences in opinion on '*the use of an effective anti-graft agency to eliminate corruption*', but significantly more Christians ($p < .012$), more educated ($p < .000$) and younger respondents ($p < .012$) are in agreement with this statement. Results on whether '*lack of sanctions for corrupt practices is likely to increase corruption*' showed significant differences for all comparison groups. Significantly more Christians than Muslims ($p < .000$), more men than women ($p < .002$), more educated people ($p < .000$) and younger people ($p < .000$) agree with this statement. We have selected to present another three items that can be deemed religious statements. Results on whether '*prayers can help reduce and remove corruption*' revealed that no significant differences as it relates to education and ages of respondents. However, significantly more Christians than Muslims agree (.000), and significantly more women than men ($p < .024$) agree with this view. The result for the item '*I am a very religious person*' showed significant differences for all groups. Even though there are significantly more Christians than Muslims in this sample but it is rather interesting that significantly more Muslims agree ($p < .003$) with this statement. Also significantly more women than men ($p < .000$); less educated people ($p < .000$); and younger people ($p < .004$) agree with this view. Finally, investigating the opinion of respondents on the corruption label that seems to stick with Nigeria internationally with the item '*the level of corruption in this country is exaggerated by the international community*'. There were no significant gender differences on this item, but significantly more Muslim than Christians ($p < .003$), older ($p < .003$) and less educated people ($p < .000$) support this statement.

The descriptive statistics and intercorrelations among the study variables are presented in Table 2. Attitude towards corruption was significantly and positively correlated with both the money ethic scale ($r = .286, p < 0.01$) and Islamic work ethics ($r = .384, p < 0.01$), which is not unexpected as all three scales measure some form of ethical conduct which gives construct validity support to the attitude towards corruption scale. We also found a significant correlation between the money ethic scale and Islamic work ethic ($r = .266, p < 0.01$). There was, however, no significant correlation between corruption perception and any other variable in addition to being inversely correlated with attitude towards corruption. This is perhaps an indication that it measures something different from the other variables. Another plausible reason for the corruption perception scale standing out is that responses were anchored on a different kind of scale from the other measures (see table 1).

Table 2: Mean, standard deviation and intercorrelations of study variables

Study variables	Mean	SD	1	2	3	4
1 Attitude towards corruption	3.48	.41	(0.62)	-.033	.286 ^a	.384 ^a
2 Corruption perception	2.97	.66		(0.64)	.040	.008
3 Money ethic	3.43	.72			(0.62)	.266 ^a
4 Work ethics (Islamic)	3.96	.48				(0.78)

Notes: N = 1833; $p < 0.01$ level ^a (2-tailed); Cronbach's Alpha (α) in parentheses and bold

In order to investigate whether there are significant gender differences in attitude towards corruption, corruption perception, money ethic and Islamic work ethic independent t-test were also conducted. The result of t-test indicates that there were no significant gender differences on attitude towards corruption (see Table 3). Contrasting Swamy et al (2001) which reports gender differences in a Western sample, the present findings supports Alantay et al (2006) who found no gender differences in India, Indonesia and Singapore, but only in Australia. Similarly there were no significant gender differences on corruption perception and Islamic work ethic. For money ethic however, women score significantly higher than men [$t(1757) = -2.091, p < .037$].

To test if religious differences affect attitude towards corruption, corruption perception, money ethic and Islamic work ethic, independent t-test was also conducted. The result of t-test (see Table 4) indicates significant religious differences for attitude towards corruption, money ethic and Islamic work ethic. Christians scored

significantly higher than Muslims on the attitude towards corruption scale and more interesting on the Islamic work ethic scale. Muslims however scored significantly higher on the money ethic scale.

Table 3: T-test of study variables by gender with means and standard deviation

S/N	Study Variables	Male		Female		Levene's Test for Equality of Variance		t	d.f.	Sig. (2-tailed)
		Mean	SD	Mean	SD	F	Sig.			
1	Attitude towards corruption	3.49	.40	3.45	.42	1.060	.303	1.73	1592	.084
2	Corruption perception	2.97	.67	2.97	.66	.032	.858	-.12	1670	.900
3	Money ethic	3.40	.73	3.48	.49	.084	.772	-2.09	1757	.037
4	Work ethics (Islamic)	3.96	.48	3.97	.72	.031	.860	-.19	1452	.852

N = 1833, Male = 1115, Female = 673

Table 4: T-test of study variables by religion with means and standard deviation

S/N	Study Variables	Christian		Muslim		Levene's Test for Equality of Variance		t	df	Sig. (2-tailed)
		Mean	SD	Mean	SD	F	Sig.			
1	Attitude towards corruption	3.50	.39	3.43	.43	3.400	.065	2.86	1522	.004
2	Corruption perception	2.95	.67	3.01	.65	.270	.603	-1.55	1589	.121
3	Money ethic	3.40	.74	3.54	.66	8.724	.003	-3.57	757.646	.000
4	Work ethics (Islamic)	3.99	.47	3.92	.47	.002	.963	2.34	1379	.020

N = 1833, Christians = 1307, Muslims = 419

DISCUSSION AND IMPLICATIONS

This study provides useful information about attitude towards corruption and corruption perception from an aspect of relatively unexplored respondents' profile: religion, gender, education and age using African data. In many African nations, relative to the West, citizens are generally very religious, gender inequality high, level of education low and age a very important distinguishing factor among people. All of these are especially true for Nigeria. The literature, however, offers very little information in these respects, yet such information remains important to understand better these aspects of corruption as a socially undesirable behaviour. The present findings on corruption perception suggest that in at least four out of five times people are likely to pay tips and bribes to get things done as individuals or as an organisation. This statistics is close to that earlier obtained from Swaziland and Botswana. What is more worrying is that the machinery in place for citizens to seek redress is ineffective. It appears that the recurring appearance of Nigeria at the bottom of CPI list can easily be more attributable to the absence of an effective corruption combating strategy. Moreover, Nigerians rate the incidence of corruption in their country as very high, over 84 percent. Such rating further reinforces the CPI of Transparency International (TI) and is perhaps also reinforced by it.

It would be useful to engage the respondents in future studies perhaps using focus groups or in-depth interview to establish their awareness of TI ratings and thereafter establish to what extent this awareness may affect their personal rating. The findings further reveal that Christians rated the incidence of corruption as higher than Muslims although the sample size skews significantly in favour of the former, a situation which might have been different if data collection was spread nationally. Older and more educated people also rated corruption incidence higher. It is discouraging that respondents under 20 years are generally more tolerant of corruption. The results also reveal that respondents generally agree that a good and committed government can reduce corruption; an effective anti-graft agency can help combat corruption and that the absence of effective sanctions serve to increase corruption in Nigeria although there were variations in religion, gender, education and age.

Nigerians generally profess religion and it is almost a 'taboo' of some sort to proclaim to be a non-believer. It is, therefore, not a surprise that over 74 percent of the respondents agree or strongly agree with the statement 'prayers can help reduce and remove corruption'. Interestingly, women more than men and Christians more than Muslims hold this view. The view of respondents was divided (40% disagreeing and 45% agreeing) on whether the international community exaggerates the level of corruption in the country, but Muslims more than Christians support this view.

The managerial and policy implications of these results could be very interesting and challenging. First, effectively combating corruption is perhaps a major key to winning the anti-graft 'war' in Nigeria as it may perhaps be for most of Africa. While so much attention has been devoted to the incidence of corruption itself and some to its reduction, these results suggest much more need to be done in providing a people generated corruption reduction strategies and identifying which are workable strategies. Secondly, concerted effort needs to also be directed at the re-orientation of the younger age group, for whom these results appears are more tolerant of corruption. Thirdly, a combination of both an effective anti-corruption agency and effective sanctions for offenders might prove valuable in the anti-graft effort. Finally, more effort at corruption prevention as opposed to the over-concentration on its control could prove more effective in a country like Nigeria. It is disappointing that these results mostly confirms extant literature in most respects but encouraging that it fills some gap on what needs to be known about the role of religion, gender, age and education on attitude towards corruption.

As with all studies, the limitations of this research include the use of a self-report instrument. Social desirability effect is a major potential limitation here as respondents may answer questions according to their perception of social desirability. However, given the complete anonymity guaranteed in the research process it is hoped that the effect, if at all, would be minimal.

CONCLUSION

This paper attempted to examine corruption perception and attitude towards corruption in an African context using behavioural indicators rather than from an economic or political science perspective. It investigates the role of religion, gender, education and age in an African society (Nigeria) where all these are important. It also commences the process of developing instruments which, when fully validated, may offer fresh insights into our understanding of corrupt practices as an unethical, immoral and socially undesirable behaviour. There is little doubt that corruption is difficult to study empirically, because of its very nature: rarely does it leave a trail, often no witnesses, disclosure is at the pleasure of the actors involved, and making it public knowledge is considered negative. There will therefore always be something that can and, perhaps, should have been done differently when critiquing a corruption paper. Nevertheless, this paper establishes no significant gender differences in corruption and that both younger people and less educated people are more tolerant of corruption. It is a truism that corruption is nether a new nor under researched area of academic investigation, yet very few studies have focused on demographic profile of respondents in corruption studies. This study contributes to filling this gap.

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MEASURING ORGANISATIONAL COMMITMENT AND EFFECTING CULTURAL CHANGE AT A UNIVERSITY OF TECHNOLOGY

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ABSTRACT

Legislation for higher education has changed dramatically. A changing South Africa has brought a changing educational landscape and brings a need for a single higher education system. Various tertiary institutions were merged and change became inevitable. The study has indicated so far that with the merger, internal structuring, cultures and commitment were compelled to change, these variables changed and that these variables are interrelated and interdependent which has tremendous influences on each other, affecting all the staff of the merged institutions changing staff commitment, levels of trust and morale.

INTRODUCTION

The South African government wanted a single higher education system with shared goals, values and principles in the country. Mergers were proposed for a number of South African institutions. The announcement by the Government (Education Whitepaper 3: A framework for the transformation of Higher Education, July 1997) that was suggested elicited mixed responses from various facets of society. The strongest negative sentiments were expressed by people in the disadvantaged communities, and shared by many in the advantaged communities which include the business sector. The fundamental motive of the government was to bring about the necessary structural changes and establish solid and sustainable institutions as dictated by legislation.

Institutions and the employees of tabled institutions inevitably had to merge. Departing with what was known as their workplace, their ways, cultures, policies, rules and even in some instances their colleagues. The merger in itself brought about enormous changes to the structures, policies and processes, these ultimately affecting organisational cultures and, in turn, the morale and commitment of the staff. While the merger is systematically taking place, it can be assumed that employees have different predetermined ideas of where the university is going. These could include possibly resisting change, and indirectly adapting a culture that has an impending ruinous impact on the success of the merger, affecting commitment, compensation satisfaction, perceptions on funding for training, career development and many other aspects of corporate life.

MERGERS AND THEIR IMPACTS

Lawler and Worley (2006: 110) state that mergers are particularly difficult to manage due to misalignment of the different cultures, and the lack of skill for cultural management by the merging parties. Conner (1998:175) underlines Lawler and Worley's findings by stating "*when cultures are misaligned and poorly managed, change inevitably fails*". All too often mergers are accompanied by statements that they are "a merger of equals" and that the best people and practices from the merging organisations will feature in the new formed organisation. Robbins (2003:530) points out that cultural compatibility and employee commitment have become primary concerns in recent years around mergers. Most leaders and managers assume that the culture after the merger will take care of itself. It is also taken for granted that staff will switch over their commitment to the new organisation and its newly appointed leaders.

Nearly all mergers, regardless of size or industry, have similar human dynamics which have ubiquitous unknown or hidden barriers. These hidden barriers being the most valuable asset – also becomes the most costly (Sherriton & Stern, 1997:12). To assist the human dynamics of an organisation the following points can be taken into consideration prior and during the merger (Kotter & Heskett 1992:201):

- Integrating different cultures;
- Identifying clear lines of command;
- Rethinking work roles;
- Reducing a workforce either through attrition or reassignment; and
- Combining common but separate business systems

Researchers such as Kotter and Heskett (1992:213) and O'Reilly and Chatman (1986:465) describe these merger changes as drastic and dramatic. One study on mergers in the USA describes a merger as the most extreme form of inter-institutional organisational solution and as an '*irreversible totality – the legal death of one or both parties in the creation of a new one*' (Mulvey, 1993:10). There is also widespread agreement that the process seldom occurs without disruption to organisational change in cultures, employee commitment, productivity and performance (Mulvey 1993:10).

It is human nature for people generally, to have a strong attachment to the way their organisation was run; therefore they fight to have that way adopted. The result is often conflict and the adoption of a set of practices and policies that really do not form a coherent whole. A merger is an extremely stressful process for those involved: job losses, restructuring, the imposition of a new corporate culture and identity can create uncertainty, anxiety and resentment among the company's employees (Appelbaum, Gandell, Jobin, Proper & Yortis, 2000:9-10).

Research shows that an organisation's productivity can drop by between twenty-five and fifty percent while the organisation is undergoing such an intrusive change. Demoralisation of the workforce is a major reason for this, says Tetenbaum (1999:20-29). Companies often pay undue attention to the short term legal and financial considerations involved in a merger while neglecting the implications related to corporate identity, communication and staff commitment.

ORGANISATIONAL COMMITMENT

Organisational commitment has also been identified as an individual's identification with and the involvement in an organisation. Commitment is characterised by a strong belief in and acceptance of the organisational goals and values and a willingness to exert considerable effort on behalf of the organisation as well as a strong desire to maintain membership in the organisation (Ashkanasy, Wilderon & Peterson 2000:341). Organisational commitment reflects the extent to which one identifies oneself with an organisation and is committed to its goals, principles and values. These are very important work attitudes because committed people display a willingness to work harder, to achieve organisational goals and have a greater desire to remain in the organisation (Schein, 2004:400). Having a committed workforce is reviewed as an advantage to any organisation.

Organisational commitment that has been approached from various theoretical perspectives has been found to be related to job performance and turnover, as well as absenteeism, job satisfaction, commitment and employee attitudes (Mowday, Porter & Steers 1979:247 and O'Reilly & Chatman, 1986:465-317). These researchers all indicated that society as a whole benefited from employee commitment due to lower job movements, higher productivity leaving the organisations with more contented workers. Employees with high commitment are more willing to put more effort in a change project and are therefore more likely to develop positive attitudes towards organisational change. Mowday *et al.* (1979:247) claim that commitment often establishes an exchange relationship in which individuals attach themselves to the organisation and in return, for certain rewards individuals come to organisations with certain needs, expectations and skills. They hope to find a work environment where they can use these abilities and satisfy their needs. When an organisation can provide these, the likelihood of increased commitment is increased (Mowday, 1979:247).

Blanchard (2007:133) mentions that performance rarely declines due to staff incompetence. Changes in performance occur either because the job and necessary skill to perform it have changed, or because people have lost commitment. Management tends to avoid dealing with de-motivated staff, largely because lack of commitment is an emotionally charged issue and management need not know how. The core perception on the part of the de-committed employees is that either their manager or the organisation has treated them unfairly. Blanchard (2007:135) believes that the primary cause can be traced to the behaviour of management and, or the organisation. De-commitment has numerous other causes such as under or over supervision, lack of feedback, lack of recognition, lack of clear performance, poor communication, unfair standards, overworked staff, stress, or a gap between employee and employer expectations.

The foundation of commitment is trust

Recent evidence indicates that trust is the foundation of leadership, while good leadership builds commitment (Robbins, 2003:336). Unless followers trust their leaders, they will be unresponsive to a leader's influence or efforts (Covey, 2006:39 & Cooper, 2003:6). Trust or the lack of trust is an increasingly important component of leadership because it ultimately becomes a commitment issue in today's organisations. Trust according to Robbins (2003:336) is a historically dependent process based on relevant but limited samples of experience. Trust, which takes time to establish, accumulates and builds incrementally and underpins commitment. As trust is a core value associated with leadership, leaders need to show commitment. When trust is broken, it can have serious adverse effects on an organisation's performance, staff loyalty, commitment and trust in the leadership (Robbins, 2003:336, Covey, 2006:39 & Cooper 2003:6). These traits are very similar to the five trust dimensions identified by Covey (2004:33): integrity, competence, consistency, loyalty and openness. Covey (2006:37), strongly believes if any one of the dimensions is lacking, its surging outward effect will essentially affect each of the other dimensions. When followers trust a leader, they are willing to become vulnerable to the leader's actions – confident that their rights and interests will not be abused. Kouzes and Posner (2003:247) say if people are going to follow someone willingly, whether it be into battle in the boardroom or elsewhere, they first want to assure themselves that the person is worthy of their trust. The less trust there is within the organisation, the higher the level of political behaviour.

ORGANISATIONAL CULTURE

Organisational culture is a phenomenon that ultimately embraces everything that a group is concerned about, and what the group has to deal with. Organisational culture reflects deeper issues about the nature of truth, time, human nature and relationships. Many authors such as Schein (2004:273), Alvesson (2002:4), Senior (2002:108), Hofstede (1991:287) and Trompenaars (1993:22) mention that when people speak about organisational culture they refer to the importance of symbolism – rituals, myths, stories, and legends – and about the interpretation of events, ideas and experiences that are influenced and shaped by the groups within which they live.

A strong organisational culture is often characterised by employees who share core values who are committed. A strong culture is said to improve organisational performance. Peters and Waterman (1982:2) are well-known writers and consultants who claim to have found a recipe for cultures, which are presumed to link performance. They argue that the more closely an organisation sticks to its particular recipe, the greater the probability that it will be a high performer. It is debatable, whether a strong culture, even of the supportive kind is necessarily linked to increased competitive advantage. A weak corporate culture or a low performing organisation becomes evident when organisations become more diverse, through mergers and acquisitions and internal diversification (Kotter and Heskett, 1992: 24).

When people join an organisation willingly, they bring with them the values and beliefs they have acquired. Quite often however these values and beliefs are ineffective or inadequate to help individuals to succeed in the organisation. This is because, as Schein defines it, every organisation is unique in its basic values and beliefs, and more often than not is vastly different (Schein 2004:274). Conner (1998:161) states that culture is the frame of reference that helps to distinguish one group of people from another and establishes a unique set of formal and informal ground rules for its members. During periods of major change, cultural boundaries are seriously

strained. Careful planning with a sense of urgency is needed to aid employees to cope with the change. Because organisational culture involves shared expectations, values and attitudes, it exerts an influence on individuals, groups and organisational processes. Researchers Schein: (2004:28) and Kotter and Heskett (1992:8) suggest that the impact of culture on employees provides and encourages a form of stability, as well as a sense of organisational identity. As culture is significant and complex, it is difficult to understand and use in a thoughtful way. It is necessary to emphasise the significance of corporate culture for performance growth and success. When attempting to embrace acceleration change or reshaping organisational culture leaders must realise that it is an activity that requires a considerable amount of time (Alvesson, 2002:2). Knowledge and leadership are said to be crucial factors for sustainable advantage. Unfortunately people are unaware of their corporate culture until it is challenged, until they experience a new culture or until it is made overt and explicit through a framework or model rather by rules or personal observation.

LINKAGE/AFFILIATION

The link between corporate culture and committed leadership has been an important theme in management and business research for the past decades due to its potential to affect a range of organisations and employee-desired outcomes. There is also consensus that corporate culture is an outcome of management philosophy and a way to manage organisations to improve their overall effectiveness and performance.

Strength of culture as strength of commitment

The term commitment is widely used in sociology, psychology and organisational studies. In definitions and usage these terms, values, norms, effects, attachments and incidents are emphasised. This implies that commitment shares some of the referents of organisational culture (Ashkanasy et al. 2000:339). Ashkanasy *et al*, also argue that it is possible to integrate the different conceptual constructs of organisational commitment into organisational culture. They state that the concept of commitment can be linked to organisational culture, when commitment can be seen as an instrument of culture. Strength of culture can easily be conceptualized as strength of commitment. In the language of commitment, consistency of culture is the social symmetry of objects, bases, foci and consequences of commitment. A strong culture often enables an organisation to achieve excellent performance (Deal and Kennedy, 1983:146). Commitment is positively linked to job challenge, degree of autonomy, the variety of skills an employee is required to display and participation in decision-making (Drummond, 2000:72). Commitment is also linked to organisational loyalty, feelings of personal importance to the organisation and fulfilment of expectations (Mowday *et al.* 1979:245 and Meyer & Allen, 1997:25).

Management of commitment is also management of culture, because it is commitment that binds people to an organisation's ideas, norms, and rituals while culture is the glue that keeps it together, and makes all the aspects, be it people or non-tangible concepts 'fit' and tie in together. Research verifies that commitment is likely to be a product of leader actions, therefore leader actions are a result of organisational culture. What leaders do, prioritize and act upon, strongly influence employee commitment. The lack of full commitment to change is one of the prime reasons success stories are so rare. Steering commitment to change is not easy, and the process is something for which many are not prepared for (Conner, 1998:155).

METHODOLOGY

For the purpose of this research, descriptive and inferential statistics were used to analyse the data that was collected from staff at a University of Technology. The data was analysed using SAS. The response of the questionnaires was provided in its original format and was captured on Microsoft Access. It was then converted into SAS-format through the SAS Access module. The diagnostic measurement tool used is the reliability coefficient which was the Cronbach's Alpha.

A reliability test was applied to all the items (statements) in the questionnaire. According to the Cronbach's alpha coefficients 0.9382 was obtained for raw variables and 0.9385 for standardized variables, which are higher than the acceptable level of 0.70. Chi-square tests and cross-tabulation were used for determining the correlation

between biographical variables. Cross-tabulation and Chi-square-based entails a measure of association - a technique for comparing two or more classification variables.

The target population can be described as all academic/research, support and administrative staff of a recently merged tertiary institution. The unit of analysis is each employee regardless of their status within the respective departments and across all the participating campuses. No sample was actually selected from the overall population, thus the sample is made up of those who voluntarily responded to the survey. The organisational commitment questionnaire (OCQ) of Mowday, Porter and Steers was adapted to the circumstances and the biographical information of the university.

Analysis

A 60% return rate was achieved and all completed questionnaires were used in the analysis. The questionnaire as designed by Mowday *et al.* was adapted and was divided into the following sections:

- Commitment to the university.
- Compensation satisfaction.
- Training.
- Supervisor rating.
- Career development.
- Balance between work and personal life.
- Biographical information.

These variables were measured and analysed. All the statements used a 5-point Likert scale as a response method, thus an ordinal scale as well as descriptive and inferential statistics for continuous data was used.

Descriptive Statistics

The statements are reflected on a frequency table, showing the frequencies in each category as well as the percentage out of the total responses and indicating the means and standard deviations. Note should be taken that the number of respondents (N) may differ from variable to variable due to the fact that not all of the questions were answered by all the respondents.

FINDINGS AND CONCLUSION

Introduction

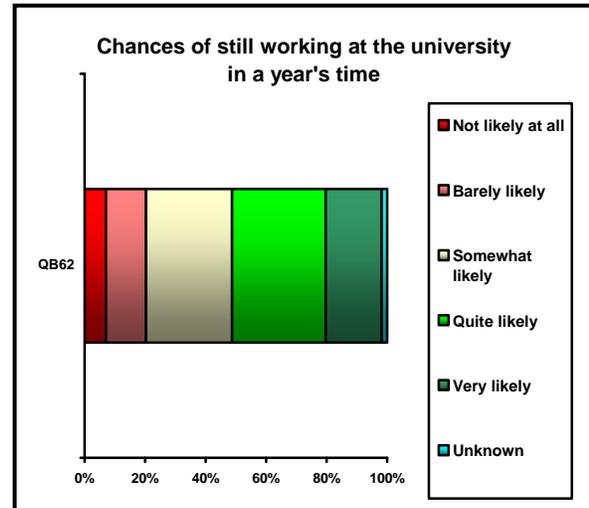
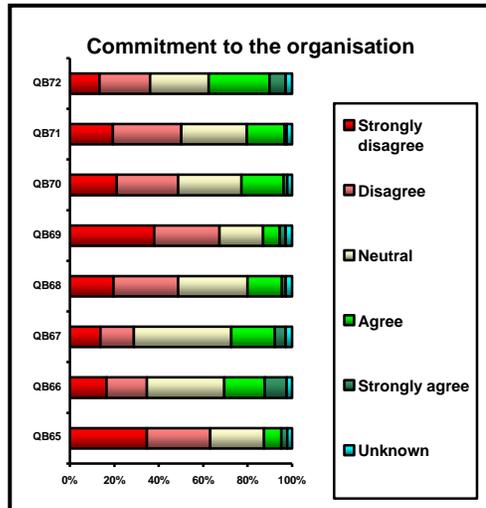
Readers have to realise that commitment and culture are not tangible commodities therefore they are extremely difficult to identify. All participants brought their own feelings and perceptions to bear on the questions put forward to them in the questionnaire. With the merger now finally concluded, employees have had to make extreme paradigm shifts and adaptations to new management, altered policies and procedures. However, the findings suggest that many other factors played a role in the commitment to the organisation and probably reflect clearly of how employees feel about leaders and the behaviours they exhibit. Research work done by Bowditch & Buono (2005:87), Ashkanasy *et al.* (2000:352), Collins (2001:37), Denison (1990:112), Kets de Vries (2001:95) and Kotter (1999:66) verifies and confirms that the feelings employees have towards their leaders, managers or supervisors are expected due to leader behaviours exhibited.

Staff commitment and turnover

When employees are dissatisfied with their jobs they may go through a process of withdrawal, which is likely to have a negative impact on their performance. This in turn makes it harder to motivate them and it means they are unlikely to remain committed to the organisation. There are many reasons for employees deciding to leave an organisation. These range from employee support, through the type of remuneration and reward, to the organisation not meeting the employees' expectations. It has also been found that organisational culture can

have a profound effect on whether an employee stays or leaves (Bloisi 2007:271). More than half of the university staff 67.4% reported that they have to remain at the institution wholly based on the fact of work scarcity in the South African market.

The cost of staff turnover can be substantial. Not only are there direct financial costs of replacing staff, but also other repercussions to deal with such as the potential loss of key skills, knowledge and experience, disruption to operations and negative effect on workforce morale. As indicated in the tables below 67.4% of the staff indicated that they would leave the employment immediately if there was another job opportunity, while 40% of the staff indicated that they will leave the institution within the next year.



Compensation

Despite the tendency in recent years to downgrade the importance of pay (Luthans, 2002:146) as an organisational reward, there is considerable evidence that money can be positively reinforcing for most people. A startling number of staff, 45.6% indicates dissatisfaction with the manner in which the university management provides information relating to pay issues. 41.4% indicate that there is perceived inconsistency in the application of the university's compensation policies.

Ratings of supervisors

One observation is that 40% employees have good relations with their direct supervisors and have therefore are sufficient comments, response and feedback. Generally the overall indication is that employees are satisfied with their direct supervisors on this variable.

Career development

The reactions to the questions are alarmingly negative especially in the positive light of the supervisors. Once again this negativity points to senior management, who set up policies relating to compensation, promotions and career opportunities.

Balance between work and personal life

The negative and costly consequences of uncontrollable imbalances in the workplace are reflected in the rising numbers of work-related accidents, increased turnover and higher absenteeism. The institution is at risk because there is the possibility of more staff having to leave due to the imbalance and stress they experience. One issue that management has to contend with is whether the institution is understaffed and whether the remaining employees are getting the necessary support from senior management.

The old cliché of employees being required to leave their troubles at the ‘factory gate’ is totally unrealistic. Events in employee’s private life can lead to stress which spills over into the work place and vice versa (Gibson *et al.* 2006:212). Cartwright and Cooper (1996:214) also argue that the relationship between home and work, more specifically job and family conflict can be conceptualized as a lack of fit at the interface of work and family roles. According to researchers (Cartwright & Cooper, 1996:219 and Nelson & Quick, 2005:127), organisations are able to reduce stress and its consequences by creating a climate which is conducive to trust, openness, transparency and direct communication.

Senior management

The actual amount of participation in making decisions ranges from no participation, where a manager makes the decision and asks for no help or ideas, to full participation (Luthans, 2002:376). In the survey, 63.1% of the respondents disagree that senior management style is characterized by team work and participation in decision-making. The question regarding individual innovation of the management style was met with an equal percentage of respondents (34.7%) disagreeing and remaining neutral. Staff also indicated indecisiveness regarding predictability in relationships with 43.9% indicating detachment. A question on leadership styles of senior management reflects that 48.7% of the staff feels that there is no achievement in the university management style, while 31.2% remain neutral. The less trust there is within the organisation, the less commitment employees feel towards the organisation (Covey, 2006:35).

Conclusions

Based on the inferential statistics, analysis and evaluation, it can be concluded that the merger may be successful on paper, but it can fail its employee component dismally. Employees at the university are not committed to the institution and remain in service because of necessity attributable to external forces.

The analysis of the results confirms an interdependence of commitment, leadership, trust, compensation factors, job satisfaction, job characteristics, supervisor’s ratings and the balance between work and private life in organisational change. The employees indicate various levels of negativity towards all aspects in the institution. All the stressors mentioned are related to negative attitudes towards the university.

The results showed a positive relationship between organisational commitment and positive attitudes to change, confirming evidence from the literature that organisational commitment is one of the most important determinants of successful organisational change (Ashkanasy *et al.* 2000:61). The more employees identified with their organisation the higher the commitment to the organisation and the greater the willingness to accept change (Lawler & Worley, 2006:243)

THE WAY FORWARD

“Leaders know that while their positions may give them authority, their behaviour earns them respect. Leaders go first. They set an example and build commitment through simple, daily acts that create progress and momentum”.

Kouzes and Posner (2003:524)

According to DiPiazza & Eccles (2002:173) the ‘spirit of transparency’ is the first key to restoring trust in organisations. Transparency usually establishes trust within a short time (Covey, 2006:154). Particularly when trust is threatened, people do not trust what they cannot see (Covey, 2006:154). Managers can execute organisational change in various ways. In many instances the change process occurs at the expense of short-term losses in exchange for long-term benefits (Gibson, Ivancevich, Donnelly & Konopaske 2006:465).

If this institution is to survive the merger and all the changes associated with it, the university needs to respond quickly to these changes. A leadership climate is created by the nature of the work environment and administrative practices of managers. The leadership climate generally affects any change effort; any change

programme that lacks managements support or commitment therefore has only a slim chance of success. One can understand that the style of leadership may itself be the subject of change.

Leaders with high levels of credibility are seen as trustworthy. They have a strong sense of right and wrong and stand up and speak up for that what they believe in. Credibility can be defined as the ability to engender trust in others. This quality is non-existent at the university. Credibility comprises two components: expertise and trust which also seems non-existent. The university and especially its senior management need to implement intensive intervention through effective and targeted coaching aimed for derailed managers.

Some leader's behaviours need to be changed (Huges *et al.* 2006:223). But changing behaviour, especially long-standing patterns, can be quite difficult. Learning to change these behaviours is a key leadership skill given that situations, technology, organisational structure, followers and employees seem to be in a constant state of flux. A longitudinal study done (Bloisi 2007:342) over a five year has found that the majority of people who were coached were able to change their behaviour. This study has so proved that long-term change needs long-term intervention.

The way forward entails rethinking. Management needs to rethink its strategy and the visions of the institution. Many organisations have found that they are able to develop new strategies from a financial or rational point of view. It is recommended that the university should aim for a deeper understanding of what it can be best at, to use as parameters for strategic choices.

Senior managers refer to employees as their most valuable asset as well as to the importance of empowerment and commitment for a competitive edge and long-term profitability. Based on research, Pfeffer (1998:3) argues that high-committed people practice building organisational cultures, increase productivity and performance. The ideas about high-commitment people-orientated management practices are not new. These have been seen in participative management, empowerment, total quality management, self-managed work teams and other management activities.

The importance, however is that the 'common-sense' people ideas in relation to the so called common-sense ideas on downsizing, cost-cutting, reengineering and technology as the saviours of all, cannot logically exist if the organisation wants to build commitment and an organisational culture. The university management cannot say they value people when they disregard their growth in the job and organisation. This disregard will damage the organisational culture and destroy the university employee commitment.

The university needs to coordinate people practices which are crucial for building and developing the university culture and sustaining commitment. Collins (2001:130) and Kotter (1999:2) have in their extensive studies found that one of the common success factors across all organisations researched, is the importance they place on their human resources. The university needs serious intervention that will embrace and cultivate a strong and proud culture by encouraging commitment and appointing knowledgeable and proficient leaders.

It has been reported that surveys of senior leaders who have experienced a merger, reflect a common belief that due diligence exercises underestimate the cultural aspects of the merger. These lead to tremendous integration issues after the deal has been completed. The impact of mergers on employees is so intrusive it creates uncertainty and anxiety among individuals in the merging organisation.

The university leader's and senior management need to adapt a policy of persistent repetition and consistency to create a fully aligned culture. Management needs to be unshaken in their belief that what they are doing is the right thing to do. This requires a certain degree of mental toughness, thoroughness, attentiveness and commitment. Being "tough" or "attentive" is often misinterpreted. Being tough is not about the fact that you can dismiss people during bad times, make budget cutbacks or win at negotiation. It means to stand fast on values and principles and bear in mind the human component at all times.

Commitment through words alone is not enough. As mentioned previously people in any organisation are "professional boss watchers". They will ultimately mimic the behaviours of leaders in those organisations. Along with passion and enthusiasm management at the university must demonstrate commitment through their actions.

Management at the university must be in control of things. They need to be totally aware of how the vision of the university is being implemented. This does not mean that management should micro manage, which is a major de-commitment factor. It means knowing enough to ask important and specific questions. It involves the skill to do this in a way that lets employees know management is in the lead and is taking an interest in what employees are doing while not infringing on employees' responsibilities or implying that they are incapable.

Management must hold people accountable, yet give them the appropriate authority, empower them. Being knowledgeable is critical to being effective. Leadership is a transaction between leaders and followers. Both have to coexist effectively. Leaders must pay attention as well as capture it. While leadership is about the motivation and inspiration of people, a leader still has to invoke many of the same skills that make an effective manager. Among these are a strong sense of focus, personal discipline and delegation skills and creating a high degree of accountability. While management can and should set themselves firmly on the path toward their organisation's future, it is obvious that success cannot come without the well-orchestrated efforts of the entire organisation. This coordinated effort is at the very heart of management's mission and the leaders need to hold people accountable for its effective implementation.

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BUSINESS STRATEGIES INCORPORATING SUSTAINABLE DEVELOPMENT PRINCIPLES: TOWARD AN APPLICATION OF A FUNCTIONAL ECONOMY

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ABSTRACT

In the last century, the exploitation of natural resources for human benefits has increased its pace and has become more aggressive. Today, humanity is on the brink of an ecological crisis that endangers even the existence of life on this planet. As a response to this ecologic crisis, the paradigm of functional economy was recently introduced and developed in order to propose effective solutions for the sustainable development of the society and the economy. Considering the importance of integrating the sustainable development in the present economic, social and market system, this paper attempts to investigate what are the strategic approaches adopted by the British SMEs regarding sustainable development values and principles. The study adopts an exploratory approach, using only a convenience sample of firms that are specialised in production activities.

INTRODUCTION

For thousands of years, humans have exploited the resources of the environment, processing raw materials, consuming food, water and air, and then discharging the residues back into the environment. However, not only humans, but all living organisms are engaged in this cyclical process. The residues are used and recycled by the environment, something serving as food for other species, or being decomposed into their basic elements by natural forces. The planet, as a whole, represents a complex system which is capable to regenerate itself, keeping a dynamic balance among various elements.

However, in the last century, the exploitation of natural resources for human benefits has increased its pace and has become more aggressive. This trend was determined, on the one hand, by the rapid growth of world population, and on the other hand, by the increased standard of living, based on high levels of diversified consumption. Today, humanity is on the brink of an ecological crisis that endangers even the existence of life on this planet. This ecological crisis is determined by the quick depletion of the natural resources, as a result of human consumption and activity. In the present conditions of resource exploitation the ecological system of the planet does not have the necessary time to process and recycle the resulting residues. As a response to this ecologic crisis, the paradigm of functional economy was recently introduced and developed in order to propose effective solutions for the sustainable development of the society and the economy.

Despite the practical and theoretical importance of functional economy there are yet no paper investigating the managers' level of awareness regarding the principles of sustainable development in relation to the strategic orientation adopted by the firm in this direction. After a short discussion of the main principles and strategies of functional economy, the article presents the research methodology applied to collect secondary and primary data.

The analysis of the main results is realised in direct connection with the formulated research objectives. The article ends with the main limitations of this study, and with propositions for future research.

THE FUNCTIONAL ECONOMY

Sustainable development has been defined in many ways, but the most frequently quoted definition is from *Our Common Future*, also known as the Brundtland Report (1987: 43):

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- the concept of **needs**, in particular the essential needs of the world's poor, to which overriding priority should be given; and
- the idea of **limitations** imposed by the state of technology and social organization on the environment's ability to meet present and future needs."

The visionary work of Stahel has introduced the concept of functional economy. Stahel (1997: 91) defines functional economy as 'one that optimizes the use (or function) of goods and services and thus the management of existing wealth (goods, knowledge, and nature). The economic objective of the functional economy is to create the highest possible use value for the longest possible time while consuming as few material resources and energy as possible. This functional economy is therefore considerably more sustainable, or dematerialized, than the present economy, which is focused on production as its principal means to create wealth and material flow'. Stahel (1997) identifies the main problems of the present ecological crisis, translating them in business and economic concepts: resource-use policies and oversupply. On the other hand, the existing solutions applied to reduce pollution and waste, such as recycling, are not capable to reduce the accelerated flow of resources, preserving the existing logic of the industrial system. The solutions envisaged by Stahel (1997) represent a paradigm change in terms of production and consumption (see Table 1). The implementation of a sustainable economy is based on reducing the use of natural resources, by increasing the product-life cycle and eliminating the forced obsolescence of products. From this perspective, changing the source of economic value depends upon enhancing product life through several key design strategies that should develop the following product qualities and features:

- durable and difficult to damage;
- modular;
- multi-functional;
- sub-components are standardized, self-repairing and easy to repair;
- easy to repair or upgrade;
- components can be reused in new systems;
- units or systems can be easily reconditioned and re-manufactured.

Table 1: Resource Efficiency and Business Strategies in the Service Economy (Stahel, 1997)

	Implementation of Strategies	
	Closing Material Loops (technical strategies)	Closing Liability Loops (commercial/marketing strategies)
Resource Efficiency Strategies		
Reduce the volume of the resource flow	Ecoproducts •dematerialized goods •multifunctional goods	Ecomarketing •shared utilization of goods •selling utilization instead
Reduce the speed of the source flow	Remanufacturing •long-life goods •product-life goods •cascading, cannibalizing	Remarketing •de-curement services •away-grading of goods and components •new products from waste
Reduce the volume and speed of the resource flow	System solutions •Krauss-Maffei plane transport system	Systemic solutions •lighthouses •selling results instead of goods •selling services instead of goods

Another viable solution is the implementation of a service-based economy, in which the companies must re-focus their corporate mission on providing benefits and services rather than manufacturing goods. As a company moves from maximizing sales of material products to the delivery of customer satisfaction, its long-term source of competitive advantage will become the ability to provide services. Revenues could come from leasing long-life equipment, maintenance and service, upgrading and updating of systems, replacement of parts and supplies, or service provider training and licensing.

The feasibility of this new economic model is proved by a series of firms that have already implemented a service orientation. For example, Xerox's asset management program is focused on selling photocopying services instead of photocopies. Asset recycling is now part of a new business process that includes an asset-recycling management organization. Xerox is decoupling manufacturing volume from turnover and profits, regionalizing activities, and changing skill pools and employee responsibilities accordingly (Stahel, 1997: 96).

New business approaches in the context of a functional economy

The development of the functional economy requires a change of paradigm, and a transformation of the existing business models. This transformation should be based on an extended set of values that should guide both organisational activities and consumer behaviour (Jones, 2009). If until now the main goals to be achieved by business organisations were effectiveness (getting things done), and efficiency (getting things done with the lower possible costs), now, the sustainability dimension should also be added to this value system (getting things done with the lower possible costs, while preserving the long-term sustainability of the economic, social and natural environment).

On the other hand, the values determining consumer behaviour, which until now included mainly satisfaction (satisfying needs and wants) and convenience (satisfying needs and wants with the low possible costs), should be complemented by sustainability (satisfying needs and wants with the low possible costs, while preserving the long-term sustainability of the economic, social and natural environment). Finally, the main exchange process between consumers and organisations should be re-structured taking into account not only the transactional and the utility value of goods and services, but also the sustainability value.



Figure 1. The new system of values of the production-exchange-consumption system

These two aspects of the economic activity are interdependent and complementary, and both should be transformed and mutually adjusted by introducing at the core of the production- exchange-consumption system the sustainability imperative (see Figure 1).

This study attempts to define a series of business approaches that correspond to the principles of the functional economy and to verify their existence in a number of companies. The methodological approach is exploratory, the paper trying to identify a possible change of paradigm/perspective in the business orientation of modern

organisation, triggered by the adoption of sustainable development models. However, this study has no pretension of exhaustiveness or generalisation, the companies investigated being selected through a convenience sampling method.

Considering the features of the functional economy proposed by Stahel (1997) it is possible to identify three strategic approaches that can gradually determine the introduction of a sustainability orientation in business organisations:

1. Recycling: the organisation initiates internal programs for recycling waste. According to Stahel (1997), although recycling initiatives demonstrate concern for environment and for sustainable development, it does not represent a radical change of the present market philosophy. In addition, the implementation of effective recycling programs can create the illusion that progress is made for implementing sustainable development principles, when in reality the recycled waste may increase in quantity, fuelling the existing production/consumption system.
2. Increasing the sustainability of organisational/industrial processes: this second orientation requires the implementation of an integrated system which, on one hand increases the overall effectiveness of environmental protection (e.g. through selection of specific raw materials and suppliers, the application of more efficient and less pollutant technological processes, investment in ecologic product development, etc.), and on the other hand adopts recycling procedures for waste. This strategy creates the bases for a virtual circle of sustainable activities that reinforce each other both at the level of the organisation and of the industrial sector (Baumgartner, 2009). The implementation of these activities can determine the development of a new type of economic ecology, in which the application of sustainable development principles will represent an essential condition for survival and development.
3. Increasing the sustainability of consumption processes: in this phase, the organisation attempts not only to introduce sustainable development principles in the organisational and in the industrial environment, but initiates communication campaigns with the main stakeholders in order to modify their system of values and/or their consumption behaviour. This behaviour does not contradict, but rather completes the previous phase in which the firm attempts to actively transform the organisational and industrial environment.

Considering the importance of integrating the sustainable development in the present economic, social and market system (White and Lee, 2009), this paper attempts to investigate what are the strategic approaches adopted by the British SMEs regarding sustainable development values and principles. The study adopts an exploratory approach, using only a sample of firms that are specialised in production activities.

RESEARCH METHODOLOGY

The research objectives of this study are the following:

1. To identify the level of knowledge of the main entrepreneur/manager of the British SMEs regarding the definition and the main principles of sustainable development.
2. To analyse the situation of these firms regarding the adoption of sustainable development strategic orientations.
3. To identify the main real or perceived barriers for the implementation of sustainable development strategic orientations.

In order to investigate these research objectives, both secondary and primary data have been collected and analysed. In the first stage of the research process, a series of books, articles, market reports and statistics have been accessed in order to obtain a general image of sustainable development principles, functional economy models, and the development of specific business strategies that are related with these two new trends. In the second stage, primary data was collected from a sample of 68 UK SMEs, specialised in production activities. The data was collected between May and July 2008, through a series of telephone interviews with the CEOs of these firms. Initially 250 UK SMEs have been randomly selected from the Kompass database, and then contacted through telephone or email, inviting them to participate in this research project. 77 of these firms have answered affirmatively, but later, only the CEOs of 68 enterprises found the necessary time to participate in the telephone structured interview. The data thus collected was coded and introduced into the SPSS software. The level of data analysis is characteristic for exploratory studies, the paper presenting only frequencies, cross-tabulations and a chi square test that verifies the relationship between the CEOs' knowledge of sustainable

development definition and the business strategies implemented within the firm. On the other hand, a series of qualitative comments and information provided by respondents is presented in the paper in order to complement and explain in more detail the strategic approach of these firms in relation to sustainable development trends.

PRESENTATION AND DISCUSSION OF RESULTS

The CEOs level of knowledge is presented in Table 2. In order to evaluate this variable, the CEOs that knew to reproduce the definition and the principles of sustainable development, and to comment on its impact on business activities were considered to have a good level of knowledge; The CEOs that were able to reproduce either the definition or the principles of sustainable development were considered to have a medium level of knowledge, and finally, the CEOs that only knew a few vague notions about sustainable development trends, were classified in the low level of knowledge category. However, it is important to note that all the investigated CEOs had some knowledge about sustainable development, although this situation could be determined by the fact that only the CEOs familiar with or interested by sustainable development issues have declared their availability to participate in this study.

As it can be seen from Table 1 a large percentage of respondents CEOs have a low knowledge of sustainable development (45.6%), about a third of them have a medium level of knowledge (35.3%) and only about 20% of the CEOs had a good or a very good level of knowledge and interest regarding sustainable development – only one in five respondents could reproduce both the definition and the principles of sustainable development.

Table 2. The level of CEOs' knowledge regarding sustainable development

Level of CEOs' knowledge	Frequency	Percentage
Good level of knowledge	13	19.1
Medium level of knowledge	24	35.3
Low level of knowledge	31	45.6
Total	68	100

Although the size of the sample and the research methodology applied do not permit the generalisation of findings, these results are far from encouraging. This situation indicates a possible need for training sessions, workshops, conferences on the topic of sustainable development and on its impact on future business activities organised either by the government or by professional associations, in order to increase the level of knowledge of managers about these issues, and provide a forum for development and exchange of new ideas.

Table 3: Cross-tabulation between the CEOs' level of knowledge about sustainable development and the range of strategies applied

Level of CEOs' knowledge / Strategy applied	Good level		Medium level		Low level		Total	
	N	%	N	%	N	%	N	%
No strategy	2	15.4	8	33.3	13	41.9	23	33.8
Recycling	4	30.8	10	41.7	18	58.1	32	47.1
Transformation of organisational procedures	7	53.8	6	25	0	0	13	19.1
Transformation of marketing communication	0	0	0	0	0	0	0	0
Total	13	100	24	100	31	100	68	100

Chi square = 18.153

p = 0.001

The data displayed in Table 3 shows that there is a statistically significant relationship between the CEOs level of knowledge about sustainable development and the range/type of sustainable strategies implemented in their organisations, to a level of $p = 0.001$. It is not very encouraging that 33.8% of respondents did not implement any sustainable development strategy in their firms, although they were aware of these issues. This raises also the questions if an increase in the level of knowledge of the general population, and of business managers is enough to initiate positive action regarding sustainable development activities. The results of this study

obviously suggest that this is not the case. It is therefore important that the educational activities are also complemented by a change in the personal and social systems of values, which can determine an increase of individual and group responsibility regarding sustainable development issues.

A large percentage of respondents (47.1%) have already implemented in their organisation some form of recycling activity, sometimes determined by state legislation or initiatives. Finally, 13 respondents (19.1% of the selected sample) indicated that they apply more complex sustainable development strategies, working together with their suppliers to reduce the amount of waste and /or pollution, or to develop more ecological products. Unfortunately, none of the interviewed CEOs declared that they initiated also activities directed toward market and consumer behaviour transformation. In most cases, they considered that this type of activities might be too risky, and that it should not be the responsibility of firms to change and educate public opinion, but rather the role of the state. They feared that these activities can be misinterpreted by the target consumer segment, and irreversibly damage the image, reputation and competitive advantage of the business organisation. In addition, some CEOs declared that although there are many public declarations that support sustainable development activities, they feel that in many cases this is a superficial change, and that consumers continue to take the same purchase decisions based on routine, personal satisfaction, or price level.

Table 4: Problems experienced with the implementation of sustainable development strategies

Problems experienced	Frequency	Percentage
Lack of knowledge - top management team	31	45.6
Lack of knowledge - employees	45	66.2
Lack of knowledge – strategic group	26	38.2
Costs	53	77.9
Lack of clear benefits	17	25
Lack of market demand	24	35.3
Lack of government support	37	54.4
Lack of formal frameworks/best practices	44	64.7
Total	68	100

A very important category of results are the problems indicated by the respondent CEOs in the implementation of sustainable development strategies (see Table 4). These answers synthesise both the problems really encountered, as well as the problems perceived by some CEOs that have not implemented any sustainable development strategy, maybe exactly because of this perception.

The problem indicated by most CEOs was the cost of initiating, developing and implementing sustainable development strategies. It is interesting to investigate further what are the strategic areas that determine these costs. In fact some of the other problems indicated by respondents can provide an insight about these barriers. The lack of knowledge of the employees about sustainable development can represent one of these – some CEOs feel that the training of employees to change their frame of mind can be quite expensive and it should be taken in charge by the state. A similar problem is related with the lack of formal frameworks or best practices about the sustainable development strategies adapted to SMEs – CEOs fear that being a pioneer in this area brings very few benefits, but potentially high costs.

More government support is required by 54.4% of respondents, while 45.6% recognise that their own level of knowledge and expertise is very limited regarding sustainable development issues. 38.2% of the CEOs perceive that the actors involved in their strategic group (partner organisations, competitors, governmental agencies) also lack the knowledge about these issue, and 35.3% consider that the market demand for sustainable products or services is not yet mature or stable, making this organisational transition very risky.

CONCLUDING REMARKS

The application of sustainable development principles in modern business strategies becomes slowly but surely an essential issue not only for the competitiveness of business organisations, but also for the survival of the

planet. Unfortunately, this study shows that there are relatively few companies that have already introduced a clear sustainable development orientation in their business strategy.

This paper has a number of limitations determined by its geographical scope and by its methodological approach. The data collected were only superficially analysed, and a series of other independent variables that might influence the adoption of sustainable development strategies have not been considered, such as firm size, firm age, or industrial sector. On the other hand, the low number of respondent firms makes the generalisation of results difficult, even for the UK population of SMEs. Similar research projects should be developed in other countries, in order to validate the research methodology developed in this study, and to compare the obtained findings.

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PROFITABILITY AND M&As: AN ANALYSIS OF THE ISTANBUL STOCK EXCHANGE DATA

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ABSTRACT

The objective of this study is to determine the financial indicators of the mergers and acquisition (M&A) that took place in İstanbul Stock Exchange (ISE) between 2002-2004. We also analyze the financial consequences (profitability) of these companies after an M&A re explained determine the financial factors affecting the profit levels of merging companies is important to evaluate the performance of companies. Our findings indicate that there are different financial indicators that are effective on the profit and for explaining the profitability of merging companies. Overall, for all companies which performed merger and acquisitions current assets are found to be significantly and commonly affecting the profitability of companies.

INTRODUCTION

In an M&A, whether a merger or an acquisition, two or more corporations decide to put their resources under one management. In an acquisition, one of the parties plays a dominant role. After combining the resources, while the weak parties disappear as an entity, this dominant company is the only one that continues to exist. In a merger, after the decision to put resources together, both parties continue exist as legal and economic entity.

Ultimately, the primary reason behind every M&A is the long-term profits for both parties of the transaction. Whether it is a merger or an acquisition both parties believe that they will be better off as a result of this transaction. In this study, we try to establish some of the significant determinants of these expectations by looking at the available M&A data from the İstanbul Stock Exchange for the period of 2002-2005. Our statistical analysis is based on panel regression analysis where dependent variable is net profits and independent variables are net sales, operational cost, equity, current assets, short-term debt, long-term debt and financial expenses.

There are numerous theoretical explanations why we have so many M&As. We are going to mention some of the most notable findings in this field. Goldberg (1983) determined that the expected increase in the value of shares, benefits of economies of scale are some of the primary reasons for an M&A. Pfeffer and Salancik (1978) have found out that only the vertical and horizontal mergers created a consistent explanation of M&As. The same study has also found the "Concentration" in the sector as an important determinant. Conn (1976) has determined that pre-merger firms in the sector have entered a growth period of 5 years prior to an M&A. Below is a list of research confirming findings of Pfeffer and Salancik:

- ❖ Gort (1962), Mueller (1969), Reid (1968), Meeks (1977), Mandelker (1974) and Lev and Mandelker (1972); have determined that an M&A no impact on profits and the increase in market share was insignificant.
- ❖ Firth (1969), (1976, 1980), Meeks (1977), Utton (1974), Kelley (1967), Utton (1974), Dodd and Ruback (1977) have also found that while shareholders of the surviving companies lost, the shareholders of captured firms tend to gain from an M&A.
- ❖ Dewing (1921), Firth (1975), Meeks (1977), Utton (1974), Kelley (1967) have found that earnings of merging companies have decreased after a merger.
- ❖ Dewing (1921), Firth (1976), Livermore (1935), Reid (1962) have found out that prior to a merger expected benefits of merger was exaggerated, Kelley (1967) has found that the profit stays the same.

- ❖ Comparing captured companies with those that are not captured, an increase of profit can not be seen. Moreover a decrease was determined: Reid (1962), profit is equal: Kelley (1967), Firty, it is profitable (1979).
- ❖ Hogarty (1970) found that share prices of merging companies did not show a significant difference when they are compared to non-merging companies

The rest of this paper is organized as follows. It begins with a brief review of the literature followed by the data source and methodology. Then the empirical results are presented. This is followed by the conclusion in the final section and future directions are discussed.

THEORETICAL FRAMEWORK

Financial Structure and Profitability

In the research, Ismail and Eldomiaty (2004), made on businesses making transaction in the Cairo Stock Exchange, have brought together various ratios being used in the model they have established with the Bayesian method, have researched the most appropriate variable being effective on the financial structure of profitability, and have expressed the tax exceptions, market risk, bankruptcy risk and growth rate the business owns are effective on the determination of the financial structure.

Durukan (1997), in ISE his research covering the years 1990-1995, has also defended that profitability is one of the most important factors affecting the financial structure of businesses. Lööf (2003) has examined different and similar aspects of factors affecting the financial structure of businesses operating in different economic systems and sizes in Sweden, the USA and England. He has put forward that, even if they are in different economic systems that there are common factors being effective in determining the financial structure of enterprises, and he has argued that these common variables of the sector are size, capital supply and taxation. As Profitability does influence the capital structure and internal resources of enterprises they have a critical role on the financial structure and in terms of businesses and investors is an indicator with strategic importance. Many studies being made on the relationship between financial structure and profitability according to the results and the direction of the obtained relation they are divided into two groups as negative and positive.

Negative Relationship Between Financial Structure and Profit

Demirguc - Kunt and Maksimovic (1995) in ISE, who examined the impacts on profitability, liquidity, capitalization, inflation, growth rates and different financial rates with the help of a multiple regression model, have claimed that in terms of large-scale companies there is a negative relationship between short-and long-term leverage ratio.

Megginson, (1997), Myers (2001) and Kester (1986), are researchers who claim that there is a negative relationship between profitability and the financial leverage showing the debt-way of businesses. Demirhan (2007), in ISE, in his research covering the years 2003 - 2006, has claimed that there is a negative relationship between profitability and liquidity and fixed assets. Chen and Zhao (2004), have tried to put the relationship of profitability and financial structure of manufacturing enterprises in the U.S.A in the period 1971-2001 by saying that "profitable business do prefer internal resources instead of external sources for financing new investments" and have said that "The negative relationship between profitability and leverage ratios cannot be explained with the dynamic theory" (Chen and Zhau, 2004). As the result of the investigation Huang and M. Song (2006) on the capital structure and profitability of 1200 enterprises in China in the 1994-2003 period, they have demonstrated that there is a negative relationship between the two variables (Huang and Song, 2006). Bevan and Danbolt (2002) have revealed that there is a negative relationship between the financial leverage ratios and profitability ratio supporting the financial hierarchy's theory.

Positive Relationship between Financial Structure and Profitability

When Uzunlar (1998) expresses that there is a relationship between the active profitability and capital structure according to the market value of assets (on equity, sales and profit per share) he is specifying that the relationship between the capital structures is not clear and saying that there is a strong relationship between profitability and capital structure.

Toy et al. (1974) have found out that there is a positive relationship between debt ratio and profitability. Abor (2005), has identified that there is a positive relationship between the ratio of short-term debt to total assets and profitability on equity (FVÖK / shareholders' equity), a negative relationship between the ratio of long-term debt to total assets and profitability equity and that there is a positive relationship between the ratio of total debt to total assets and profitability equity. Sueyoshi, claims that shareholders' equity profitability is an important financial factor in terms of financial problems and bankruptcy (Sueyoshi, 2005). While Chen and Zhau do explain that profitable firms are firms with high market value and book value, they point out that profitable firms have more growth potential (Chen and Zhau, 2004).

DATA SOURCE & METHODOLOGY

In this paper financial data belonging to merger and acquisitions performed by Turkish companies registered at ISE between 2002 and 2004 in Turkey is used. Data set covers the company performance before and after mergers and acquisitions by Turkish companies effecting transactions in ISE. In order to do this, three years before merger (1999-2000-2001) and the year 2002 merger and acquisition is performed and next three years (2003-2004-2005) financial values taken from ISE's balance sheet and income sheet. The analysis is made by using annual balance sheet and income tables of 45 companies between 1999 and 2007, which performed merger and acquisitions in 2002, 2003 and 2004. The following variables are used in the analysis. NP shows net profits, NS denotes net sales, OP denotes operational cost, EQ denotes equity, CA shows current assets, SD denotes short-term debt, LB denotes long-term debt, FE shows financial expenses.

The statistical models combining both the cross-section data, that record at a point in time the way an economic variable differs across different individuals and groups, and the time series data, as a sequence of measurements of a variable at different points in time, have become highly popular in the recent empirical papers of researchers and policy makers. A standard model of panel data set can be specified as follows;

$$y_{it} = x_{it}b_{it} + e_{it} \quad (1)$$

where $i = 1, 2, \dots, N$ refers to a cross-section unit and $t = 1, 2, \dots, T$ refers to time period. y_{it} and x_{it} are the dependent variable and the vector of non-stochastic explanatory variables for individual i at time t , respectively. b_{it} are unknown coefficients that are assumed to vary with respect to individuals and time, and e_{it} is the error term. For our analysis we estimate a model of panel data set given as follows:

$$M_{it} = X_{it}\beta_{it} + \varepsilon_{it} \quad (2)$$

where $i = 1, 2, \dots, N$ refers to a cross-section unit which are companies and $t = 1, 2, \dots, T$ refers to time period. In equation (2) M denotes profitability of the companies which performed the merger and acquisitions and trade on the stock exchange in Turkey, Istanbul Stock Exchange (ISE) in 2002 and X_{ij} is the j^{th} financial variable taken from annual balance sheet and income tables of firm i . We compute the conventional random and fixed effects models from the specification below (Asteriou and Hall, 2007):

$$y_{it} = \beta'x_{it} + \alpha_i + v_{it} \quad (3)$$

where $\alpha_i = z_i'\alpha$ for the fixed-effects model, and $\alpha_i = \alpha + \mu_i$, for the random-effects model. Hausman and Taylor (1981) specification test has been used to make a choice between the fixed effects and random effects models so that whether or not the regressors have been correlated with individual effects has been tried to be investigated. Kim and Maddala (1992) propose a random effect model of the form:

$$y_{it} = \beta'x_{it} + \varepsilon_{it} \quad (4)$$

where $\varepsilon_{it} = v_{it} + \omega_{it}$ with, v_{it} and ω_{it} independent normal, $\text{var}(v_{it}) = \sigma_v^2$ $\text{var}(\omega_{it}) = \theta_i^2$. That is, errors are assumed to be heteroskedastic, with firm- and time-specific components, but uncorrelated. Under the usual specification of the random-effects model, errors are homoskedastic and equi-correlated. That is,

$$\varepsilon_{it} = v_{it} + \omega_{it}, \text{ and } E(\varepsilon_{it}\varepsilon_{js}) = \sigma_v^2 + \theta_i^2 \text{ for } i=j, t=s, \quad (5)$$

$$E(\varepsilon_{it}\varepsilon_{js}) = \sigma_v^2 \text{ for } i=j, t \neq s, \text{ and } E(\varepsilon_{it}\varepsilon_{js}) = 0 \text{ otherwise.} \quad (6)$$

Given a panel data model where fixed effects would be appropriate the Hausman test investigates whether random effects estimation could be almost as good. The fixed effects model is estimated using a dummy variable for each firm. Fixed effects specification preserves the time series variation in net profit, but ignores most of the cross sectional differences among firms.

EMPIRICAL ANALYSIS

In this section the several panel regression explaining the profitability of the firms which performed the merger and acquisitions in 2002, 2003 and 2004 registered at ISE in Turkey. All regressions are undertaken using Eviews 6 program.

PROFITABILITY ANALYSIS OF COMPANIES WHICH PERFORMED M&AS IN 2002

The pooled ordinary least squares (OLS) results of estimating the profitability of the companies which performed the merger and acquisitions in 2002, using the explanatory variables such as net profits (NP), net sales (NS), operational cost (IE), equity (EQ), current assets (CA), short debt (SD), long debt (LD) and financial expenses (FE) are shown in Table 1 in the appendix. The period of the data set is between 1999 and 2005. For analyzing the profitability of the companies, we found that the Hausman test gives more support to fixed than to random effects model, since p -value of chi-square test statistics with 7 degrees of freedom is found to be 27.92. The null hypothesis of random effects model is rejected by our data set and fixed effect model is preferred. The Hausman specification test implies the non-existence of a significant correlation between individual specific effects and explanatory variables.

The cross sections have been estimated according to the fixed effects specification and related diagnostics are given in Table 1 in the appendix. We must specify that we have also estimated the random effects model and found that estimation results are highly similar to those from the fixed effects model. The goodness-of-fit statistics which are R square, sum of squared errors, durbin watson statistics for autocorrelation are reported in Table 1. R-square indicates that financial variables explain 91 % of the variation in the profitability of the firms. Sum of squared errors is found to be quite low. Durbin Watson statistics is 2.01 indicating no autocorrelation in our model. Equation (7) reports our estimation results for profitability of companies that merged in 2002.

$$NP = -1251419 + 0.019NS - 0.05IE - 0.09EQ + 0.15CA - 0.07SD + 0.048LD - 0.04FE \quad (7)$$

Considering the t -statistics, net sales, equity, current assets and short debt variables are found to be statistically significant at 5 % significance level. These determinants attempt to capture the effects of firm's environment on its profitability. We found insignificant results for operational cost, long-term debt and financial expenses. When looking at the estimation results from Equation (7), the coefficients of net sales, current assets and debt variables carry the expected signs. We found insignificant results for operational cost, long-term debt and financial expenses. Considering the significant variables, we found that net sales and current assets have positive influence on the dependent variable, whereas equity and short-term debt negatively affect firm's profits. We observe that the determinants included in our model affect the profitability of companies differently. According to model 1 current assets and equity have strong influences on profitability for the companies which performed the merger and acquisitions in 2002.

Profitability Analysis of Companies which Performed M&As in 2003

The pooled ordinary least squares (OLS) results of estimating the profitability of the companies which performed the merger and acquisitions in 2003, using the financial explanatory variables are shown in Table 2 in the appendix. Our data set covers the period between 2000 and 2006. For analyzing the profitability of the companies, we found that the Hausman test gives more support to fixed than to random effects model, since p -value of chi-square test statistics with 7 degrees of freedom is found to be 15.87. The panel regressions estimated according to the fixed effects specification and related diagnostics are given in Table 2 in the appendix. When we look at the goodness-of-fit statistics R-square indicates that financial variables explain 64 % of the variation in the profitability of the companies. Sum of squared errors is found to be quite low. Durbin Watson statistics is found to be around 2. Equation (8) reports our estimation results for profitability of companies that performed M&As in 2003.

$$NP = 4088181 + 0.04NS - 0.12IE - 0.02EQ + 0.16CA - 0.29SD - 0.103LD + 0.05CE \quad (8)$$

We found that net sales, operational cost, current assets, short-term and long-term debt variables are found to be statistically significant. We obtained insignificant results for equity, operational cost and financial expenses. Considering the significant variables, we found that net sales and current assets have positive influence on the dependent variable, whereas short-term and long-term debt affect firm's profits negatively. According to model 2 short-term debt and current assets have strong influences on profitability for the companies which performed the merger and acquisitions in 2003.

Profitability Analysis of Companies which Performed M&As in 2004

The estimation results of the profitability of the companies which performed the merger and acquisitions in 2004, using the financial explanatory variables are given in Table 3 in the appendix. Our data set covers the period between 2001 and 2007. For analyzing the profitability of the companies, we found that the Hausman test gives more support to fixed than to random effects model, since p -value of chi-square test statistics with 7 degrees of freedom is found to be 20.61. The null hypothesis of random effects model is rejected by our data set and fixed effects model is preferred. Looking at the goodness-of-fit statistics R-square indicates that financial variables explain 96 % of the variation in the profitability of the companies. Estimation results for profitability of companies that performed M&As in 2004 are given below:

$$NP = 457552.7 + 0.03NS + 0.04IE + 0.16CA - 0.107SD - 0.34LD - 0.16FE \quad (9)$$

We found that net sales, operational cost, current assets, short-term and long-term debt variables are found to be statistically significant. We obtained insignificant results for equity, financial expenses. Considering the significant variables, we found that net sales and current assets have positive influence on the dependent variable, whereas short-term and long-term debt affect firm's profits negatively. According to model 3 long-term debt and current assets have strong influences on profitability for the companies which performed the merger and acquisitions in 2004.

CONCLUSION

In this paper, we empirically examined the impact of key factors such as net profits, net sales, operational cost, equity, current assets, short-term debt, long-term debt and financial expenses on the profitability of companies which merged in 2002, 2003 and 2004. For the companies which performed the merger and acquisitions in 2002, the empirical analysis showed that net sales and current assets have positive influence on profitability of companies, whereas equity and short-term debt negatively affect firm's profits. We obtained that current assets and equity have strong influences on profitability for the companies for these companies.

For the companies that performed the merger and acquisitions in 2003, we found that net sales and current assets have positive influence on profitability of companies, whereas short-term and long-term debt affect firm's profits negatively. We conclude that short-term debt and current assets have strong influences on profitability for the companies which performed the merger and acquisitions in 2003. For the companies which

performed the merger and acquisitions in 2004, net sales and current assets are found to have positive influence on the dependent variable, whereas short-term and long-term debt affect firm's profits negatively. Long-term debt and current assets have strong influences on profitability for the companies for these companies. Overall, for all companies which performed merger and acquisitions current assets are found to be significantly and commonly affecting the profitability of companies.

Merger activity is full of contradictions; factors are of a wide variety. For future research it is necessary to use different determinants and statistical methods to find the answer for the discrepancies between the results with the initial objectives.

APPENDIX

Table 1. Regression Results for Companies which Performed Mergers and Acquisitions in 2002

Dependent Variable: NET PROFIT Cross-sections included: 12, Total pool (balanced) observations: 84				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1251419.	4719433.	-0.265	0.79
NET SALES (NP)	0.019	0.009	1.964	0.05
OPERATIONAL COST (OP)	-0.059	0.100	-0.592	0.55
EQUITY (EQ)	-0.092	0.045	-2.040	0.04
CURRENT ASSET (CA)	0.156	0.052	3.017	0.003
SHORT DEBT (SB)	-0.075	0.030	-2.494	0.01
LONG DEBT (LB)	0.048	0.035	1.361	0.17
FINANCIAL EXPENSES (FE)	-0.0409	0.107	-0.373	0.71
R-squared	0.911825	Mean dependent var	40610750	
Adjusted R-squared	0.887408	S.D. dependent var	77387233	
S.E. of regression	25967106	Akaike info criterion	37.17851	
Sum squared resid	4.38E+16	Schwarz criterion	37.72834	
Log likelihood	-1542.497	Hannan-Quinn criter.	37.39954	
F-statistic	37.34296	Durbin-Watson stat	2.016973	
Prob(F-statistic)	0.000000			

Cross Sections (companies): Arcelik, Aselsan, Anadolu Isuzu Oto, Akın Tekstil, Batiçim, Gubre Fabrikalari, Kartonsan, Kent Gıda, Konya Cimento, Otokar, Petrolofisi, Tofas.

Table 2. Regression Results for Companies which Performed Mergers and Acquisitions in 2003

Dependent Variable: NET PROFIT Cross-sections included: 8, Total pool (balanced) observations: 56				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4088181.	6573745.	0.621	0.53
NET SALES (NP)	0.046	0.023	1.947	0.05
OPERATIONAL COST (OP)	-0.124	0.105	-1.179	0.24
EQUITY (EQ)	-0.026	0.026	-0.988	0.32
CURRENT ASSET (CA)	0.165	0.062	2.629	0.01
SHORT DEBT (SB)	-0.293	0.089	-3.279	0.002
LONG DEBT (LB)	-0.103	0.058	-1.780	0.08
FINANCIAL EXPENSES (FE)	0.059	0.087	0.681	0.49
R-squared	0.640048	Mean dependent var	9091631.	
Adjusted R-squared	0.517138	S.D. dependent var	34942117	
S.E. of regression	24280673	Akaike info criterion	37.07219	
Sum squared resid	2.42E+16	Schwarz criterion	37.61470	
Log likelihood	-1023.021	Hannan-Quinn criter.	37.28252	
F-statistic	5.207441	Durbin-Watson stat	2.524325	

Prob(F-statistic)	0.000017	
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Cross Sections (companies): Cbs Boya, Eczacibasi, Gedikyatirim, Ihlas, Kaplamin, Kipa, Petkim, Vestel.

Table 3. Regression Results for Companies which Performed Mergers and Acquisitions in 2004

Dependent Variable: NET PROFIT Cross-sections included: 9, Total pool (unbalanced) observations: 62				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	457552.7	9149420.	0.050	0.96
NET SALES (NP)	0.037	0.009	3.998	0.0002
OPERATIONAL COST (OP)	0.047	0.019	2.471	0.01
EQUITY (EQ)	2.35E-06	1.33E-05	0.176	0.86
CURRENT ASSET (CA)	0.167	0.065	2.572	0.01
SHORT DEBT (SB)	-0.107	0.051	-2.095	0.04
LONG DEBT (LB)	-0.348	0.089	-3.905	0.0003
FINANCIAL EXPENSES (FE)	-0.164	0.432	-0.381	0.70
R-squared	0.969429	Mean dependent var	74190622	
Adjusted R-squared	0.959460	S.D. dependent var	2.13E+08	
S.E. of regression	42858681	Akaike info criterion	38.20235	
Sum squared resid	8.45E+16	Schwarz criterion	38.75129	
Log likelihood	-1168.273	Hannan-Quinn criter.	38.41788	
F-statistic	97.24630	Durbin-Watson stat	2.040228	
Prob(F-statistic)	0.000000			

Cross Sections (companies): Lafarge, Beko, Borusan, Eczacibasi Yatirim, Eczacibasi Holding, Ege Profil, Usas, Haci Omer Sabanci Holding, Cbs Boya.

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GLOBALIZATION AND SOCIAL CAPITAL: AN EXPLORATORY INVESTIGATION

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ABSTRACT

This paper is an exploratory investigation of the relationship between social capital and attitudes towards globalization. The study surveys a small sample of individuals who perceive themselves well positioned to compete in an increasing global environment. Four factors of globalization and two aspects of social capital were explored. The findings show that attitudes towards globalization and trust aspects of social capital are positively and significantly related.

INTRODUCTION

With increasing globalization there is a need to explore relationships between globalization and selected social and cultural aspects of nations. There are numerous works exploring the domestic consequences of globalization. Yet, there are few studies of globalization's impact on domestic social structures. Rodrik (1997) argues globalization can lead to national social disintegration. "The process that has come to be called globalization is exposing a deep fault line between groups who have the skills and mobility to flourish in global markets and those who either don't have these advantages or perceive the expansion of unregulated markets as inimical to social stability and deeply held norms," says Rodrik (1997). In essence, he argues globalization creates tensions between groups who have the skills and mobility to flourish in a global market environment and those who do not. This is similar to Mandel's (1999) contention that there are vast differences in wage growth between the New Economy and the Old Economy. If you are fortunate to work in the New Economy, it is globally focused, you have seen wage growth average 11 percent since 1994. If, on the other hand, you work in the Old Economy that is domestically focused, wages have declined by 4.5 percent. Consequently, globalization is raising pressure on workers and governments to respond to the impacts perceived to be the result of globalization.

To explore this problem, the concept of social capital is selected as the surrogate for the country's social structure. Fukuyama (2002) argues that social capital is vital to the efficient functioning of a nation's economy, is the fundamental basis of a stable liberal democracy, and constitutes the cultural component of societies. Therefore, it is an appropriate concept to explore the impact of globalization. While there is debate on the definition of social capital, one leading scholar, Putnam (2007), defines social capital as "social networks and the associated norms of reciprocity and trustworthiness." In an effort to understand the impact of globalization on social capital, this paper analyses the relationship between three social capital aspects of trust, three network forms, and mass attitudes toward globalization. A broad definition of globalization is accepted here and is kin to the views of Held, MCGrew, Goldblatt and Perraton (1999). They view globalization as processes that transform social relations and transactions through transcontinental flows and networks of activity. Such a broad definition implies different types of processes, such as political, economic, social, and cultural factors of globalization and the transformational nature of these processes.

These globalization factors and their interactions with different types of transactions matter because they have the ability to change how people perceive themselves and their interests. In other words, globalization impacts and changes social capital, and in turn, social capital impacts and changes people's attitudes toward globalization. For example, Rodrik (1997) contends one can not expect to find broad support for international trade when it involves transactions that clash with and erode domestic arrangements. Then again, Trigilia (2001)

argues that social capital (trust, networks and cooperation) is a strategic resource that improves the global competitiveness of a community and assists in its positive integration into the global market. Because there are several components to both social capital and globalization, this study explores how the components are associated with each other.

This paper begins with a brief discussion of the major dimensions of social capital and globalization. Then it presents the results of a survey to measure social capital and attitudes towards globalization. Finally, the study reports the results of a correlation analysis to explore the relationship between social capital and global attitudes.

DIMENSIONS OF SOCIAL CAPITAL

The literature of social capital that investigates issues in various disciplines and different subject areas are vast and expanding. One of the difficult issues in the application of social capital is to identify a suitable definition for it. Adler and Kwon (2002) have identified twenty different definitions of social capital. A number of key researchers in this area see social capital associated with trust (social cohesion) and social networks (Coleman, 1988; Fukuyama, 2002; and Putnam, 2007). A common theme across applications of social capital research is a focus on social relations and the productive benefits that arrive from it. The benefits from social capital formation range from high levels of economic growth; more efficient functioning of labor markets; low levels of crime; and improvement in the effectiveness of government operations (Knack and Keefer, 1997; Putnam, 2000). The definition used in the paper is kin to Putnam's (2007) where he sees social capital as "social networks and the associated norms of reciprocity and trustworthiness." Therefore, for this paper, trust and networks are the key indicators of social capital.

Dasgupta (2002) says, "Trust as a key ingredient in transactions is not controversial." In a transaction trusting that the other party will honor their side of the exchange or trade is essential not only for that particular trade, but to economic activities in general. Trust between international trading partners is necessary if trade and investments are to take place. In O'Rourke and Sinnott's (2001) study of nationalism's impact on attitudes towards protectionism, they found that trust is an important determinant of attitudes toward globalization. If Rodrik (1997) is correct that globalization leads to social disintegration, then globalization should have a negative impact on trust leading to a growing unease with globalization. Hence, there should be a negative relationship between trust and globalization. But if people see trust leading to increased economic efficiency, such as lowering transaction costs, leading to global economic growth, there is likely a favorable view of globalization, and a positive relationship between trust and globalization.

Trust is often measured as generalized or specific. Generalized trust means the ability to trust people outside of one's own family and social groupings. Generalized trust in this study is measured using one statement: "In general I feel I can trust people" on a five point Likert scale ranging from one - "trust them," to five - "distrust them." Specific trust is the tendency to trust those within closed groups. Measure of two dimensions of specific trust includes social trust (people in your neighborhood, at work, stores where you shop, and people in local media,) and racial trust (trust of whites, blacks, Asians, and Hispanics). A five point Likert scale is used where one equals "trust them" to five equals "distrust them." Means for specific trust and racial trust are calculated as means of the means for each statement in the dimensions of specific and racial trust (see Appendix A). Measurements of social capital are developed following measures from the Social Capital Community Benchmark Survey (2000).

In addition to trust, Putnam (2000) emphasizes networks as a source of social capital. They are commonly represented by membership in associations or clubs. Networks are places for development of trust. Networks are efficient for information gathering, sharing, and creating social value. Networks, when viewed as a social resource, can assist a local community to adjust and prepare for a place in the new global economy (Trigilia). They do so by being the foundation for cooperation and community problem solving (Pollitt). However, not all networks are always constructive for the community. If networks become exclusive, members tend not to trust those outside the network. Such networks are slow to adapt to modernism, such as activities found in globalization (Pollitt). An exclusive network may develop into a special interest group lobbying against free-trade and other aspects of globalization. The most beneficial networks are those that have weak ties because they are non-exclusive and are open to adaptation and change from the economic impacts of globalization (Granovetter). Therefore, this study expects to find both positive and negative associations between different types of networks and aspects of globalization.

There are three measures of networks adapted from the Social Capital Community Benchmark Survey (2000): 1) civic participation, 2) formal group involvement, and 3) diversity of friendship. Diversity of friendship consists of asking respondents to respond yes or no to the question, “do you have a personal friend who” owns a business, is a manual worker, is on welfare, has a vacation home, is of a different religion, is white, is Hispanic, is Asian, is Black, is gay, or is a community leader. The mean for diversity of friendship ranges from 0 to 11 for respondents. Civic participation is measured by asking respondents to check yes or no to the question “have you done this” in the past 12 months: signed a petition, worked on a community project, participated in any demonstration, donated blood, and voted. The mean for civic participation ranges from 0 to 6 for respondents. Finally, formal group involvement was measured by asking respondents “have you been involved in any of the following groups in the past 12 months:” There are sixteen different groups that included a sports club, youth organization like the boy scouts, a neighborhood association and so on. The mean for formal group involvement can range from 0 to 16 for respondents.

DIMENSIONS OF GLOBALIZATION

Like social capital, globalization has several dimensions or factors including political, economic, cultural, and immigrants/labor. The section in the survey measuring attitudes toward globalization is adapted from past studies (Program on International Policy Attitudes, 2000; General Social Surveys, 2007; and National Opinion Research Center, 2008). The political factors refer to nations being willing to transfer certain political interest to a supra or global-state level. The survey contains ten statements pertaining to political aspects of globalization, such as “we should hesitate in establishing a world government.” Economic factors of globalization refer to markets that cross national boundaries and the impacts such global markets have on domestic consumers. The survey has eleven statements pertaining to economic aspects of globalization, such as “foreign investments are necessary and positive.” Cultural aspects of globalization refer to things like attitudes, values, and norms that can penetrate state boundaries advocating change that states might want to hinder or promote. The survey contains eleven cultural statements, such as “globalization does not threaten our identity.” The final factor of globalization measured in this study is called immigration/labor. The survey contains five statements: “immigrants do not increase crime,” “immigrants are good for America’s economy,” “immigrants take jobs away from Americans,” “immigrants make America more open,” and “the number of immigrants should be reduced.”

FINDINGS

The data presented is from a sample of 167 students in a College of Business at a University in the Southwest United States. This is data from the first wave of surveys. Based on focus group sessions, these respondents perceive their education positions them to compete in the new global business environment. One statement in the survey asked students, “As the world becomes more globalized, I see great opportunities for me personally.” Using a seven point Likert type scale where 1 = strongly agree and 7 = strongly disagree, eighty percent agreed with the statement, lending support to the idea that these business students see themselves well positioned for the global economy.

Social Capital

The means of the three dimensions of trust and networks are presented in Appendix A. Beginning with general trust, respondents exhibit high to medium levels of trust (mean = 2.34). Respondents also possess a high to medium level of social trust, especially exhibiting a high level of trust in people they work with (mean of 2.00) and the local community police (mean of 2.22). There is a high level of racial trust exhibited by respondents (grand mean of 2.45). Overall, respondents possess a moderately high level of trust in community institutions and people of different races. Examining networks in Appendix A, an average of 34.6% of the sample participated in some form of civic activity. For the formal group involvement network, the average is 17.8 percent. This low level of involvement is not surprising since eighty percent of the students work part-time, limiting the opportunities for participation. The diversity of friendship network shows respondents have a broad range of different friends. On average 73.3 percent have friends and contacts across the friendship classifications investigated.

Globalization

The 37 statements in the survey designed to measure attitudes toward globalization are subjected to a factor analysis. An unconstrained factor analysis using varimax rotation, estimated by maximum likelihood, results in four factors with items loadings of .45 or greater explaining 47 percent of the variance. The factor results contain those originally designed to be investigated, however, eighteen items did not load highly on any factor. These items were eliminated and the factor analysis repeated. The second solution produced the four factors under investigation: economic, cultural, political, and labor/immigrant factors. The results are shown in Appendix B. The reliability coefficients of all scales meets the recommended standard of .70 suggested by Nunnally (1978). The Alpha coefficients are: economic factor = .82, cultural factor = .76, political factor = .71 and labor/immigrant factor = .78.

The mean attitudes of globalization factors and items are displayed in Appendix B. The factor mean for economic aspects is 3.54. Overall, sample respondents hold favorable attitudes toward the economic impacts of globalization. Sample respondents are unsure if globalization can increase jobs in the US. Also, there is uncertainty regarding how prepared Americans are for globalization. However, respondents' attitudes toward impacts of globalization on culture are favorable (culture factor mean of 3.42). Attitudes toward the impact of globalization on politics are another matter. A political mean of 3.49 indicate respondents support that America's interest should come first. They exhibit support for policies benefiting America that national governments should put its own interest first, and nations should hesitate in establishing a world government. Yet respondents feel Americans should be educated to be global oriented. Finally the labor/immigrant factor has a mean of 3.74. Respondents hold a somewhat favorable view toward immigrants, in the sense that they feel immigrants do not increase crime and that immigrants do not take jobs away from Americans.

Relationship between Social Capital and Globalization Attitudes

With the variables briefly defined and discussed, a correlation analysis addresses what types of relationships exist between each variable. Table 1 shows the bivariate relationships between each of the social capital dimensions and attitudes toward the four factors of globalization.

Table 1 Correlations between Social Capital and Globalization Attitudes (Pearson's r)

Social Capital Dimensions	Globalization Economic Factor	Globalization Cultural Factor	Globalization Labor/Immigrants Factor	Globalization Political Factor
General Trust	.30***	.25***	.18*	-.12
Social Trust	.26***	.27***	.15*	-.01
Racial Trust	.37***	.33***	.24*	-.07
Civic Participation	.06	-.12	-.08	-.10
Formal Groups Involvement	-.005	-.04	-.02	-.005
Diversity Friendship	-.09	-.10	.03	-.01

Significant at the *.05, **.01 and ***0.001

Explored first is whether there exists a positive or negative, and a strong or weak relationship between social capital and globalization. As can be seen in Table 1, out of the twenty four correlations or relationships, only nine are statistically significant. The number of significant relationships is limited. The significant associations are restricted to three factors of globalization (economic, cultural, and labor/immigrants) and one aspect of social capital, trust. The correlations between the three trust dimensions and the three globalization factors range from a low of .15 to a high of .37. Thus, the relationship is a modest one, suggesting that scholars should be careful not to over play the influence of social capital on globalization. However, the relationships are positive indicating that the higher the level of trust in the nation the more support one finds for globalization in terms of attitudes toward its economic, cultural, and labor/immigrant factors.

Secondly, the question of why is there no significant relationship between networks and attitudes toward globalization needs to be addressed. The data from the sample in this study shows little or no association

(see Table 1). However, Putman (2000) believes that networks are places where trust is developed. Pollitt (2002) supports this view when he says, “that networks do not have to have an economic purpose for them to have economic value” because of their ability to build trust among members. In addition, respondents because of their low participation in civic activities and formal group involvement, exhibit what Granovetter (1983) calls “weak ties.” Consequently, avoided are the negative externalities of exclusion which often promote intolerance and distrust. The respondents high level of friendship diversity (73.3% - see Appendix A) suggests that they have a relatively wide radius of trust. A wide radius of trust is enhanced by higher levels of trust, making individuals more acceptable to economic modernization activities like globalization (Fukuyama, 2002).

Finally, Table 1 shows there are no significant associations between globalization’s political factor and any of the variables investigated. Trigilia (2001) has argued that social capital is growing in importance to the “territorial” dimensions of development. He suggests that since globalization is here to stay, social capital grows in importance by creating the opportunities and possibilities for local communities to affect the development of their region. If so, individuals probably perceive they are the ones who must adapt to globalization, not the political actors. Also if individuals perceive attempts by political actors to hinder development of globalization benefiting them, it is likely they will view such efforts in a negative way.

CONCLUSION

This study shows that attitudes towards globalization are positive toward the dimensions of economic, political, cultural and labor/immigration factors. The respondents in this study show a high level of social capital, especially in terms of the three aspects of trust: general trust, social trust, and racial trust. However, they exhibit lower levels of networking in civic participation and formal group involvements. In contrast, the respondents exhibit a high level of diversity in terms of friendship.

The findings support the contention that social capital is associated with attitudes towards globalization, specifically with social capital’s trust dimensions and the globalization factors of economic, cultural, and labor/immigrants. These associations are positive, but modest, varying between .18 and .37. The positive and modest correlations are considered good news for the proponents of globalization. The findings support that an increase in trust, and its positive association with the economic, political, and labor/immigrant factors, is one sign of growing support for globalization. This mirrors Bhagwati’s (2004) contention that trade is a friend to all and not the enemy of social structures. He believes that it is the elites who are most affected by globalization, and they are the ones likely to react against social change it brings.

Finally, networks are not associated with attitudes toward globalization. If this finding is supported in larger samples, then this should be good news to proponents of globalization. The networks examined here do not exhibit characteristics that create anti-social norms and distrust. However, keep in mind, there are low levels of networking in this sample.

Note that this study explores only bivariate correlations between the measures for social capital and globalization. Therefore, no causal relationships can be made. The sample is individuals who perceive themselves well positioned to compete in the globalized environment. They demonstrate high levels in diversity of friendship which enhances trust. Future studies need to explore models that will allow us the opportunity to robustly explore the positive and negative consequences of globalization.

APENDICES

Appendix A – Social Capital Dimensions

<u>Trust</u>	Mean
1. General Trust: In general, I feel I can trust people.	2.34
2. Social Trust: [Alpha = .75]	
Trust people in my neighborhood.	2.37
Trust people I work with.	2.00
Trust people in stores where I shop.	2.57
Trust people in the local news media.	2.93
Trust police in my local community.	<u>2.22</u>
Grand Mean or Mean of Means	2.42
3. Racial Trust [Alpha = .85]	
Trust white people in general.	2.36

Trust African Americans.	2.53
Trust Asian people.	2.40
Trust Hispanics.	<u>2.53</u>
Grand Mean or Mean of Means	2.45

Networks

1. Civic Participation [done in the past 12 months]

Signed a petition.	.25 [41 or 25% did out of 167]
Attended a political meeting.	.29 [48 or 29% did out of 167]
Worked on a community project.	.52 [87 or 52% did out of 167]
Participated in a demonstration, boycott, or march.	.07 [12 or 7% did out of 167]
Donated blood.	.22 [36 or 22% did out of 167]
Voted in the past elections.	<u>.73 [122 or 73% did out of 167]</u>
Grand Mean or Mean of Means	.35 [an average of 34.6% did this]

2. Formal Group Involvement [involved in the past 12 months]

Adult sports club.	.33 [56 or 34% involved out of 167]
Youth organization like the boy scouts.	.10 [17 or 10% involved out of 167]
A parents' association like the PTA.	.04 [14 or 8% involved out of 167]
A veteran's group.	.04 [7 or 4% involved out of 167]
A neighborhood association.	.10 [16 or 10% involved out of 167]
A charity or social welfare organization.	.34 [56 or 34% involved out of 167]
A professional, farm, or business association.	.25 [41 or 25% involved out of 167]
Service club or fraternal organization.	.25 [42 or 25% involved out of 167]
Ethnic or civil rights organization.	.05 [9 or 5% involved out of 167]
Public interest group, political party or action group.	.23 [39 or 3% involved out of 167]
Hobby, investment, or society club.	.35 [59 or 35% involved out of 167]
Any group that meets only on the Internet.	.20 [34 or 20% involved out of 167]
Clubs or organizations for senior citizens.	.06 [10 or 6% involved out of 167]
A literary, art, or musical, dancing or singing group.	.34 [56 or 34% involved out of 167]
A self help group.	.10 [16 or 10% involved out of 167]
A labor union.	<u>.02 [4 or 2% involved out of 167]</u>
Grand Mean or Mean of Means	.18 an average of 18.8% involved]

3. Diversity of Friendship [do you have a friend who is?]

Owens own business.	.71 [119 or 71% who say yes]
Is a manual worker.	.76 [127 or 76% who say yes]
Has been on welfare.	.57 [96 or 58% who say yes]
Owens a vacation home.	.59 [98 or 59% who say yes]
A different religious orientation.	.93 [155 or 93% who say yes]
Is white.	.95 [159 or 95% who say yes]
Is Latino or Hispanic.	.95 [160 or 96% who say yes]
Is Asian.	.69 [105 or 63% who say yes]
Is black or African American.	.74 [123 or 74% who say yes]
Is Gay or Lesbian.	.71 [118 or 71% who say yes]
You describe as a community leader.	<u>.50 [84 or 50% who say yes]</u>
Grand Mean or Mean of Means	.74 [an average of 73.3% say yes]

*Trust items rated as 1=trust them; 2=trust them some; 3=not sure; 4=distrust them some. 5=distrust them.

Appendix B– Globalization Factors

<u>Economic Factors [Alpha = .82]</u>	Mean	Loadings
Globalization is good for the US	3.15	.57

The overall impact on me will be positive.	3.28	.50
I see more opportunities for me personally.	2.93	.61
Globalization will increase job in the US.	4.13	.53
Globalization is good for the US consumer.	3.10	.62
Foreign investments are necessary and positive.	3.63	.62
Americans are prepared for globalization.	4.40	.54
Globalization is highly positive for the US.	<u>3.44</u>	<u>.75</u>
Grand Mean or Mean of Means	3.54	
<u>Cultural Factors [Alpha = .76]</u>		
American culture will be maintained with globalization.	3.73	.46
Globalization does not threaten America's way of life.	3.46	.80
I welcome the notion of cultural globalization.	3.20	.58
Globalization does not threaten our identity.	3.59	.62
It is possible others to become fully American.	<u>3.13</u>	<u>.51</u>
Grand Mean or Mean of Means	3.42	
<u>Political Factors [Alpha = .71]</u>		
US citizens should support policies benefiting America.	3.29	.70
National governments should put their interest first.	3.44	.71
US students should be educated to be global minded.	3.36	.57
We should hesitate in establishing a world government.	<u>3.50</u>	<u>.56</u>
Grand Mean or Mean of Means	3.49	
<u>Labor/Immigrant Factor [Alpha = .78]</u>		
Immigrants do not increase crime.	3.63	.80
Immigrants don't take jobs away from Americans.	<u>3.84</u>	<u>.71</u>
Grand Mean or Mean of Means	3.74	

*Globalization statements rated as 1=strongly agree; 2=agree; 3=somewhat agree; 4=not sure; 5=somewhat disagree; and 7=strongly disagree.

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MOTIVATIONS AND EXPECTATIONS AMONG OFF-ROAD 4x4 DRIVERS IN SOUTH AFRICA

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ABSTRACT

Few studies address motivations and expectations when examining consumers' behaviour in the context of adventure tourism activities. Hardly any research has been done on self-drive off-road experiences. This study investigates the differences between motivations and expectations of experienced and inexperienced drivers of SUV's (sport utility vehicles) and all terrain vehicles. An intercept survey was conducted at two off-road events in South Africa. Experienced drivers scored significantly higher on items relating to adventure, the thrill of the experience and the challenge of off-road driving. No significant differences were established in the motivations and perceptions of drivers of SUV's and all terrain vehicles. The results of the survey should assist marketers in formulating more effective advertising messages when targeting these different groups. This study may provide insight not only to the domain of off-road driving but also to adventure tourism in general.

INTRODUCTION

Few studies have been conducted on motivations and expectations in the context of adventure tourism in South Africa. This has been a growing industry in the country as more tourists have visited our country since the democratic elections in 1994. An opportunity exists to market South Africa as a destination where international tourists may do self-drive tours on off-road tracks and routes. This study provides insight into the cognitive processes through which local off-road experiences go when embarking on such an adventure seeking trip. An understanding of local driver's experiences serves as a base from which international tourists' motivations and expectations may be studied. A study on motivations and expectations has been done by Fluker and Turner (2000) on participants of white-water rafting in Australia. Through in-depth interviews and self-completion of questionnaires the authors shed light on the needs, motivations and expectations of such adventure seekers by dividing participants into groups labelled "inexperienced" and "experienced".

Studies of the measurement of expectations and motivations in the general field of tourism are also cited and applied to the study (Khan, 2003, Ryan & Glendon, 1998). Whilst many generic studies hold valuable information on outdoor recreational sport, literature on off-road self-drive experiences are limited. The aims of this study are to establish whether:

- There are any differences in the motivations and expectations between experienced and inexperienced drivers during a self-drive off-road experience.
- There are differences in the motivations and expectations between drivers of Sports Utility Vehicles (SUV's) and all terrain vehicles.

The latter has been added as there may be similarities in the first two groups and this will be valuable as marketers may find sales pitches to attract a huge dormant market, that is, those consumers that never leave the safety of tarred road. The study consists of a detailed discussion of motivations and expectations and previous research done in the field of tourism and sport. First conceptual definitions are provided, followed by an exposition of the constructs, motivation and perception. Ways in which to measure these constructs will be discussed and a breakdown of the hypotheses will be presented. The research design and data collection methods are explained. The study concludes with a discussion of the limitations, managerial implications and recommendations for future research.

Adventure tourism in the context of off-road driving

The Oxford School Dictionary (1994:8) defines an adventure as an exiting or dangerous experience and is often affiliated with the willingness to take risks. McArthur (1989:3) argues that an adventure requires three elements; freedom of choice, intrinsic rewards and uncertainty. Embarking on an off-road trip or adventure is obviously a personal choice. One undertakes these forms of adventure to fulfil certain needs. The sensation or adrenalin seeking of tourists are also seen as motivational factors to engage in dangerous sports such as driving down a gorge. This behaviour is described by Zuckerman (1990:313) as the willingness to take physical and social risk for the sake of obtaining complex sensations.

The driving of off-road vehicles is usually associated with the completion of challenging and risky landscapes. In their study of white-water rafting, Fluker and Turner (2000:380) define an adventure holiday as one that contains personal challenge, through controlled risk, daring and exciting, often in inaccessible environments. Hence, it can be inferred that off-road driving can be categorised as adventure tourism. The connotation of off-road originates from the fact that a vehicle has four wheels and that the power of the vehicle is distributed through all four wheels. To engage in off-road activities does not necessarily mean that one has to have a off-road vehicle. It all depends on the level of difficulty involved whereby hazardous terrains would require all terrain vehicles. Such vehicles have features such as higher ground clearance and suspension, differential-lock and high performance engines. More experienced drivers normally purchase these parts and accessories to attain a peak experience. According to Fluker and Turner (2000:381) these peak experiences are attained through correctly perceiving the risk involved in the activity as well as one's own personal competence.

Motivation

Why do people choose to do off-road driving? By attempting to find answers to these questions one firstly need to define needs within the context of purchase decisions, as the concepts needs and motivations are interrelated. Du Plessis & Rousseau (2007:170) define physiological needs as any physical or emotional body performance and are forces directed toward specific goals that can be achieved by purchase behaviour. These needs become wants when they are directed to specific products or services that might satisfy those needs. Du Plessis, Jooste and Strydom (2001:405) define motivation as the willingness to exert high levels of effort towards a certain goal to satisfy an individual's specific need. A person's inner-state (unobservable force) that energize, activate, motivate and direct behaviour towards taking an adventure holiday can be seen as the specific motive behind such actions (Du Plessis & Rousseau, 2007:217). A driver may want to belong to a off-road club to meet new friends (affiliation) or to participate in events to win, which is normally associated with achievement and esteem needs as described by Maslow's hierarchy of needs model.

Measuring motivations

Limited studies on motivation in tourism contexts have been done. Ryan and Glendon (1998:175) applied the shortened version of the Leisure Motivation Scale to a sample of 1127 British holiday makers. It asked respondents to indicate the importance of listed motivations. Todd (1999:1023) examined tourism motivations, by requiring respondents to write about positive and negative holiday experiences.

The first level of need that will be applicable can be defined as the need to belong, have friends and receive affection from them. The second level of needs which will be applicable is egoistic (esteem) needs which are an individual's psychological requirements of maintaining favourable images or impressions. This need is related to prestige, success, status and self – esteem. Other authors like Gouws (2001:77) also quoted Maslow in his studies of sport motivations. He stated that the appreciation of performance is an important aspect in sport. The highest level of need satisfaction applicable to this study is self – actualisation which can be defined as psychological requirements involving personal ambitions. Allyn and Bacon (1994:97-99) believe that generalized models such as Maslow's hierarchy cannot be applied to all motivational factors. They argue that in-depth interviews will be more accurate in determining the actual needs and motivations of consumers. They also state however, that such focus groups may be too small to apply to bigger populations and other products/services.

Expectations

Fluker and Turner (2000:381) state that an expectation is the perceived likelihood that a particular act will be followed by a particular outcome. Expectations are desires or wants of people, which represent what they feel, should be offered by a service provider (Parasuraman, Zeithalm & Berry, 1988:12–37). Fluker and Turner (2000:382) further state that to draw comparisons between expectations and the ultimate performance of the service, participants must have a perception of the service which can be defined as the process through which one select, organise and interpret information gathered by the senses. Closely related to the concept of perception is satisfaction which depends on the ability of an organisation to implicitly deliver on those expectations through a service delivery process in order to fulfil customer needs. This will be discussed later in the disconfirmation of expectations model. The author/s should briefly explain the gap model (disconfirmation paradigm here as the entire expectations process is located within the disconfirmation paradigm including the SERVQUAL instrument which has emerged from the Gap model as espoused by Parasuraman et al in 1995; 1998 and reformulated in 1994) Expectations are also adaptive and influenced by past experiences. Schreyer and Roggenbuch (1978:377) have come to the following conclusions with regard to expectancy research in recreation:

- People have a variety of expectations for participating in recreational activities.
- The expectations of different activities are not the same.
- People engaged in the same activity may seek different outcomes.
- Different types of recreationists using the same environment sometimes seek different outcomes.
- Demographics, socio-economic and environmental variables have seldom, by themselves, been useful in explaining and predicting peoples' motivations.

MODELS OF EXPECTATIONS

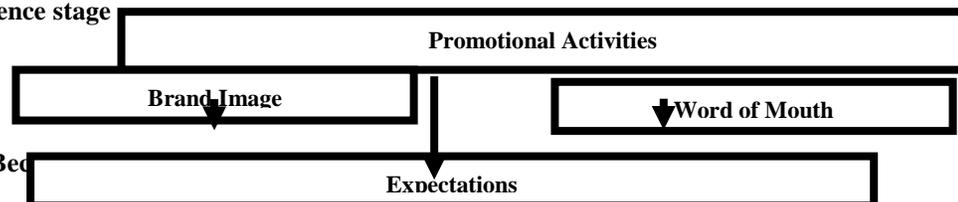
Disconfirmation of expectations model

Spreng and Dröge (2001:263) presented the disconfirmation of expectations model which propose that disconfirmation primarily determines a consumer's level of satisfaction with attributes, products or services. This refers to the extent which performance meets, exceeds or fall short of expectations. Confirmation results when predictive expectations matched with high performance or low expectations matched with low performance. Conversely, disconfirmation results when expectations and performance do not match due to low expectations and high performance (positive disconfirmation leading to satisfaction) or high expectations and low performance (negative disconfirmation leading to dissatisfaction). Fluker and Turner (2000:382) also argue that the disconfirmation model is responsible for determining a level of satisfaction with the service.

Servqual

This reliable measuring instrument developed by Parasuraman *et al.* (1988) measures five dimensions: Reliability, Assurance, Responsiveness, Tangibles and Empathy through a pair of 22 items, one for expectations and one for perceptions. Knutson and Beck (2003:31) have developed a model for the experience construct by using the SERVQUAL method to develop the Pre – Experience stage of their model. Pre-Experience is defined as anything and everything involved prior to the actual participation in the experience itself and encompasses expectations which are established by brand position, promotional activities of the organisation, word of mouth advertising and personal memories that have been “banked” from previous experiences. The other two stages are Participation and Post-Experience respectively. They argue that the expectations that the consumer has about the product or service will have an effect on value, level of engagement, emotional bond, degree of participation and amount of stimulation of an experience. Following is a representation of the Pre-Experience stage of Knutson and Beck's (2003:31) proposed experience model.

Figure 1: Pre – Experience stage



Source: Knutson and Beck

Promotional messages influence expectations of venues through adjectives like “adventurous and breathtaking”. Such messages graze the covers of magazines such as Getaway and South African 4x4. The brand image of a service results from the dialogue that takes place between the brand owner and the consumers or users (Pavitt, 2000:21). The current associations with a off-road experience also influence expectations as shown in the figure. Word-of-Mouth is when other customers or consumers of a service either favourably promotes or negatively “bad-mouths” a particular product or a service.

Measuring expectations

Many researchers including Khan (2003:115) in her study of ecotourists’ quality expectations use the SERVQUAL method to evaluate service expectations. This measure used a Likert-scale approach ranging from 1-7 consisting of six main categories measuring expectations. They were Ecotangibles, Assurance, Reliability, Responsiveness, Empathy and Tangibles. In Fluker and Turner’s (2000) study of white-water rafting, participants were asked to state their expectations before and after the trip. A six – point Likert – type scale was used as respondents had to indicate their level of agreement with a set of statements. (This same method was used to measure their motivations). The Likert scale is one of the best methods to use when measuring abstract constructs like expectations and motivations. These constructs normally consist of many underlying parts and need to be broken down into smaller parts to get the true feelings of respondents. Fluker and Turners’ (2000) study will be used to guide this study.

METHODS

Sampling

The target population for this study was off-road 4x4 drivers ranging from very inexperienced to very experienced, of all ages that use luxurious SUV-type vehicles or more specialised off-road “all-terrain” vehicles. A convenience sampling method of 200 respondents were used, collecting data at two different off-road events to give a broader perspective of different groups of drivers. The realised sample size was 193 respondents of which all were usable as fieldworkers were on hand to guide respondents through any uncertainty. The first survey was done at the Bosveld Rally in an area called Atlanta between Britz and Thabazimbi in the North-West Province of South Africa. The second survey was done in the Gauteng Province at Rust de Winter’s annual rally hosted by the All Terrain Vehicle club (ATV) of Pretoria. Respondents were approached while they were queuing to complete obstacles. This ensured willingness to participate as these drivers had nothing to do while waiting to compete in the events.

Data Collection

The questions used in this study were adapted from Fluker and Turner (2000:383). The scale was pre-tested using a convenience sample of 10 respondents who have previously taken part in off-road recreational activities. The researchers attempted to find as many experienced drivers as possible, as this assisted them in the refinement process of the scale. In the pre-test the participants were alerted that they are involved in a preliminary test of the questionnaire which made them collaborators of the refinement process. Data was collected by conducting a survey through using a self-completion questionnaire.

Measures

Demographic variables

The questionnaire comprised three multiple-choice single response scales which measured the number of times the respondent have driven an off-road vehicle in the last five years, experience of drivers and type of vehicle used.

Motivations and expectations

The questionnaire made use of a five point Likert scale adapted from Fluker and Turner (2000:383), to measure two constructs. The first 14 items measured the construct of motivators when undertaking a off-road endeavour and items 15-33 measured the construct of expectations when undertaking a off-road endeavour. The scale’s 33

items were all labelled from 1 (“Strongly disagree”) to 5 (“Strongly agree”). No scale items were reverse scored and the responses were averaged to give a score ranging from 1-5. Cronbach’s alpha coefficient was computed to assess internal reliability of the two constructs separately. The motivations and expectations dimensions reflected reliability values of 0.81 and 0.82 respectively. The reliability levels were found to be acceptable as they were above benchmark level of 0.70 (Nunnally: 1978). Since the two constructs measure different underlying motivators and expectations and not a specific motivation or expectation each item was tested separately during the testing of hypotheses.

ANALYSIS OF RESULTS

Descriptive Statistics

Table 1 provides a profile of the respondents in terms of their level of experience and the type of vehicle used for off-road driving and frequency counts for the type of vehicles respondents use. The results indicate that 9.3% of all respondent were at their first rally experience. However, 25.9% of respondents indicated that they have driven between one and three times before and 68.8% indicated that they have driven more than four times in the last five years. The first two groups namely, “Not once” and “1-3 Times” were combined in this study to form the inexperienced group while the respondents in the “4 or more” group formed the experienced group. The results further indicated that 48,2% of the respondents use SUV-type vehicles and 51.8% of respondents use all terrain vehicles. These results are shown in table 2 below.

Table 1: Frequency counts for the number of times respondents have driven on/off road terrain

Number of times driven	n	%	Type of vehicle	n	%
Not once	18	9.3	SUV’s	93	48.2
1-3 Times	50	25.9	All terrain vehicle	100	51.8
4 or more times	125	64.8			
Total	193	100	Total	193	100.0

Cross tabulation of vehicle type and experience status

Table 3 shows a cross tabulation of vehicle type and experience status. The results reflect that 41.2% of inexperienced drivers indicated that they use SUV’s while 58.8% of experienced drivers indicated that they use all terrain vehicles. The table also indicates a slightly higher percentage (52%) of experienced drivers that indicated that they drive SUV’s. This may be due to the fact that experienced drivers trust themselves more with an expensive vehicle such as an SUV’s than inexperienced drivers.

Table 2: Cross tabulation of vehicle type and experience status (N=193)

		Type of vehicle		Total
		SUV	All terrain vehicle	
Inexperienced (0-3)	Count	28	40	68
	Row percentage	41.2%	58.8%	100.0%
Experienced (4 or more)	Count	65	60	125
	Row percentage	52.0%	48.0%	100.0%
Total	Count	93	100	193
	Row percentage	48.2%	51.8%	100.0%

Hypothesis Tests

The hypotheses was tested at a 5% level of significance ($\alpha = 0.05$). The assumption of normality was assessed through the Kolmogorof-Smirnof test for normality, as well as through a visual inspection of histograms and normal probability plots. These tests indicated that the sample was not normally distributed for any of the

hypotheses tests and therefore the independent samples t-test could not be used. The non-parametric alternative namely the Mann-Whitney *U* test had to be used as it does not require the data to be normally distributed.

Hypothesis 1

The first hypothesis (H_1) focussed on differences in motivations between experienced and inexperienced off-road drivers. The null and alternative hypotheses of H_1 are stated below:

H_0 : There is no significant difference in motivations between inexperienced and experienced off-road drivers.

H_1 : Inexperienced off-road drivers have motivations that are significantly different from those of experienced off-road drivers.

The descriptive statistics in table 4 below shows that the null hypothesis could be rejected for items 1, 4, 5, 7, 8, 9 and 10. These are indicated with a (*). The mean ranks range from 1 (“Strongly disagree”) to 5 (“Strongly agree”).

Table 3: MANN-WHITNEY U TEST OF HYPOTHESIS 1

Item	Mean rank of inexperienced	Mean rank of experienced	Mann-Whitney U	Wilcoxon W	Z	P (two-tailed)
1. Escape daily routine	4.00	4.29	3437.5	5783.5	-2.370	0.018*
2. To tell my friends about it	3.50	3.74	3714	6060	-1.510	0.131
3. To do something different	4.32	4.35	3919	6265	-0.993	0.321
4. To challenge myself	3.84	4.26	3192	5538.5	-3.060	0.002*
5. To have fun	4.65	4.82	3708	6054	-2.116	0.034*
6. For rest and recuperation	3.90	4.14	3583	5929.5	-1.955	0.051
7. To have an adventure experience	4.43	4.62	3446.5	5792.5	-2.531	0.011*
8. To experience a thrill	4.16	4.35	3537.5	5883.5	-2.104	0.035*
9. Because I enjoy off-road driving	4.16	4.70	2443	4789	-5.631	0.000*
10. Close to the natural environment	4.32	4.54	3488	5834	-2.349	0.019*
11. To experience danger	3.25	3.14	4136	12011.5	-0.313	0.754
12. Enjoy group experience	4.15	4.20	4086.5	6432.5	-0.479	0.632
13. The whole family can enjoy it	4.15	4.28	4011	6357	-0.704	0.482
14. It seemed adventurous	4.09	4.05	3961	6307	-0.832	.406

The most significant motivation to participate in off-road driving for both inexperienced and experienced drivers was to have fun. The results suggested that inexperienced drivers did not participate to challenge themselves as much as experienced drivers and that experienced drivers enjoyed the sport significantly more than inexperienced drivers. This may be directly related to the level of experience of these drivers and that an experienced driver is motivated to improve one’s skills every time one participates. The findings suggest that marketers can formulate messages describing the challenge and adventure to experienced drivers. It can also be inferred that the reason for inexperienced drivers to score lower on the items with significant differences is that they are not as skilled or informed as experienced drivers. The lowest scores were recorded for item 11 as it seems that both groups had a neutral feeling towards wanting to experience danger.

Hypothesis 2

The second hypothesis (H_2) focussed on differences in expectations between experienced and inexperienced off-road drivers. The null and alternative hypotheses of H_2 are stated below:

H_0 : There is no significant difference in expectations between inexperienced and experienced off-road drivers.

H_2 : Inexperienced off-road drivers have expectations that are significantly different than those of experienced off-road drivers.

Table 5 below shows that the null hypothesis could be rejected for items 17, 18 and 20. These are indicated with a (*).The mean ranks range from 1 (“Strongly disagree”) to 5 (“Strongly agree”).

Table 4. MANN-WHITNEY U TEST OF HYPOTHESIS 2

Item	Mean rank of inexperienced	Mean rank of experienced	Mann-Whitney U	Wilcoxon W	Z	P (two-tailed)
15. I will get stuck	3.47	3.29	3867	11742	-1.069	0.285
16. I will get an adrenalin rush	4.04	4.19	3710	6056	-1.558	0.119
17. I will complete difficult obstacles	4.13	4.39	3250	5596	-2.970	0.003*
18. I will get scared	3.47	2.94	3244	11119	-2.782	0.005*
19. I will be physically challenged	3.60	3.85	3553	5899	-1.962	0.050
20. I will learn new skills	4.21	4.49	3393.5	5739.5	-2.571	0.010*
21. Interact with other drivers	4.31	4.34	3913.5	6259.5	-1.005	0.315
22. Value for money	3.74	3.82	3966	6312	-0.801	0.423
23. I will not get injured	3.85	3.90	4020	6366	-0.649	0.516
24. Marshals to provide help	3.97	3.90	4169.5	12044.5	-0.229	0.819
25. Marshals will be competent	3.96	4.13	3748	6094	-1.439	0.150
26. Marshals will be friendly	4.10	4.23	3694	6040	-1.620	0.105
27. Facilities will be in good order	4.24	4.15	4140	12015	-0.320	0.749
28. Will have a wilderness experience	4.15	4.26	3823.5	6169.5	-1.245	0.213
29. I will see wildlife	3.53	3.69	3839	6185	-1.148	0.251
30. I will have fun	4.44	4.66	3534.5	5880.5	-2.303	0.021
31. I will take risks	3.87	3.69	4108.5	11983.5	-.398	0.691
32. I will be informed	4.10	4.26	3773	6119	-1.388	0.165
33. Drinks after the event	3.22	3.26	4166.5	6512.5	-0.232	0.817

The results indicate that inexperienced drivers are more prone to being scared than experienced drivers. This may be due to the uncertainty of a new adventure sport and that inexperienced drivers may have doubts about their capabilities. The lowest mean response of all the items tested in the four hypotheses is that of experienced drivers on getting scared and it is the only mean that is below the central point of 3, which is “Neither agree nor disagree”.

Hypothesis 3

The third hypothesis (H₃) focussed on differences in motivations between drivers of SUV’s and those of “all terrain vehicles”. The null and alternative hypotheses of H₃ are stated below:

H₀: There is no significant difference in the motivations of drivers of SUV’s and those of all terrain vehicles.

H₃: Motivations of drivers of SUV’s will significantly differ from those of all terrain vehicles”.

Table 6 below revealed that there are no significant differences in any of the motivations; hence the null hypothesis was not rejected for all of the items.

Table 5. MANN-WHITNEY U TEST OF HYPOTHESIS 3

Item	Mean rank of SUV	Mean rank of all terrain vehicle	Mann-Whitney U	Wilcoxon W	Z	P (two-tailed)
1. Escape daily routine	4.20	4.17	4363	9413	-0.800	0.424
2. To tell my friends about it	3.70	3.61	4309.5	9359	-0.917	0.359
3. To do something different	4.27	4.41	4540	8911	-0.315	0.752
4. To challenge myself	4.06	4.16	4507.5	8878	-0.394	0.693
5. To have fun	4.78	4.73	4267.5	9317	-1.428	0.153
6. For rest and recuperation	4.04	4.06	4633.5	9683.5	-0.046	0.963
7. To have an adventure experience	4.56	4.55	4452.5	9502.5	-0.595	0.552
8. To experience a thrill	4.32	4.25	4371	9421	-0.788	0.431

9. Because I enjoy off-road driving	4.57	4.46	4187.5	9237.5	-1.378	0.168
10. Closer to the natural environment	4.47	4.45	4522	9572	-0.377	0.706
11. To experience danger	3.10	3.26	4366.5	8737.5	-0.748	0.454
12. Enjoy group experience	4.13	4.23	4318	8689	-0.930	0.352
13. Something the whole family can enjoy	4.25	4.22	4446.5	9496.5	-0.573	0.567
14. Seemed adventurous	4.02	4.10	4426.5	8797.5	-0.615	0.539

From the findings it can be deduced that there aren't much different motivations between SUV and all terrain vehicle drivers. Both groups participate in such events in order to have fun and have a neutral feeling towards experiencing danger.

Hypothesis 4

The fourth hypothesis (H_4) focussed on differences in expectations between drivers of SUV's and those of "all terrain vehicles". The null and alternative hypotheses of H_4 are stated below:

H_0 : There is no significant difference in the expectations of drivers of SUV's and those of "all terrain vehicles".

H_4 : Expectations of drivers of SUV's will significantly differ from those of "all terrain vehicles".

In table 7 below the null hypothesis had to be accepted as there were no significant differences in expectations. The last column of the table shows that none of the items had a p-value of less than 0.05.

Table 6: MANN-WHITNEY U TEST OF HYPOTHESIS 4

Item	Mean rank of SUV	Mean rank of all terrain vehicle	Mann-Whitney U	Wilcoxon W	Z	P (two-tailed)
15. I will get stuck	3.33	3.37	4626	8997	-0.064	0.949
16. I will get an adrenalin rush	4.15	4.13	4565.5	9615.5	-0.233	0.816
17. I will complete difficult obstacles	4.37	4.24	4180	9230	-1.334	0.182
18. I will get scared	3.05	3.20	4354.5	8725.5	-0.781	0.435
19. I will be physically challenged	3.77	3.75	4447.5	9497.5	-0.545	0.586
20. I will learn new skills	4.42	4.36	4360.5	9410.5	-0.831	0.406
21. Interact with other drivers	4.37	4.29	4293.5	9343.5	-1.018	0.309
22. Value for money	3.72	3.85	4347	8718	-0.817	0.414
23. I will not get injured	3.87	3.89	4556.5	8927.5	-0.252	0.801
24. Marshals to provide help	3.84	4.01	4195.5	8566.5	-1.234	0.217
25. Marshals will be competent	4.12	4.02	4295	9345	-0.973	0.331
26. Marshals will be friendly	4.26	4.12	4330	9380	-0.891	0.373
27. Facilities will be in good order	4.18	4.18	4514	9564	-0.379	0.705
28. Will have a wilderness experience	4.20	4.23	4588.5	8959.5	-0.172	0.864
29. I will see wildlife	3.70	3.57	4292	9342	-0.956	0.339
30. I will have fun	4.63	4.54	4209	9259	-1.357	0.175
31. I will take risks	3.82	3.69	4223.5	9273.5	-1.147	0.251
32. I will be informed	4.24	4.17	4504.5	9554.5	-0.405	0.686
33. Drinks after the event	3.29	3.21	4499	9549	-0.401	0.689

DISCUSSION AND SUMMARY OF FINDINGS

The main objectives of this study were to investigate the differences in motivations and expectations of different groups of drivers within the context of adventure tourism. The respondents were divided into four categories namely inexperienced and experienced drivers and drivers of SUV's and "all terrain vehicles". This study contributes to adventure tourism literature by investigating different market segments of the off-road industry. It

is one of the first studies to research these specific objectives which will help marketers better understand the cognitive processes of adventure seekers in order to segment markets.

In the first two hypotheses there were very little differences between inexperienced and experienced drivers regarding their motivations and expectations. In measuring motivations (hypothesis 1) significant differences existed in 50% of the 14 items. Experienced drivers scored significantly higher on items relating to adventure, the thrill of the experience and the challenge of off-road driving. The reason for inexperienced drivers scoring significantly lower than experienced drivers may be due to their limited knowledge prior to the event. A logical explanation may be that experienced drivers obviously enjoy the sport which results in continued participation in such events.

Expectations between inexperienced and experienced drivers (hypotheses 2) revealed that significant differences exist in expectations to complete difficult obstacles and to learn new skills. The results suggest that experienced drivers score higher on these items which can be due to a higher level of competence and confidence. Supporting this statement is the fact that experienced drivers scored significantly lower on the “I will get scared” item. What is also noteworthy about this statement is that it is the only statement that scored below the neutral point of 3 which is “Neither agree nor disagree”.

Hypotheses 3 and 4 regarding differences in motivations and expectations between SUV and “all terrain vehicle” drivers showed no significance differences. The reason for this may be that the researchers did not classify the vehicle categories appropriately and some confusion may have existed. A better classification may have been to ask respondents to specify what model (year) their vehicle is. This seems logical as owners of older vehicles are more willing to do rugged off-road driving regardless of the vehicle type. Drivers of new “all terrain” vehicles may be less willing to use their vehicles just as SUV drivers may be. Thus, these new categories may reveal significant different motivations and expectations.

MANAGERIAL IMPLICATIONS

With the adventure and tourism industry steadily growing, it is important for marketers to be knowledgeable about customers’ perception of adventure sport. Because of increasing pressure from the South African government to minimise these activities, it is also very important to know what these drivers’ intentions are. With the overall high ratings to most of the statements on the scale, marketers can use these basic statements to formulate marketing and advertising messages to attract and inform potential and existing consumers of such off-road recreational experiences. In addition, due to the insignificant findings regarding the differences of vehicle types, marketers could market their products and services through similar messages which will save advertising costs. The statistical testing however did show some differences between inexperienced and experienced drivers. Adventure, thrill and challenge were some of the motivators that experienced drivers scored higher on. This result confirms that marketers should keep on advertising in adventure magazines like “Out there” or “Getaway” to attract these skilled drivers.

LIMITATIONS

It can be suggested that more qualitative and quantitative research should be undertaken to identify more specific motivations and expectations regarding off-road driving. In depth interviews could have been done to reveal other motivations and expectations. Only two events were used for the research and it can be suggested that more types of events need to be examined to make informed generalisations across the industry. The total sample size was also small and more respondents will give a better indication of true differences between groups. Other provinces may also have different motivations and expectations and thus limits the finding to the Gauteng Province.

RECOMMENDATIONS FOR FUTURE RESEARCH

An important issue of late is the impact that these drivers have on nature. Government officials are considering banning these off-road vehicles totally because of its negative impact on the environment. Such legislation has all ready been passed to prevent drivers from driving on beaches. Future studies can investigate drivers’ position

on nature conservation to reveal if they any negative implications. Various off-road trails of different ratings could also be studied to indicate differences as more skilled drivers often participate for different reasons. There are different types of settings in which the sport can be practiced and each one of these can be studied in the future to shed light on differences between them. One such other activity is a month long trip into Africa with portable equipment. The study could also be applied to different adventure tourism activities such as hiking, sky-diving and scuba diving.

Note: Data collected by: Fourie, J; and Kenny, EC – post-graduate students

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MEASUREMENT OF THE ENTERPRISE LOGISTICS ACROSS QUALITY MANAGEMENT

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ABSTRACT

When speaking about enterprise logistics, special attention is always given to quality, this is why the Logistic Model Based in Positions (LoMoBaP [MoLoBaC, in Spanish]) was created: to explain enterprise logistics through the functions of positions relative to logistics in an organization, one of the first positions to consider was quality management. Because quality management intervenes during the whole logistic process, since the prime matter arrival to the final product delivery, including taking advantage of the products returning through inverse logistic. In this paper it was established as an objective: To show how a diagnostic of the logistic performance of an organization can be done through the functions performed by quality management.

INTRODUCTION

To achieve the objective of this essay: To show how a diagnostic of the logistic performance of an organization can be done through the functions performed by quality management, enterprise logistics subordinated to quality management are analyzed, emphasizing how each can interfere in the different stages of logistics and organization in general.

The used methodology, as has been done in previous researches (Hernández & García, 2006b; 2006c), was the scientific method adapted to Operations Research, which approaches decision making problems without going through formulating hypothesis, instead its steps are:

- a) Defining the problem, as presented in the objectives, it is diagnosing the logistic performance of an organization and the performance of the Enterprise as a whole, through quality management;
- b) Search data, centered in analyzing logistic and quality management;
- c) Establishing alternatives, that would be different models to measure logistic performance, through quality;
- d) Evaluating alternatives, according to the raised objectives, deciding which of the proposed alternatives is feasible;
- e) To select the best alternative, as product of previous evaluation process, and based on the secondary targets, tacit or explicit, being considered;
- f) To implement the alternative, that being a theoretical study consists of defining how would the analysis of the different stages from the logistics be made, knowing the quality subordinate functions subordinated and,
- g) To establish controls, or mechanisms that allows to recognize if the done diagnoses remain valid through time.

It is important to note that no field research had been made, or quality management of any enterprise had been analyzed, instead the possible measures of logistic performance through the quality management

subordinated functions from a theoretical point of view, mainly following an academic model for understanding logistic.

LOGISTICS: FOCUS AND MODELS

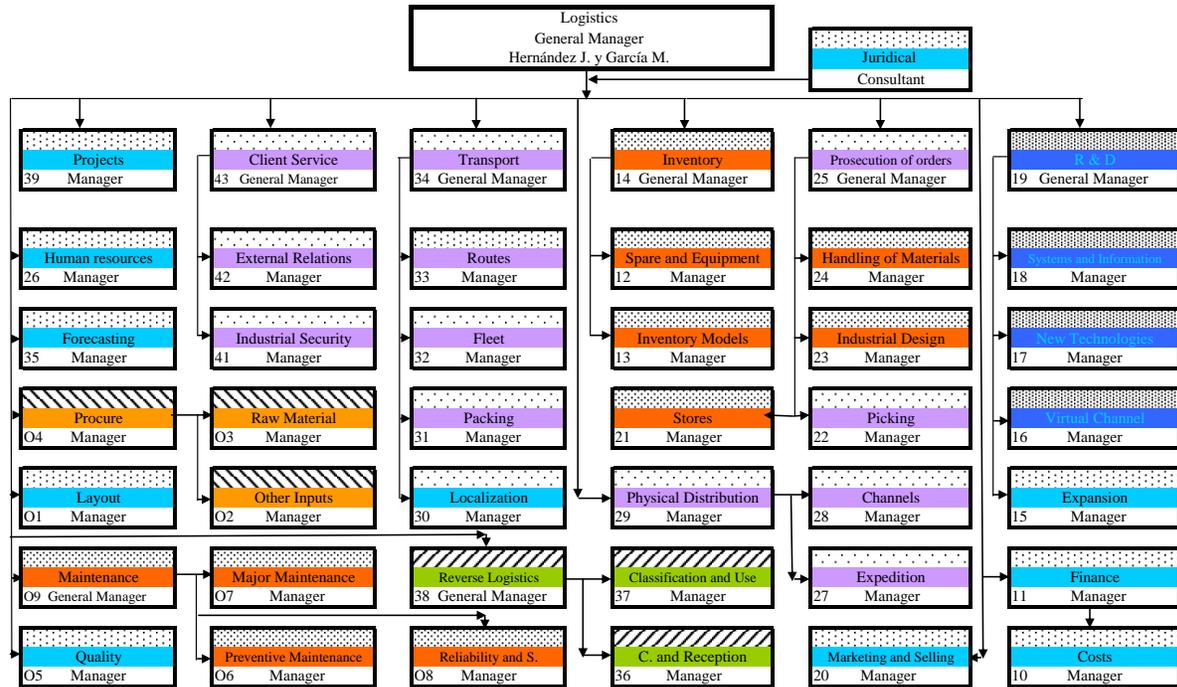
Before beginning the study of quality management and since enterprise logistic performance can be measured, through it, it is necessary to define logistic and to comment some approaches and models that can be used to explain it

Although in the literature a fair amount of assertive and complete definition of logistics, being among the principals the one from the council of supply chain management professionals (Cscmp, 2006), for adapting to the objective better, the definition used in previous researches would be used (Hernández y García, 2006b; 2008): Enterprise logistics is centered in searching and achieving a greater satisfaction, present and future of the final costumer, and includes legal aspects, organization planning, execution and control of all related activities related to the attainment, flow, gathering and maintenance of materials, products and services, since the prime matter source, including there the costumers through inverse logistics, to the sale point of the finished product local or international, massive or enterprise, in a more effective and efficient, minimizing the times and costs and using modern information technologies.

In spite of existing many accurate definitions of enterprise logistics, it does not occur the same with its teaching and models for its explanation, finding mostly focuses that permits its understanding. Among the focuses to explain enterprise logistics there are: a) Dornier et al. (1998) focus, centering in the study of logistics from four structural functions: Establishing the web structure and its connections. Choosing the technologies of the operational processes. Choosing the technology of logistics processes and Vertical integration of the supply chain and eight non structural functions: Work forces, Operational plans and controls, Distribution plans and controls, Quality management, Transportation policy, Customer service policy, Organization and Resources; b) The 7 R models (Díaz, Álvarez y González, 2004; Hernández y García, 2006a), which simply answer logistics in seven subjects: Right product, quantity, conditions, place, time, customer and price and c) The general focus of supply chain (SCM) (Hugos, 2003; Stadtler y Kilger, 2005), usually presented as a wider concept, covering logistics and understanding as al the logistic aspects that must be synchronized between the producers of the prime matters, finished products, and distribution mayor and detail, so the costumer would be attended in an adequate satisfying its real needs, the logistic in which SCM is generally centered are: Storage, inventory, localization and transportation, but to make a proper SCM work a high integration of information systems is needed.

On the other hand an amount of qualitative-quantitative models used in the academic medium to study logistics (Hernández y García, 2006a; 2006b; 2008): a) The Logistic of Supply, Production, Distribution and Inverse (LSPDI, [in Spanish, LAPDI]) model, studying organization logistics flow, signaling the materials flow, both direct and inverse, information and control; b) The Logistic Model Based on Positions (LoMoBaP [MoLoBaC, in Spanish]), supported in the previous model and studies logistics through functions relative to the positions; c) The Logistic Model Based on Indicators for Positions (LoMoBaIPo [MoLoBaCa, in Spanish]), measuring relative indicators to the individuals performing different logistic functions activities and d) The Logistic, Strategic, Tactical, Operational with Inverse Logistics Model (STOILMo [MoLETOI in Spanish]), studies logistics following the enterprise evolution through four stages: Strategic, Strategic-Tactic, Tactic-Operational and Operational, each one of them divided in four phases, making a total of sixteen phases.

From these models, for this research MoLoBaC stands out, which can be visualized through a flowchart (figure 1), and although not much would be said about it, it is notorious the presence of forty three positions, grouped in twelve areas, reunited in six stages: a) Supply, with an unique area, Procure; b) Production, conformed by two areas, Maintenance and Inventories; c) Distribution, with four areas, Order processing, Physical distribution, Transportation, and the area that conforms the reason of this model, Costumer service; d) Inverse, formed by one area, Inverse logistic; e) General of the enterprise, with three areas, Intrinsic to logistics, Supported by logistics and Supporting logistics and f) Information (General of Information), formed by one unique area, Information.



- O2 Other Supply and Services
- 19 Research and Development
- 28 Distribution channels: Major and Retail
- 41 Industrial Security and Internal Relations
- Supplying
- Production
- Distribution
- Reverse
- General
- Information
- O8 Reliability and Substitution
- 21 Stores of the whole organization
- 36 Compilation and Reception

Figure 1: Logistic Model Based in Positions (MoLoBaC)

In particular brief details of the General of the Enterprise stage will be given, since its three areas are conformed, respectively, by the following positions, where the number in parenthesis is the identifier of the position in the flowchart: a) Intrinsic to logistics, three positions: Layout (01), Quality (05) and Localization (30) which is subordinated to the General of Transportation position from the area of Transportation, in the Distribution stage; b) Supported by logistics, to whom belongs: Expansion (15) (reporting to General manager of Research and Development), Forecasting (35) and Projects (39), and c) Supporting the logistics, formed by five positions: Finances (11) and its subordinated position: Costs (10), Marketing (and Sales) (20), Human Resources (26) and Juridical Consultant (40), which is the only position not distinguished as manager.

Following, understanding it as a MoLoBaC position, Quality Manager would be discussed and how through this position and its functions, a diagnosis of an organization logistics can be analyzed.

QUALITY MANAGER IN MoLoBaC

When doing a brief route by MoLoBaC, could be observed that of the forty three positions that the integrates it, Quality Manager has a relevant role, that when being located in the area Intrinsic to logistics, of the General of the Enterprise stage, implies that it is related to all the logistics operations of the company. But including quality, or total quality within the logistics is not a new concept, already in 1990, Martin Christopher and Richard Yallop (Christopher, 2002), published the article “Audit of the quality of the service to the client”, where besides considering quality as a tangible element of the product, presenting how measurements can be made of customer service, where between the key component of costumers service mention quality in sales representation, emphasizing in addition, the use of competitive Benchmarking to establish the relative importance of the components of costumers service.

When talking about quality, in addition to quality management (Foster, 2007; Hsu and Hu, 2009) and the quality-cost relation (Hammami, Burlat and Campagne, 2003; Isiklar, Alptekin and Büyükoçkan, 2007; Ketchen, Tomas and Hult, 2007; Wouters, Jarwaarde and Groen, 2007), there are two other aspects to consider: the quality of the product (Angerhofer and Angelides, 2006; Boyer and Hult, 2005; Gehin, Zwolinski and Brissaud, 2007; Hsu and Hu, 2009; Wouters, Jarwaarde and Groen, 2007) and the quality of the service (Boyer and Hult, 2005; Loudni, Boizumault and David, 2006).

That relevant role that quality plays (Donselaar et al., 2006; Gattiker, Huang and Schwarz, 2007; Huang and Keskar, 2007; Riezebos, 2006) in costumers service, is used as starting point to measure the logistic performance of the organizations, since as it was expressed in the enterprise logistic concept, good costumers service is the reason of being of logistics. Thus, the next step is to identify or to determine the functions of the Quality Manager and to make use of them to obtain the propose measurement.

Quality Manager subordinated functions

In MoLoBaC, when defining the functions of a position, among other aspects it is necessary to guarantee that them must be useful to characterize this position, and even serve to define the manager profile, but mainly that support logistics in all their stages, that is to say, in the supplying, the production, the distribution and if exist, in inverse logistics, and if it is possible in the general aspects of the company and information, thus, between the functions that a Quality Manager must carry out, according to the MoLoBaC, the ones indicated in tables 1,2 and 3 are emphasized, where, especially in the last one of these tables, functions related with the remaining positions of the models are included.

Table 1: Some functions relevant to the Quality Manager, associated to the SCM

Identification	Subordinated function
01	Generate programs to improve quality integrating the supply chain.
02	Aiding providers to improve the quality of their services and products.
03	Developing programs to improve the suppliers quality.
04	Establishing programs to improve the quality of services and products.
05	Generate programs to integrate costumers to the improvement of quality.
06	Adding value through quality to the supply chain.

It is evident that some of the subordinated functions of table 1, could also be classified as generals of the enterprise or associated to the positions that they integrate in the MoLoBaC.

In the set of subordinated functions of tables 1, 2 and 3, specially the last one, at least one can be found for each position of the MoLoBaC, as all these functions are of easy measurement, this would be the used mechanism to evaluate the performance of the respective position, which in general would be translated to an indicator between 0 and 100, where 100 would imply an excellent performance, this way a measurement for all positions is obtained, and in ascending form for the areas, stages and in general for the enterprise as a whole. That is to say, just by measuring the performance of the Quality Manager, the performance of the whole organization would be measured.

Table 2: Some relevant functions of Quality Manager, associated to the enterprise in general.

Identification	Subordinated function
07	Establishing management programs for organization quality.
08	Designing quality measurement standards for the whole organization.
09	Establishing annual goals for the organization desired quality.
10	Establishing programs for quality improvement in the process.
11	Establishing programs to improve the performance of employees.
12	Establishing programs to improve quality through equipments.
13	Defining incentives programs for achievement in quality improvement.
14	Designing programs that allow improving the quality of information flows.
15	Designing programs that allow measuring and improving the matter flows.
16	Designing programs that allow measuring and improving quality of other flows.

As in table 1, some functions of table 2 can be associated with positions integrating the MoLoBaC.

Table 3: Some functions relevant to Quality Manager, associated with positions in MoLoBaC.

Identification	Subordinated function
17	Involving the organization layout in improving performance quality.
18	Establishing goals to achieve in quality improvement, through raw material.
19	Pay special attention to raw material quality.
20	Establishing goals to achieve in quality improvement, through other intakes.
21	Establishing goals to achieve in quality improvement, through procure.
22	Generate programs to integrate suppliers to quality improvement.
23	Establishing programs of preventive maintenance conducting to quality improvement.
24	Defining quality programs to implement with mayor maintenance.
25	Aiding to establish replacement politics that minimize costs and improve quality.
26	Integrate maintenance program with the continuous quality improvement.
27	Establishing programs of quality improvement oriented to minimize logistics costs.
28	Establishing programs allowing to measure financial management quality.
29	Aiding to define programs of continuous evaluation of equipment and spares quality.
30	Aiding to establish inventory models which potency quality improvement.
31	Aiding to establish quality measurement programs for different inventories.
32	Establishing strategies to guarantee quality in expansion projects.
33	Establishing programs that guarantee quality in operations by virtual channel.
34	Establishing programs to impulse quality through new technologies.
35	Establishing programs to impulse quality through information systems.
36	Coordinate programs of Research and Development to improve quality.
37	Aiding to define marketing strategies for each one of its products.
38	Aiding to define programs of quality improvement in the handling of all storages.
39	Aiding to define programs to improve quality in the handling of picking.
40	Establishing programs that allows to measure quality of industrial designs.
41	Aiding to design materials handling strategies, that potency its quality.
42	Aiding to establish guidelines, involving quality in processing orders.
43	Designing and establishing formation programs in quality improvement.
44	Establishing programs allowing the whole personal to be involved in quality improvement.
45	Establishing programs to improve delivery quality.
46	Aiding channels to define strategies guaranteeing the products quality.
47	Establishing programs that allow having control of physical distribution quality.
48	Aiding new localizations in potency quality.
49	Developing programs to improve packaging quality.
50	Developing programs that guarantee quality of the fleet.
51	Aiding in choosing distribution routes that guarantee quality.
52	Contribute establishing transportation politics that helps improving quality.
53	Contribute making prognostics that help improving quality.

Table 3: Some functions relevant to Quality Manager, associated with positions in MoLoBaC. (Continuation)

Identification	Subordinated function
54	Establishing programs, allowing to guarantee recollection and reception quality, of the products returning by reverse logistics.
55	Generate programs, allowing to guarantee classification and utilization, of products returning by inverse logistics.
56	Aiding establishing programs of quality reverse logistics.
57	Incentivize quality improvement in programs of benign inverse logistics.
58	Create programs of quality improvement minimizing adverse inverse logistics.
59	Establishing programs to guarantee quality in the management of new projects.
60	Establishing programs of quality measurement in legal aspects.
61	Establishing programs of internal relations that improve quality.
62	Establishing programs of external relations that improve quality.
63	Establishing programs of industrial security that improve quality.

In practice the performance of each position would be measured and then the performance of positions of an area would be measured by average and with the average of the areas the performance of the stages would be had and these averages would allow the global evaluation of the company.

CONCLUSIONS AND RECOMENDATIONS

When observing tables 1, 2 and 3, in special 3, can be observed that it is easy to create subordinated functions of the Quality Manager, that can be related in direct form to each one of the positions of the Logistic Model Based on Positions (LoMoBaP, [MoLoBaC in Spanish]), which covers all the enterprise logistics, with the advantage, that besides analyzing the positions, simultaneously groups them in areas and these in stages, which in direct form allow to have a vision of the performance, not only of the enterprise logistics of an enterprise, but the whole of the enterprise.

As each one of the Quality Manager subordinated functions are valuables in direct form, at least through indicators, obtaining a measurement of each function and with them of each position, which as well allows evaluating the areas, the stages and the enterprise as a whole, being fulfilled therefore the objective raised in this work.

It is understood that only a representative set of subordinated functions of the Quality Manager appeared here, but that their number could grow considerably, thus it is recommended to work in this sense, in establishing new subordinated functions of the Quality Manager. On the other hand, the functions can be evaluated through indicators, thus is recommended to make a deeper study of each of the functions, present and future, to clearly define the indicators to use.

On the other hand in the MoLoBaC forty three positions converge, many of them with a general relation with the rest, thus it is recommended, to apply the analysis here done for the Quality Manager to other positions that can be conceited also have the capacity to analyze the logistics through its subordinated functions.

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INFLUENCE OF LOCATION MANAGEMENT IN SUPPLY CHAIN MANAGEMENT

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ABSTRACT

Given the daily relevance of the Supply Chain Management (SCM) and with it enterprise logistic, one must pay special attention to the integration of the Supply Chain Management, to even decide where the different operative centers from the different organizations who integrate it, will be located. On the other hand, when the locations of the different operative centers are analyzed is recommendable to consider the presence of the Logistic Model Based on Positions (MoLoBaC, in Spanish), which was created to explain enterprise logistic through the functions of the positions relative to logistics in an organization. From both before mentioned aspects the objectives of this work arises: To construct a model that based on improving the efficiency and integration of the Supply Chain Management of and on offering the maximum support to the greater amount of areas of the MoLoBaC, allows to determine the best location of the different operative centers from the different organizations who conform a SCM.

INTRODUCTION

The methodology used to reach the objective of this work: To construct a model that based on improving the efficiency and integration of the Supply chain of and on offering the maximum support to the greater amount of areas of the Logistic Model Based on Positions (Modelo Logístico Basado en Cargos [MoLoBaC], in Spanish), allows to determine the best location of the different operative centers from the different organizations who conform a Supply Chain Management (SCM), is the scientific method adapted to the Operations Research (Hernandez and García, 2006a; 2006b; 2007), which approaches decision making problems without going through formulating hypothesis, instead its steps are:

- a) To define the problem, as presented in the objectives, is to create a model to locate operative facilities of an organization, based on the SCM and MoLoBaC;
- b) Search data, centered in analyzing the SCM, logistics enterprise and the Location manager of the MoLoBaC;
- c) Establishing alternatives, that would be different models to evaluate the location of the operative centers;
- d) Evaluating alternatives, according to the raised objectives, deciding which of the proposed alternatives is feasible;
- e) To select the best alternative, as product of previous evaluation process, and based on the secondary objectives, tacit or explicit, being considered;
- f) To implement the alternative, that being a theoretical study consists of showing a hypothetical example of the created model and
- g) To establish controls, or mechanisms that allows recognizing if the created model continues being useful in the time.

As far as the reaches it is important to note that in this study no field research had been made, nor the management of location of the MoLoBaC in company some has been analyzed, only has appeared the model constructed and its validation from a theoretical point of view.

SUPPLY CHAIN AND LOCATION MANAGEMENT

In order to construct the model that allows to obtain the best location of any operative center, it is necessary to present some concepts that are immersed in it, for this reason the concepts of Supply Chain Management, enterprise logistic, and also the MoLoBaC appears, giving a brief explanation of its areas and the position Location manager.

Supply Chain Management (SCM)

Demeter, Gelei y Jenei (2006) offer their definition of Supply chain: “supply chain refers to all those activities associated with the transformation and flow of goods and services, including their attendant information flows, from the sources of raw materials to end users. Management refers to the integration of all these activities, both internal and external to the firm.”, taken from Ballou et al. of 2000, which coincides with Ballou (2004). On the other hand the supply chain (SCM) (Hugos, 2003; Lin et al., 2009; Stadtler and Kilger, 2005), is usually presented as an ampler concept than the enterprise logistic and it is understood as all those logistic aspects that must be synchronized between the producers of prime matter, finished products and the wholesale distributors and detail, so that the client is attended in suitable form satisfying their real necessities; the logistic aspects in which the SCM is centered generally are: Storage, inventories, location and transports, but to be able to work a good SCM high integration of the information systems is required.

Nevertheless this approach where the SCM involves logistics, is not shared by all authors, in individual Larson (2005), presents an evolution of both concepts where in addition to this approach in which the SCM involves logistics, are approaches where logistics involves the SCM, where both concepts are totally separated and a final approach, to which the authors of this work add themselves, where both concepts are independent, with a common intersection, that as indicated in the previous paragraph, it is shown in the warehouses, location, handling of inventories, transportation and information systems. On the other hand it is interesting to quote Ketchen and Hult (2007), who based in Boyer et al. of 2005; Ketchen and Guinipero of 2004 and Mabert and Venkataramanan of 1998, point that: A supply chain is a series of units that transforms raw materials into finished products and delivers the products to customers and add that some of the units in a chain are located inside a single organization’s borders while others cross such borders in complex and evolving ways. Pointing out besides that effectively managing supply chains is vital to organizational success. Indeed, there is a growing recognition that modern competition is being fought “supply chain versus supply chain” rather than “firm versus firm”.

It is equally important to note Boone and Ganeshan (2007) in their short article an Introduction to a Special Issue on eBusiness and Supply Chain Management: “Since the supply chain usually involves more than one firm, it is important for managers to evaluate what every firm brings in terms of costs and benefits to the supply chain; and eventually how such benefits can be shared between supply chain partners. This often necessitates a different organizational structure-cross-functional and inter-firm teams that analyze, monitor, and improve supply chain processes”.

Enterprise logistics

For adapting better to MoLoBaC, and therefore to the objectives of this essay, although there is a great amount of very complete and asserted definitions in literature, it will be said that: Enterprise logistic one is centered in searching and achieving the greatest present and future satisfaction of the final customer and includes the legal aspects, the planning, organization, execution and control of all the activities related to the obtaining, flow, storage and maintenance of materials, products and even services; from the source of the raw material, including here customers through inverse logistics, to the sale point of the finished product whether local or international, massive or enterprise, in the most effective and efficient manner, reducing time and costs and making use of modern technologies of information (Hernandez and García, 2006a; 2006b; 2008).

The Logistic Model Based in Positions (MoLoBaC)

As a necessity, to teach enterprise logistic, a series of qualitative-quantitative models were created for the students of a private university of Caracas, Venezuela, to explain logistic (Hernandez and García, 2006a; 2006b; 2008), that presented in chronological order are: a) The Logistic of Supply, Production, Distribution and Inverse (LSPDI, [in Spanish, LAPDI]) model, that studies the logistic flows of the organization, emphasizing the flows of materials, as much direct as inverse, information and control; b) The Logistic Model Based on Positions (MoLoBaC), that leans in the previous model and which studies enterprise logistic through the functions relative to the positions; c) The Logistic, Strategic, Tactical, Operative with Inverse Logistics Model (STOILMo [MoLETOI in Spanish]), that studies the logistics following the evolution of the company through four stages: Strategic, Strategic-Tactical, Tactical-Operative and Operative, each one divided in four phases, being the model conformed by a total of sixteen phases and d) The Logistic Model Based on Indicators for Positions (LoMoBaPo [MoLoBaICa, in Spanish]), that measures the indicators relative to the individuals that carry out the different activities and supply functions.

The MoLoBaC, represented through an organizational chart (figure 1), groups the positions in twelve areas integrated in six stages: a) Supplying, with a unique area, Procure; b) Production, integrated by two areas, Maintenance and Inventories; c) Distribution, with four areas, Order processing, Physical distribution, Transport, and the central area of the model, Customer service; d) Inverse, conformed by an area, Inverse logistic; e) General of the Company, with three areas, Intrinsic to the logistics, Supported by logistic and Supporting logistic and f) Information (General of Information), formed by a unique area, Information.

Of the twelve areas that conform MoLoBaC special attention will be given to: a) Transport, conformed by five positions: General manager of Transport, with its subordinated positions: Routes (33), Fleet (32), Packing (31) and Location (30), where the number between parenthesis is, for all the model, the identifier of the position in the organizational chart and b) Intrinsic to the logistics which is formed by three positions: Layout (01), Quality (05) and Location (30), as already it was already said, is the central objective of this investigation and which, is subordinated to the position General of Transport, of the area Transport, in the stage Distribution. The Location manager, as its name indicates it is the person in charge to locate all the operative centers of the organization, as much in the macro location, that is to say, the country, province or zone where the new facility will be located, as in the micro location, which corresponds to the land where the new seat will be constructed, or the building that will be occupied, if it were the case.

Following the organization in positions, areas and stages that MoLoBaC offers, but mainly the areas, the model will be constructed that allows evaluating the best location of the operative centers of the SCM.

MODEL FOR A BETTER LOCATION

Although when using the term localization associated to supply chain management logistics it is common to relate it with the economy (Demeter, Gelei and Jenei, 2006), the facility of customer services (Karmarkar and Pitbladdo, 1995), with the correct localization (Lin et al., 2009), the docking station (Zäpfel and Wasner, 2006), warehouse location (Sharma, Ammons and Hartman, 2007), but in general it refers to the localization of the producer plant (Dias, Captivo and Clímaco, 2007; Jung, Jeong and Lee, 2007), It must be clarified that for this work, in a way continuing the work of Lapierre and Ruiz (2007), three types of operative centers will be identified: a) Production centers, those will be the plants, factories or any other similar center, where materials are transformed into final products, or generating centers or service centers, if it is the case; b) Administrative centers, those will be offices, in which labors the personnel who directly or indirectly is in charge of the aspects of planning, organization, execution or direction and control, that is to say, administrative in general, of organization and c) Distribution and storage centers, are those where the products arrive for their storage, classification and grouping and later distribution or commercialization.

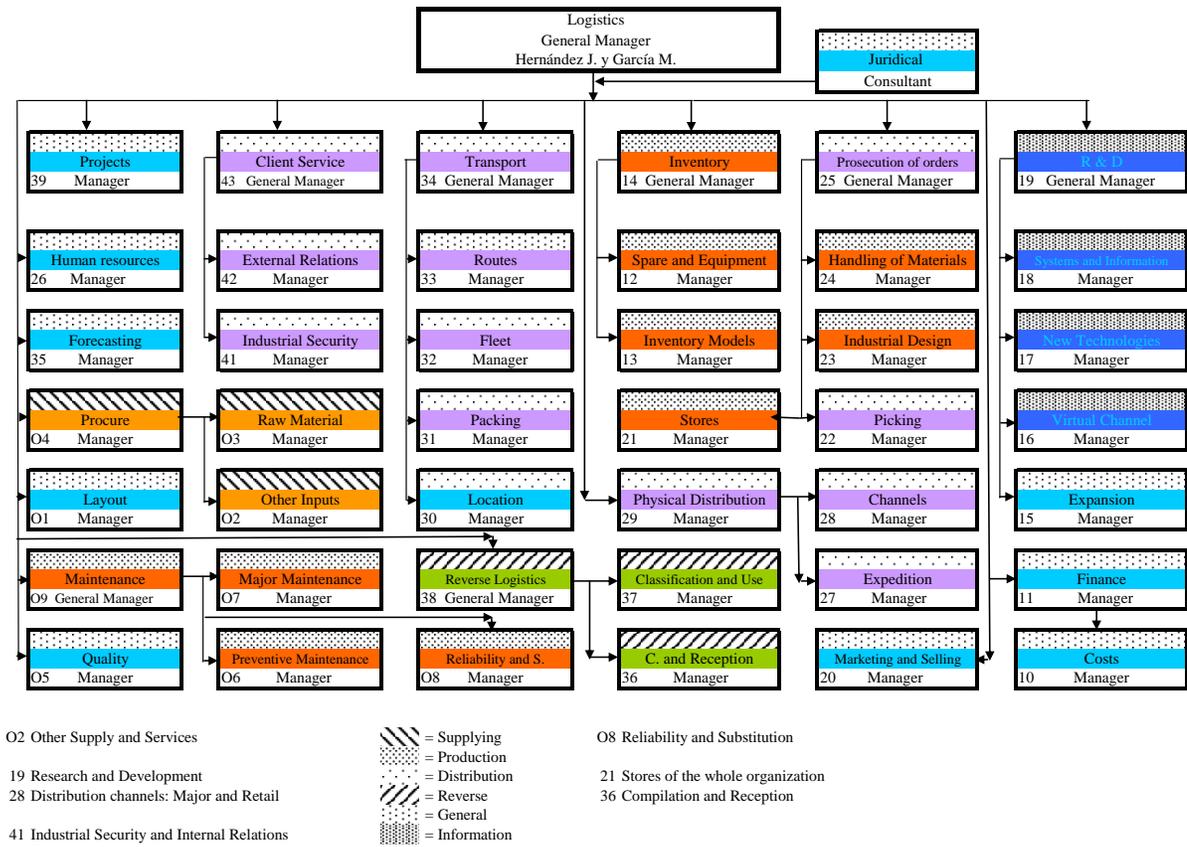


Figure 1: Logistic Model Based in Positions (MoLoBaC)

Evidently in all operative centers, the three mentioned types usually are present, thus the classification will be given by the dominant condition; that is to say, a company that has its warehouses, offices and producing plants in a single place, this operative center will be classified like production center. Also, in offices which share part of its space to store small amounts of soon to be distributed products, will be classified as an administrative center, as well as a warehouse that distributes its products to other centers of distribution, although in it is found personnel that administer these labors, it will be considered a center of distribution and storage.

According to commented in the previous paragraphs, the operative centers that will be less influenced by the SCM, are the production centers, since they are constructed and therefore located, in general, in independent form, before integrating any SCM, whereas those who will receive greater influence will be the centers of distribution and storage, since they would have to be constructed and located so that they offer a greater integration of the SCM. But independently of having established the SCM or no, and being any of the three types of operative centers, a series of aspects that must be evaluated to define their location will be listed.

Aspects to be considered by the location model

Of being possible, to choose the macro-location as much as the micro-location of a productive center is necessary to measure, for each locality candidate, the strengths that they offer:

01. In order to integrate from the point of view of the communications, the SCM.
02. In order to approach and to integrate the elements upstream (initial suppliers), of the SCM.
03. In order to approach and to integrate the elements downstream (final distributors and clients), of the SCM.
04. The surroundings, social, political and economic and its relations with the rest of the SCM.

05. For the member of the SCM, that will take the main responsibility in the administration of the productive center, as far as the administration itself.
06. For the remaining members of the SCM, aside from the administrator of the productive center, as far as the administration itself.
07. For the member of the SCM, that will support the greater impact in the operative costs of the productive center.
08. For the handling of the costs of other members of the SCM, aside from the person in charge of the operative costs.
09. For the member of the SCM, that will appear as owner and will support the construction of the productive center.
10. For the remaining members of the SCM, aside from the owner-constructor of the productive center, as far as the construction itself.
11. The climate, as much for the conservation of the operative center itself as of materials, equipment and products, as well as for the facility of integration of the SCM.
12. For the elimination of remainders produced by the different members of the SCM.
13. In facilitating the procure, as much of raw material, as of spare parts, services and other supply and services in general, considering, in any case, suppliers, integrated or not, to the existing SCM, as well as facilities to guarantee the product arrival and services.
14. In order to take excellent programs of total maintenance, specially considering the availability of personnel, space and spare parts that can be necessary.
15. In order to be able to maintain all the inventories necessary, in the suitable levels.
16. In order to carry out the processing of orders in an efficient and effective manner, guaranteeing among other aspects the freedom for the design, the facility to install new technologies of Picking, space for the handling of materials and its storage.
17. In order to facilitate the physical distribution of finished products, allowing an efficient and integrated delivery to the rest of the SCM.
18. In order to fulfill the transportation labors, as much of materials towards the productive center, as of finished products, getting them closer to the costumers, being done emphasis, in facilities for the choosing of the fleet, as in facilities to established different routes, as well as in the freedom to select the packaging.
19. In order to serve the costumer better, including the final, internal costumers and the remaining members of the SCM.
20. In order to make a suitable inverse logistic, harnessing the benign inverse logistic, allowing it to recover goods and to diminish costs to the organization, while diminishing the adverse inverse logistic, which causes monetary losses and dissatisfactions in the costumer.
21. For the area of MoLoBaC Intrinsic to the logistics, in particular those who facilitate a better Layout and harness reaching greater quality standards, as well as future locations of other operative centers.
22. For the area of MoLoBaC Supported by logistics, in the sense to facilitate the accomplishment of assertive prognoses, the management of new projects and the handling of future expansions of the organization, independent of the cause or the way that are being carried.
23. For the area of MoLoBaC Of Supporting logistics, paying attention to the handling of logistic costs and the financial aspects of the organization, as well as to carry out the labors of trade and sale, the easiness of having suitable human resources and where the legal aspects are not excessively complicated.
24. For the area of MoLoBaC Information, trimmed in guaranteeing excellent research and development laboring, with the handling of new technologies, easiness for virtual channels and the use of modern information systems.

These twenty-four aspects to consider by the model, where it can be seen that the first twelve are more closely associate with SCM, while the last twelve are extracted of each one of the twelve areas of the MoLoBaC, are converted in evaluation criteria, thus quantification could be done, expressed easier through one of the multi-criteria models and easier to handle Matrixes Of Weighing (MOW), as illustrated in table 1, where two hypothetical places are evaluated, following the twenty-four criteria of the model, here generated, which it denotes the influence Location Manager has on the MoLoBaC, with the SCM.

Illustration of the model for location of an operative center

In table 1, annexed after the conclusions, the valuation appears through developed model of a pair of hypothetical places, where it is hoped to locate an operative center, in this case it is the macro-location, that is where surely the model will have greater repercussion, since in the micro-location, more precise aspect could arise that would have greater relevance.

In table 1, after the conclusions, it is possible to see that Location A is favored by 1044 points as opposed to 1016 points of Locality B, but more than the points obtained by the Locality A or by the Locality B, that are hypothetical localities, the important thing it is to see that the evaluation of them allows the validation of the model, which aid to establishing the place in which an operative center must be located, taking into account the SCM and the MoLoBaC, and this way shows the influence of the SCM and the Location manager of the MoLoBaC, in the location of operative centers. After this comments conclusions and recommendations can be done.

CONCLUSIONS AND RECOMMENDATIONS

The established model takes into account twenty-four criteria, where twelve of them are related to the integration of the SCM, and the other twelve with the areas of the Logistic Model Based on Positions (MoLoBaC), with which it is achieved the objective of creating a new model, that taking into account the SCM and the MoLoBaC, aids the location of the operative centers of an organization.

In addition from the quantitative point of view the handled model is very easy to implement, since it makes use of the easier to work with multi-criterion techniques, the MOW.

Although here, it was only used the model for a macro-location of a productive center, is evident that it would be able to work, without no difficulty to aid in as much in the macro as in the micro-location, whether in productive, administrative or of storage and distribution centers.

From the last commentary, the recommendation arises to use the model in real cases, in organizations, who are deciding the location of new operative centers.

Table 1: Application of the model to two hypothetical locations

Criteria	Range of the criteria	Location A		Location B	
		Condition	Points	Condition	Points
01	1 to 80	Few	16	High	64
02	1 to 60	High	48	Quite few	12
03	1 to 60	High	48	Medium	36
04	1 to 60	Quite few	12	Medium	12
05	1 to 80	Medium	48	High	64
06	1 to 50	Few	20	Quite high	50
07	1 to 100	Quite high	100	Few	40
08	1 to 90	Quite few	18	Quite few	18
09	1 to 100	Medium	60	Medium	60
10	1 to 80	Few	32	Few	32
11	1 to 50	High	40	Quite high	50
12	1 to 90	Medium	54	Quite Few	18
13	1 to 80	Quite high	80	Few	32
14	1 to 70	Few	28	Medium	42
15	1 to 80	Quite few	16	Quite few	16
16	1 to 80	Medium	48	Few	48
17	1 to 100	Quite high	100	Quite few	20
18	1 to 90	Few	36	Medium	54
19	1 to 100	Quite few	20	Few	36
20	1 to 80	Medium	48	High	64
21	1 to 70	Quite high	70	Quite high	70
22	1 to 70	Few	28	Few	28
23	1 to 100	Quite few	20	Medium	60
24	1 to 90	Medium	54	Quite high	90
Total	1910		1044		1016

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A COMPARISON OF NONGOVERNMENTAL ORGANIZATIONS' LOGOS IN POLAND, THE CZECH REPUBLIC, AND THE UNITED STATES: A CONTENT ANALYSIS

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ABSTRACT

Logos constitute a communication tool that nongovernmental organizations (NGOs) use to reach stakeholders. NGOs do not have the marketing arsenal that private corporations use to communicate with stakeholders; but they do use logos effectively, to communicate corporate visual identity. Communication strategies differ across environments, and logo content varies as well. This study compares the use of logos by NGOs in Poland and the Czech Republic and in the United States. Logos are evaluated not only from the perspective of cultural differences, but also from the perspective of market experience: NGOs in the U.S. are established, in existence for over fifty years, whereas they constitute a more recent phenomenon in the Eastern European emerging markets.

BACKGROUND

Nongovernmental organizations use corporate visual identity to express their values, their ambitions, and their distinguishing traits. Logos are used in marketing communications to provide organizations with visibility and recognizability (Balmer and Gray, 2000; Dowling, 1993; Du Gay, 2000; Van den Bosch, Wim, and de Jong, 2006), providing individuals with additional cues to remember the organization (Van den Bosch et al., 2006). The logo also is a symbol of the organization and, as such, it directly contributes to its image and reputation (Schultz et al., 2000). Specifically, it is possible that NGO's choice of logo, color and font type may affect individuals' judgment and behavior relative to the organization (Doyle and Bottomley, 2002; Gabrielsen, Kristensen, and Hansen, 2000; Van den Bosch, De Jong, and Elving, 2005; Van den Bosch et al., 2006; Van Riel and Van den Ban, 2001). Another relevant function of nongovernmental organization logos is internal: it plays a symbolic role in helping employees identify with the organization (Bromley, 2001; Dutton, Dukerich, and Harquail, 1994; Kiriakidou and Millward, 2000; Van den Bosch et al. 2006).

An examination of logos in the Czech Republic and Poland, on one hand, and in the United States, on the other, will provide insights into the strategies used by nongovernmental organizations to communicate with their market. Specifically, such an examination will identify differences in how these organizations use logos strategically, to create visibility and recognizability, to create an image for the organization, and to create identification for employees with the organization.

METHOD

The present study uses a content analysis of logos from nongovernmental organizations in Poland, the Czech Republic, and the United States. The study to be presented will compare logo content of 100 organizations in each country. The organizations were selected from judgment samples provided by Internet sources in each country; organizations that did not have their own websites were excluded from the sample.

The organizations in the three samples are identified based on the scope of operations, as well as history. Content analysis was used as a method to identify and subsequently compare logo content in the different countries. A number of studies have pioneered the use of content analysis to study the international communication of multinational firms; in particular, three – Mueller, 1991; Whitelock and Chung, 1989; Seitz and Johar, 1993 – investigated the standardization of the advertising theme, slogan, headlines, subheads, body copy, color, and size differences, models and spokespersons, visual background scenes, products attributes, product packaging, product name, product portrayal, and claim type, among others (Harris and Attour, 2003). Two judges were used and their assessments were calculated and reported in the findings; the information provided includes inter-rater reliability information.

FINDINGS

We identified noteworthy differences in terms of the use of name, graphic symbols, letters, words, and colors, among others. We discuss these differences and address their relevance for logo design for marketing communications of nongovernmental organizations.

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PARTISAN EFFECT, ELECTION CYCLE AND BUDGETARY PROCESS IN TAIWAN: EVIDENCE FROM ASYMMETRIC ADJUSTMENT

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ABSTRACT

It is widely acknowledged that the adjustment between government expenditure and revenue could be asymmetric due to either partisan (ideological) reasons or election cycles. In this study we employ threshold autoregressive model (TAR), momentum-threshold autoregressive model (M-TAR), and asymmetric ECM techniques to investigate how election cycles and partisan ideology asymmetrically affect the dynamic behavior of government expenditures and revenues in Taiwan's budgetary process over the sample period of 1965:Q3-2006:Q4. Our findings revealed that government expenditures and revenues in Taiwan's budgetary process have characteristics of following an asymmetric adjustment process and the partisan and opportunistic political business cycle models.

INTRODUCTION

In the economics literature, interpretations of the relationship between government expenditures and revenues basically fall under three perspectives: tax-and-spend, spend-and-tax, and fiscal synchronization. Recent empirical studies on the expenditure-revenue relationship, including those of Koren and Stiassny (1998), Chang and Ho (2002), Payne (2003), and Ho and Huang (2006), have largely been based on the conventional cointegration and error correction model (ECM). Studies based on the ECM specification implicitly assume that the adjustment process of expenditures and revenues due to disequilibrium between the variables is strictly symmetric. However, Pippenger and Goering (1993), Balke and Fomby (1997), and Enders and Granger (1998) showed that tests for unit roots and cointegration all have low power in the presence of asymmetric adjustment. Recently, economists have been particularly interested in the study of cointegration with asymmetric error correction, and have generally reached a common interpretation and consensus with this area of study (Potter, 1995; Balke and Fomby, 1996; Enders and Siklos, 2001; Arestis et al., 2004; Ewing et al., 2006; Easaw and Garratt, 2006; and etc).

The asymmetric adjustments mean that the movement towards a long-run equilibrium do not necessarily happen every time period, but instead, follows the threshold autoregression (TAR) model. Tong (1983) first utilized the TAR model to show how movement towards a long-run equilibrium is affected in the situation that variables digress from their equilibrium values. Enders and Granger (1998) further introduced the momentum-threshold autoregression (M-TAR) model to allow the adjustment to depend on the direction in which variables digress from their equilibrium. Later in 2001, Enders and Siklos modified the TAR and M-TAR models into multiple variable models, and established a method for evaluating threshold cointegration. Ewing et al. (2006) later used the TAR and M-TAR models to estimate whether the deviation of the deficit or surplus from its long-run trend affected the decision making of the policymakers. The application of the TAR model indicates that revenues and expenditures respond to the long-run requirements of the budgetary balance only when the budget worsens. In addition, Ewing et al. used the M-TAR model to analyze whether improved or worsened budget surplus (or deficit) also affected the process in which government revenues and expenditures adjusted towards an equilibrium state.

Political economists have been interested in researching the relationship between political and economical variables ever since Nordhaus (1975) introduced the Political Business Cycle theory, which recognizes the direct relationship between political elections and economic development and explains how politicians are able to

obtain public support and votes by manipulating financial policies to create the illusion of a robust economy. Related studies on this phenomenon have been mentioned in the research of Rogoff and Siber (1988); Rogoff (1990); Alesina (1992); Hibbs (1992); and Alt (2005) etc. Studies on political business cycles focus on the ideology of the governing party, its management and control over the economy and its financial policies, and the performance of the economy itself. Related studies have been conducted by Hallerberg and Hagen (1999); Brender (1999); Alt and Lassen (2005); Alesina and Tabellini (2005); and etc. Empirical studies on the political budget cycles typically show government budget as being closely influenced by election cycles (from the perspective of the opportunistic theory) and ideology (from the perspective of the partisan theory). More specifically, if the political budget cycles display asymmetric characteristics, then the accompanying budgeting process would also display asymmetric characteristics. Meanwhile, Easaw and Garratt (2006) attribute the asymmetric adjustment process of budgeting towards a long-term equilibrium to the election cycles and partisan effects.

While previous studies focus most on the industrial and developing countries, this study attempts to make some contributions to this line of research by using the asymmetric modeling of time series techniques to investigate how election cycles and partisan ideology asymmetrically affect the dynamic behavior of expenditure and revenue in Taiwan's budgetary process over the period of 1965:Q3-2006:Q4.

DATA AND METHODOLOGY

Data

Our empirical analysis employed quarterly data on government revenues, government expenditures and GDP for Taiwan over the sample period of 1965:Q3-2006:Q4. All data were obtained from the website of the Directorate-General of Budget, Accounting and Statistics, Executive Yuan, Taiwan. Quarterly GDP was obtained from the Macro Statistics Data Base, and annual revenues and expenditures were obtained from the National Statistics Data Base. In order to increase the effectiveness of the empirical analysis, the annual data were converted to quarterly data through a transition method to increase the number of data used in the empirical analysis, and all the data series were transformed into logarithm forms to achieve stationarity in variance.

Methodology

To test for cointegration that recognizes the possibility of an asymmetric ECM of the government budgetary process, and to display the impact of the ruling party, political election cycles, and other elements regarding government budgetary decision making, the TAR and M-TAR models developed by Enders and Granger (1998) and Enders and Siklos (2001) are utilized. The two-step least square procedure of Engle and Granger (1987) is extended to incorporate the TAR and M-TAR applications to examine the possible asymmetric causality between expenditures ($\ln E_t$) and revenues ($\ln R_t$). The TAR model is estimated from equations 1 and 2.

$$\Delta \varepsilon_t = I_t \rho_1 \varepsilon_{t-1} + (1 - I_t) \rho_2 \varepsilon_{t-1} + \sum_{i=1}^p \gamma_i \Delta \varepsilon_{t-i} + v_t \quad (1)$$

where $v_t \sim i.i.d(0, \sigma)$. The residuals $\{\varepsilon_t\}$ recovered from the regression of $\ln E_t$ on $\ln R_t$, represent the disequilibrium between expenditures and revenues and signify the budgetary disequilibrium. The lagged value of the residuals ε_t and $\Delta \varepsilon_t$ are incorporated to capture the short run dynamic adjustment process that occurs while the budget disequilibrium approaches its long run balance. The model converges under the condition: $\rho_1 < 0$, $\rho_2 < 0$. The Heaviside indicator functions (I_t) are denoted as follows:

$$I_t = \begin{cases} 1 & \text{if } \varepsilon_{t-1} \geq \tau \\ 0 & \text{if } \varepsilon_{t-1} < \tau \end{cases} \quad (2)$$

The threshold τ is endogenously determined using Chan's (1993) method. As shown by the TAR model, when the previous period's budgetary disequilibrium ε_{t-1} is above the threshold value τ , the model adjusts towards long run balance with the adjustment of $\rho_1\varepsilon_{t-1}$, and if ε_{t-1} is below the threshold value τ , the model adjusts towards long run balance with the adjustment of $\rho_1\varepsilon_{t-1}$. In applying the TAR model, it is possible to examine whether the positive phase of the budgetary disequilibrium has different effects on the behavior of expenditures and revenues than does the negative phase of budgetary disequilibrium.

The M-TAR model is estimated from equations 1 and 3. The Heaviside indicator function is defined as follows:

$$I_t = \begin{cases} 1 & \text{if } \Delta\varepsilon_{t-1} \geq \tau \\ 0 & \text{if } \Delta\varepsilon_{t-1} < \tau \end{cases} \quad (3)$$

The M-TAR model allows the adjustment to depend on the previous period's change in ε_{t-1} , and it is possible to examine whether the positive phase of the changes in budgetary disequilibrium has different effects on the behavior of expenditures and revenues when compare to the negative phase. Generally speaking, when there is significant change in the time series data of the variables, the M-TAR model is more preferable than the TAR model, displaying the characteristics of the data more clearly.

Having established cointegration between $\ln E_t$ and $\ln R_t$ as well as asymmetric adjustment in the budgetary disequilibrium with the TAR model, the asymmetric version of the ECM with two asymmetric components of the error correction terms is estimated as follows:

$$\Delta \ln E_t = \alpha_{10} + \sum_{i=1}^k \alpha_{1i} \Delta \ln E_{t-i} + \sum_{i=1}^k \beta_{1i} \Delta \ln R_{t-i} + \sum_{i=1}^k \gamma_{1i} \Delta \ln GDP_{t-i} + \rho_{1E} Z_{t-1}^+ + \rho_{2E} Z_{t-1}^- + \varepsilon_{1t} \quad (4)$$

$$\Delta \ln R_t = \alpha_{20} + \sum_{i=1}^k \alpha_{2i} \Delta \ln E_{t-i} + \sum_{i=1}^k \beta_{2i} \Delta \ln R_{t-i} + \sum_{i=1}^k \gamma_{2i} \Delta \ln GDP_{t-i} + \rho_{1R} Z_{t-1}^+ + \rho_{2R} Z_{t-1}^- + \varepsilon_{2t} \quad (5)$$

where k represents the optimal lagged periods, which can be determined by either the Akaike Information Criterion (AIC) or Schwartz Bayesian Criterion (SBC). Meanwhile, Z_{t-1}^+ and Z_{t-1}^- represents the error correction terms of the model as it adjusts towards long term equilibrium, and is given as,

$$Z_{t-1}^+ = I_t (\Delta \ln E_{t-1} - \alpha - \beta \Delta \ln R_{t-1} - \Delta \ln GDP_{t-1}) = I_t \varepsilon_{t-1} \quad (6)$$

$$Z_{t-1}^- = (1 - I_t) (\Delta \ln E_{t-1} - \alpha - \beta \Delta \ln R_{t-1} - \Delta \ln GDP_{t-1}) = (1 - I_t) \varepsilon_{t-1} \quad (7)$$

ELECTION CYCLE AND PARTISAN EFFECT

The government budget adjustment process and the magnitude of the adjustments are affected by partisan factors and political election cycles. The partisan models focus on differences in policies and outcomes as a result of different governments' ideological orientations. On the other hand, the political election cycles models claim that every government behaves in the same way: opportunistically, to win re-election. During the time period analyzed in this study, the KMT (Kuomintang Party) won all presidential elections between 1966 and 1996, while the DPP (Democratic Progressive Party) governed from 2000 to 2008. Before the establishment of the DPP in 1986, the KMT had the largest majority of support. In order to accurately test whether partisan effect impacted the asymmetric adjustment process of the government budget, we set the Heaviside indicator function as follows:

$$I_t = \begin{cases} 1, & \text{if } \varepsilon_{t-1} \text{ occurred under a KMT Government} \\ 0, & \text{if } \varepsilon_{t-1} \text{ occurred under a DPP Government} \end{cases} \quad (8)$$

To examine whether political strategies do indeed have political election cycle characteristics, we need to consider the time lags associated with the policy outcomes. Therefore, we use the Heaviside indicator to test whether there is any change in the government budget adjustment process both before and after (after 4 to 8 quarters) the political elections. The Heaviside indicator can be written as follows:

$$I_t = \begin{cases} 1, & \text{if } \varepsilon_{t-1} \text{ occurred in a post election quarter} \\ 0, & \text{if } \varepsilon_{t-1} \text{ occurred in a pre election quarter} \end{cases} \quad (9)$$

EMPIRICAL RESULTS

Table 1 reports the results of the non-stationary tests for $\ln E$, $\ln R$ and $\ln GDP$ using ADF, PP and KPSS tests. Each data series is non-stationary in terms of levels but stationary with respect to first differences, suggesting that all of the data series are integrated of order one. Having established that $\ln E$ and $\ln R$ are $I(1)$ in their level form, the long run relationship is estimated using both symmetric and asymmetric models.

Table 1: Unit root tests

	Level			Difference		
	ADF	PP	KPSS	ADF	PP	KPSS
$\ln E$	0.606472	-0.85537	0.36903***	-16.64436***	-7.147314***	0.12412
$\ln R$	-0.68636	-2.472927	0.334012***	-5.510574***	-4.56655***	0.073309
$\ln GDP$	0.844179	0.037554	0.392435***	-4.190651***	-18.4026 ***	0.065225

Note: *** indicates significance at the 1% level.

From Table 2, the estimates of ρ_1 and ρ_2 indicate convergence in both the Engle-Granger, TAR and M-TAR models. We reject the null hypothesis of no cointegration under the Engle-Granger model at the 1% significance level. Follow the method of Enders and Siklos (2001), we reject the null hypothesis of no cointegration under the TAR and M-TAR at the 1% level. Therefore, regardless of whether the model has symmetric adjustments or asymmetric adjustments, the budgetary disequilibrium is stationary. $\ln E$ and $\ln R$ are cointegrated. However, the AIC and SBC values of the TAR and M-TAR models appear to be smaller than those of the Engel-Granger model. This means that the TAR and M-TAR models have a better goodness of fit. The Wald statistics value of F_a indicates that the null hypothesis of symmetric adjustment is rejected at 1% level for both the TAR and M-TAR models. Therefore, the asymmetric adjustment in the budgetary disequilibrium is established for Taiwan in both the TAR and M-TAR models.

In this study we consider two possible ways in which politics might impact government budgeting. Table 3 outlines the relevant results. The point estimates of ρ_1 (under KMT) and ρ_2 (under DPP) are consistent with convergence. Both the F_c value and the F_a value indicate that the null hypothesis of no cointegration and symmetric adjustment can be rejected at the 1% level. The results show that partisan effect causes the budgetary disequilibrium to have asymmetric adjustment, which means that the speed of adjustment of budgetary disequilibrium towards long run balance is different under KMT and DPP governments in Taiwan.

Table 2: Estimates for the budgetary disequilibrium: TAR and M-TAR models

	Symmetric		Asymmetric
	Engle and Granger	TAR	M-TAR

Threshold(τ)		-0.011883	-0.049511
ρ_1	-0.116430*** (-3.324)	-0.1248*** (-3.5215)	-0.0790*** (-2.7379)
ρ_2	NA	-0.0369 (0.9335)	-0.1130* (1.8138)
$F_c : \rho_1 = \rho_2 = 0$	NA	6.9503***	6.3298***
P_c	NA	0.0013	0.0023
$F_a : \rho_1 = \rho_2$	NA	10.0935***	8.8807***
P_a	NA	0.0018	0.0034
AIC	-4.487156	-5.5522	-5.5447
SBC	-4.4468332	-5.4176	-5.4102

Notes: The t-statistics are given in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. F_c is the F-statistic for null hypothesis that $\rho_1 = \rho_2 = 0$, and P_c is the P value. F_a is the Wald-statistic for null hypothesis that $\rho_1 = \rho_2$, and P_a is the P value.

Table 3 also shows that the point estimates of ρ_1 (post election) and ρ_2 (pre election), except the ρ_1 value of 4 quarters after the presidential election, are all negative, satisfying the convergence requirements. Based on five political election cycles, the model representing 6 quarters after the election is most compatible with the empirical data, suggesting that election cycles are in fact a significant element in the government budget adjustment process. In addition, the speed of adjustment of budgetary disequilibrium towards long run equilibrium is different during pre and post elections. More specifically, the speed of adjustment is significantly slower prior 6 quarters (18 months) after the election, where as the 6 quarters act as a turning point where the speed of adjustment begins to increase. We can clearly see that the model for the 6 quarters has the smallest AIC, and F_c and F_a values are all significant at the 5% level.

Table 3: Estimates for the budgetary disequilibrium: partisan effect and Election cycle models

	Partisan	Election Cycles				
		4 quarters	5 quarters	6 quarters	7 quarters	8 quarters
ρ_1	-0.1548*** (-4.298)	0.0288 (0.357)	-0.1374** (-2.295)	-0.1425*** (-2.896)	-0.1148** (-2.579)	-0.0802* (-1.970)
ρ_2	-0.0669 (1.101)	-0.0299** (-2.174)	-0.0175 (-0.938)	-0.0211 (-0.541)	-0.0335 (-0.631)	-0.0335 (-0.935)
F_c	10.8682***	2.3914*	3.0737**	4.2514**	3.3929**	2.2090
p_c	0.0000	0.0949	0.0491	0.0160	0.0362	0.1133
F_a	17.7505***	1.1836	2.5170	4.8188**	3.1409	0.8272
p_a	0.0000	0.2783	0.1147	0.0297	0.0783	0.3645
AIC	-5.5981	-5.4960	-5.5046	-5.5193	-5.5086	-5.4937
SBC	-5.4635	-5.3615	-5.3701	-5.3848	-5.3741	-5.3592

Table 4, 5, 6 and 7 present the estimates of the asymmetric version of the ECM which enable us to see if our findings are corroborated after information regarding the short run dynamics is accounted for. Across the models, the short term dynamics are significant at 1% level with a few exceptions. The point estimates of error correction terms of the TAR and M-TAR models are negative, meaning that the existence of an automatic adjustment mechanism allows the government budget to adjust from disequilibrium to equilibrium, regardless of

whether the imbalance is above or below the threshold value. The results of Table 4 show that the greater the budget imbalance, the faster the speed of adjustment towards budget equilibrium. The results also suggest that the TAR ECM is more compatible than the M-TAR ECM.

Table 4: Results of the asymmetric ECM: TAR and M-TAR

	TAR	M-TAR
α_0	0.001*** (8.634)	0.001*** (11.311)
$\Delta \ln E_{t-1}$	2.006*** (203.117)	2.006*** (201.519)
$\Delta \ln E_{t-2}$	-0.98*** ³ (-103.976)	-0.983*** (-103.73)
$\Delta \ln R_{t-1}$	-0.106*** (-30.930)	-0.105*** (-30.949)
$\Delta \ln R_{t-2}$	0.060*** (17.129)	0.060*** (17.068)
$\Delta \ln GDP_{t-1}$	-0.003** (-2.403)	-0.003** (-2.474)
$\Delta \ln GDP_{t-2}$	-0.003** (-2.367)	-0.003** (-2.397)
ρ_1	-0.009*** (-5.279)	-0.010*** (-9.215)
125% ρ_2	-0.011*** (-8.298)	-0.011*** (-5.105)
AIC	-12.307	-12.304
SBC	-12.136	-12.133

Notes: The t-statistics are given in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

The impact of partisan effect on the government expenditures and revenues under the TAR ECM model is displayed in Table 5. The impact of political election cycles on the government expenditures and revenues are shown in Table 6 and 7. Table 5 clearly shows that regardless of whether the KMT or DPP is the ruling party, the government will adjust expenditures to adjust the budget back towards equilibrium. However, in comparison, the speed of expenditure-adjustment (ρ_2 in absolute value) during DPP governance is slightly higher. Meanwhile, there is no significant evidence showing that the Taiwan Government has been adopting the revenues adjustment methods to cut back the budget disequilibrium.

The estimated results shown in Table 6 suggest that the rate of adjustment for government expenditures (displayed in absolute value) is significantly higher prior to the elections. The AIC and SBC values show that the model representing the 6 quarters after the election has the highest goodness of fit, meaning that typically government parties begin adjusting government expenditures to achieve long term equilibrium, 18 months after the major elections. These results coincide with the estimations on the adjustment process of the government budget shown in Table 3. The results of Table 7 show that the rate of adjustment of government revenues is lower during pre-elections and higher during post-elections. The exception is that the estimates for the 6 quarters after an election are not statistically significant. Similarly, as shown in Table 7, the AIC and SBC values are statistically significant and show that the model for the 5 quarters after the election has the highest goodness of fit. This tells us that governing parties typically begin adjusting the rate of adjustment for government revenues fifteen months after an election. In conclusion, the empirical results of this study show that partisan effect and election cycle do cause the government budget to stray from its equilibrium state. However, partisan effect and election cycle also causes the government to go through an asymmetric adjustment back towards long run budget equilibrium.

Table 5: Results of the asymmetric ECM: partisan effects

	$\Delta \ln E_t$	$\Delta \ln R_t$
α_0	0.001*** (3.778)	-0.0009 (-0.942)
$\Delta \ln E_{t-1}$	2.002*** (179.025)	1.3762*** (28.293)
$\Delta \ln E_{t-2}$	-0.980*** (-96.759)	-0.6805*** (-13.619)
$\Delta \ln R_{t-1}$	-0.105*** (-28.915)	0.9811*** (7.076)
$\Delta \ln R_{t-2}$	0.060*** (16.875)	-0.5487*** (-4.109)
$\Delta \ln GDP_{t-1}$	-0.003** (-2.388)	-0.0440** (-2.609)
$\Delta \ln GDP_{t-2}$	-0.003** (-2.448)	-0.0300** (-1.998)
ρ_1	-0.008*** (-3.855)	-0.0195 (-0.770)
ρ_2	-0.011*** (-8.175)	-0.0689*** (-4.263)
AIC	-12.2988	-7.0208
SBC	-12.1090	-6.8500

Notes: The t-statistics are given in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table 6: Results of the asymmetric ECM (expenditures): election cycles

	$\Delta \ln E_t$				
	4	5	6	7	8 quarters
α_0	0.001*** (7.984)	0.001*** (7.702)	0.001*** (7.426)	0.0007*** (7.631)	0.001*** (7.975)
$\Delta \ln E_{t-1}$	2.006*** (201.590)	2.005*** (202.218)	2.006*** (203.19)	2.0061*** (202.76)	2.006*** (202.398)
$\Delta \ln E_{t-2}$	-0.982*** (-103.148)	-0.982*** (-103.551)	-0.982*** (-104.003)	-0.9826*** (-103.844)	-0.983*** (-103.605)
$\Delta \ln R_{t-1}$	-0.106*** (-30.659)	-0.106*** (-30.830)	-0.106*** (-30.949)	-0.1062*** (-30.748)	-0.106*** (-30.572)
$\Delta \ln R_{t-2}$	0.060*** (17.032)	0.060*** (17.101)	0.061*** (17.163)	0.0607*** (17.096)	0.060*** (17.027)
$\Delta \ln GDP_{t-1}$	-0.003** (-2.391)	-0.003** (-2.335)	-0.003** (-2.386)	-0.0029*** (-2.469)	-0.003** (-2.365)
$\Delta \ln GDP_{t-2}$	-0.002** (-2.338)	-0.002** (-2.288)	-0.002** (-2.205)	-0.0025*** (-2.347)	-0.003** (-2.350)
ρ_1	-0.009*** (-5.215)	-0.009*** (-5.213)	-0.009*** (-5.238)	-0.0093*** (-5.274)	-0.009*** (-5.259)
ρ_2	-0.011*** (-8.208)	-0.011*** (-8.273)	-0.011*** (-8.366)	-0.0110*** (-8.306)	-0.011*** (-8.207)
AIC	-12.29522	-12.29688	-12.30205	-12.29865	-12.29475
SBC	-12.10542	-12.10708	-12.11225	-12.10885	-12.10495

Notes: The t-statistics are given in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table 7: Results of the asymmetric ECM (revenues): election cycles

$\Delta \ln R_t$					
	4	5	6	7	8 quarters
α_0	-0.0013 (-1.442)	-0.0017* (-1.752)	-0.0006 (-0.643)	-0.0004 (-0.436)	-0.0004 (-0.409)
$\Delta \ln E_{t-1}$	1.4726*** (29.389)	1.4255*** (30.888)	1.3980*** (29.546)	1.3968*** (29.397)	1.3932*** (29.016)
$\Delta \ln E_{t-2}$	-0.7520*** (-15.069)	-0.7004*** (-14.749)	-0.6955*** (-14.011)	-0.6977*** (-14.126)	-0.6956*** (-14.063)
$\Delta \ln R_{t-1}$	0.7318*** (4.813)	0.7928*** (5.476)	0.9654*** (6.540)	0.9988*** (6.710)	1.0154*** (6.764)
$\Delta \ln R_{t-2}$	-0.3472** (-2.419)	-0.4166*** (-3.063)	-0.5574*** (-3.996)	-0.5846*** (-4.178)	-0.5971*** (-4.254)
$\Delta \ln GDP_{t-1}$	-0.0353** (-2.139)	-0.0287* (-1.681)	-0.0477*** (-2.703)	-0.0518*** (-2.922)	-0.0532*** (-3.041)
$\Delta \ln GDP_{t-2}$	-0.0268** (-1.840)	-0.0211 (-1.418)	-0.0323** (-2.093)	-0.0352** (-2.235)	-0.0371** (-2.309)
ρ_1	0.0949** (2.140)	0.0671* (1.818)	-0.0435 (-1.310)	-0.0621** (-2.264)	-0.0655*** (-2.881)
ρ_2	-0.0571*** (-4.208)	-0.0588*** (-4.322)	-0.0564*** (-3.907)	-0.0537*** (-3.564)	-0.0503*** (-3.057)
AIC	-7.0814	-7.0818	-7.0034	-7.0030	-7.0046
SBC	-6.9105	-6.9109	-6.8326	-6.8322	-6.8338

Notes: The t-statistics are given in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

CONCLUSION

In this study we use the asymmetric model to study the budget adjustment mechanism/process of the Taiwan government over the sample period of 1965:Q3-2006:Q4. Estimations from the TAR and M-TAR models show that government expenditures and revenues share a cointegration relationship and an asymmetric adjustment process. We use the Heaviside indicator function to test different party and political election cycle settings to show that government expenditures and revenues are indeed affected by partisan effect and political election cycle elements and adjust towards long term equilibrium over time. The TAR ECM results suggest that Taiwan's government budgeting follows a TAR model, and satisfies the decisions of both partisan and opportunistic political cycle theories. Regardless of whether the KMT or DPP is elected, the governing party will use an asymmetric adjustment process to move government expenditures or revenues back towards long term equilibrium. However, the expenditures and rate of adjustment of government expenditures and revenues under the DPP governance is slightly faster than that of the KMT. The primary explanation for the different rates of adjustment under the two government parties is that during the DPP regime, the nation's budget imbalance and disequilibrium was more serious, forcing the DPP to commit to larger expenditure and revenue adjustments in order to achieve long term equilibrium. In terms of the political election cycle and its impact on the government budget, the rate of adjustment of government expenditures is significantly higher during pre-election periods, while the rate of adjustment for government revenues is significantly lower during pre-election periods. The explanation behind this phenomenon is that the ruling party typically adopts expansionary economic and political strategies including the expansion of public infrastructure, the increasing of public spending, the issuing of tax benefits, and the decreasing of taxes, in order to gain voter support. This explanation is compatible with the opportunistic political cycle theory and policy making approach. Empirical results show that the rate of adjustment for government expenditures and revenues speeds up in the 5 and 6 quarters after major elections, bringing the government budget back towards long run equilibrium.

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FISCAL DEFICIT SUSTAINABILITY IN CHINA: NONLINEAR EVIDENCE

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ABSTRACT

The fiscal deficit in China has grown rapidly over the past decade, increasing approximately 8 times as much between 1994 and 2005. In this paper, we examine the fiscal deficit sustainability in China, using government expenditures, revenues, and GDP data over the period of 1955 to 2005. Instead of using classical approaches based on linear models, this study utilizes a nonlinear model approach. When applying a nonlinear model, the result of model selection shows that the deficit-GDP ratio is better represented by the exponential smooth transition autoregressive model (ESTAR) when compared to the logistic smooth transition autoregressive model (LSTAR). The empirical results indicate that there is a non-linear mean reversion in the deficit-GDP ratio. This suggests that the fiscal deficit in China is sustainable and will shift towards equilibrium in the long run.

INTRODUCTION

Economic growth and the significant advancement of democracy in the late 20th century has lead several nations down the path of increased spending in hopes to sustain and satisfy growing infrastructure and public needs of the general public. Meanwhile, government revenues have not met the increased spending, resulting in significant budgetary deficits. A number of countries have turned to public loan as a measure to sustain government expenditures, further adding weight to their fiscal deficit. In response to this problem, economists and researchers began examining the role of intertemporal government budget constraints in nations' fiscal policies, paying special attention to the deficit sustainability.

In the international center of attention, the People's Republic of China has recently experienced rapid economic growth – approximately 10% per year – as it further develops into one of the world's largest economies. In fact, the amount of government expenditures in China has grown 11 times within 16 years, from 308.3 billion in 1990 to 3,393 billion in 2005. As expected, China's budgetary deficit has also significantly increased, from a barely visible amount in 1994 to approximately 8 times the amount by 2005. Since 2000, China's deficit problem became more and more visible and in two years the deficit came extremely close to 3% of the GDP, nearly surpassing the critical debt target amount determined by the International Monetary Fund (IMF) and the acceptable range established in the Maastricht Treaty.

As a result of wide-spread fiscal deficits, growing number of international organizations such as IMF and the European Union (EU) have become more and more involved in the attempt to control and return fiscal deficits to an acceptable portion of GDP. The purpose of this study is to gain a better understanding of whether the financial deficit in China can be characterized as being sustainable and is therefore not a serious concern or can be characterized as following a "No Ponzi-game" that ultimately leads to government's financial bankruptcy and other serious outcomes. This study applies a nonlinear model to examine whether China's fiscal policies and financial deficit is in fact, sustainable over time.

The traditional approach for examining fiscal deficit sustainability is to look at the stationarity of the deficit or the deficit to GDP ratio. Previous studies used unit root tests examine the deficit or debt to GDP ratio

(Flavin and Hamilton, 1986; Trehan and Walsh 1988; Wilcox, 1989; Quintos, 1995; Arghyrou, 2004). The unit root tests under a linear process for the deficit to GDP ratio implies that adjustments towards the long run equilibrium of the deficit to GDP ratio is continuous and has a constant speed, regardless of the amount of deviation from the equilibrium. However, this assumption conflicts with the growing evidence that governments respond more to primary deficit (surpluses) when its public debt is particularly high (low). To address this phenomenon, this study adopts a nonlinear model.

METHODOLOGY

Linear models are likely over restrictive and may not adequately capture asymmetries that may exist in the deficit to GDP ratio. Therefore, in this study, a nonlinear model is adopted.

Nonlinear Model

The nonlinear model for the deficit to GDP ratio (y_t) considered here is a smooth transition autoregressive (STAR) model, where adjustments takes place in every period but the speed of adjustments varies with the extent of the deviation from equilibrium (Granger and Teräsvirta, 1993; Teräsvirta, 1994). A STAR model for y_t (Teräsvirta, 1994) may be written as follows:

$$y_t = \alpha_0 + \sum_{j=1}^{p-1} \pi_j y_{t-j} + \left(\alpha_0^* + \sum_{j=1}^p \pi_j^* y_{t-j} \right) F(y_{t-d}; \gamma, \tau) + \varepsilon_t \quad (1)$$

where $\varepsilon_t \sim iid(0, \sigma^2)$; p is the autoregressive lag length; $F(y_{t-d}; \gamma, \tau)$ is the continuous transition function, y_{t-d} is the switching transition variable, $d > 0$ is the delay parameter, $\gamma > 0$ is the smoothness parameter, and τ is the location parameter threshold. Equation (1) may be written, parameterized in the first difference form, as follows:

$$\Delta y_t = \beta_0 + \lambda y_{t-1} + \sum_{j=1}^{p-1} \delta_j \Delta y_{t-j} + \left(\beta_0^* + \lambda^* y_{t-1} + \sum_{j=1}^p \delta_j^* \Delta y_{t-j} \right) F(y_{t-d}; \gamma, \tau) + \varepsilon_t \quad (2)$$

Two types of transition function in equation (2) are considered. The logistic function and the exponential function are as follows:

$$F(y_{t-d}; \gamma, \tau) = \left\{ 1 + \exp[-\gamma(y_{t-d} - \tau)] / \sigma_{y_{t-d}} \right\}^{-1}, \quad \gamma > 0 \quad (3)$$

$$F(y_{t-d}; \gamma, \tau) = 1 - \exp[-\gamma(y_{t-d} - \tau)^2 / \sigma_{y_{t-d}}^2], \quad \gamma > 0 \quad (4)$$

Equation (2) with the transition function (3) is called the logistic STAR (LSTAR). When $\gamma \rightarrow 0$, the model reduces to AR(p) model. When $\gamma \rightarrow \infty$, $F(y_{t-d}; \gamma, \tau) = 0$ for $y_{t-d} \leq \tau$, and $F(y_{t-d}; \gamma, \tau) = 1$ for $y_{t-d} > \tau$, the STAR becomes a two-regime threshold model. Since $F(y_{t-d}; \gamma, \tau)$ is not symmetric about τ , the LSTAR is capable of generating the asymmetric short run dynamics in two forms.

Equation (2) with the transition function (4) is called the exponential STAR (ESTAR) in which the dynamics change symmetrically around τ with y_{t-d} . The ESTAR gives similar short run dynamics between an expansion and a recession period. As $\gamma \rightarrow \infty$, the ESTAR model becomes linear. If $\gamma \rightarrow 0$, one regime has probability one and the other probability zero on the boundary.

Model Specification

The requirements for applying the STAR model involves three steps. First, specify a linear autoregressive model for y_t and determine the lag length of autoregression, p . Second, test for linearity against STAR. For a given value of the delay parameter d , Granger and Teräsvirta (1993) and Teräsvirta (1994) show that appropriate tests for linearity against STAR may be based on the artificial regression:

$$y_t = \alpha + \sum_{j=1}^p (\beta_{1j} y_{t-j} + \beta_{2j} y_{t-j} y_{t-d} + \beta_{3j} y_{t-j} y_{t-d}^2 + \beta_{4j} y_{t-j} y_{t-d}^3) + \varepsilon_t \quad (5)$$

Equation (5) may be viewed as a reparameterization of equation (1), with an unrestricted third-order Taylor series expansion of the transition function. Test the null hypothesis of linearity against an alternative as the following against the alternative hypothesis of nonlinear adjustment that H_{0L} is not valid.

$$H_{0L} : \beta_{2j} = \beta_{3j} = \beta_{4j} = 0 \quad j = 1, 2, 3, \dots, p \quad (6)$$

The linear test is carried out for a range of values $d = 1, 2, 3, \dots, D$ to determine d if the null hypothesis is rejected. If there is a rejection of linearity more than one value of d , d is then determined by the lowest p value of the F statistic of the linearity test.

After deciding on d , the third and final step is to choose the appropriate STAR model – LSTAR or ESTAR. For this purpose, the following null hypotheses are considered.

$$H_{04} : \beta_{4j} = 0 \quad j = 1, \dots, p \quad (7)$$

$$H_{03} : \beta_{3j} = 0 \mid \beta_{4j} = 0 \quad j = 1, \dots, p \quad (8)$$

$$H_{02} : \beta_{2j} = 0 \mid \beta_{3j} = \beta_{4j} = 0 \quad j = 1, \dots, p \quad (9)$$

The LSTAR is selected if H_{04} is rejected. Alternatively, the ESTAR is adopted if H_{04} is not rejected while H_{03} is rejected. Accepting both H_{04} and H_{03} but rejecting H_{02} implies the selection of the LSTAR.

EMPIRICAL RESULTS

This study focuses on the ratio and percentage of government deficit in respect to the GDP and uses a nonlinear model to examine whether the observed deficit to GDP ratio is sustainable.

Data

The data period discussed in this study covers 1955 to 2005. The variables in the empirical model include government revenues, government expenditures, and GDP. The data were converted from nominal to real data using the GDP deflator. The applicable data and resources were obtained from the Chinese Statistical Yearbook of 2005 and AREMOS Economic Statistics Database.

Nonlinearity

This study adopts a nonlinear STAR model for y_t . The initial testing for the presence of nonlinearities in y_t is based on three stages. First, a linear AR model for y_t is specified. Second, test for the presence of nonlinearities. Third, choose the appropriate nonlinear STAR model – LSAR or ESTAR.

AR Model

In this study, we adopt the suggestion of Granger and Teräsvirta (1993), and use the partial autocorrelation function (PACF) to determine the lag order of $p=1$ (see Figure 1).

Figure 1: Partial autocorrelation function of the deficit to GDP ratio

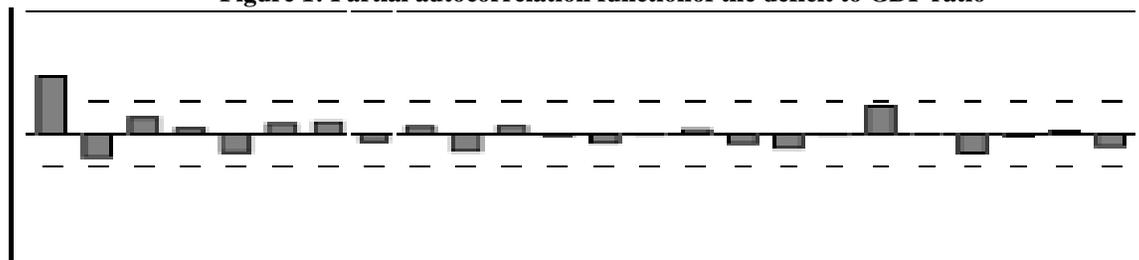


Figure 1 indicates y_t is AR(1), as the following.

$$y_t = \alpha_0 + \beta y_{t-1} + \varepsilon_t \quad (10)$$

Furthermore, when we reparameterize the standard linear AR(1) model as a Dickey-Fuller regression as follows:

$$\Delta y_t = \alpha_0 + (\beta - 1)y_{t-1} + \varepsilon_t = \alpha_0 + \lambda y_{t-1} + \varepsilon_t \quad (11)$$

Table 1 indicates that the null hypothesis of $\lambda = 0$ will not be rejected, that is y_t is nonstationary. Although y_t is nonstationary, it does not necessarily imply that y_t is not mean-reverting. If the true process for y_t is nonlinear (of a form given by equation (2)) and $\lambda = 0$ (as above), then y_t is mean-reverting under the condition that $(\lambda + \lambda^*) < 0$. In other words, small deviations in y_t may follow a unit root or even explosive behavior, but for larger deviations the process is mean-reverting. While $\lambda \geq 0$ maybe admissible, one must have $\lambda^* < 0$ and $(\lambda + \lambda^*) < 0$ for y_t to be mean-reverting.

Table 1: Estimation of the deficit to GDP ratio in Dickey-Fuller regression

Independent Variable	Coefficient	Std. Error	t-Statistic	Prob.
y_{t-1}	-0.510486	0.124684	-4.094252	0.0002
Constant	-0.004763	0.001996	-2.386632	0.0210
R-squared	0.258835	Mean dependent var		-0.000309
Adjusted R-squared	0.243394	S.D. dependent var		0.013600
S.E. of regression	0.011830	Akaike info criterion		-5.997248
Sum squared resid	0.006717	Schwarz criterion		-5.920767
Log likelihood	151.9312	F-statistic		-5.968124
Durbin-Watson stat	16.76290	Prob(F-statistic)		1.721710

Linearity Tests

In this study, the PACF of y_t in Figure 1 clearly suggests that $p=1$, whereas the optimal d is selected by performing equation (5) for $1 \leq d \leq 6$ and choosing the lowest p value of the F statistic of the linearity test. Table 2 reports the result of linearity test. At $d = 2$ we observe the lowest p value and the greatest F statistic. In addition, when $d = 2$, we can not reject the H_{0L} at 1% significant level. There is a strong evidence to support that y_t is nonlinear.

Table 2: Linearity tests on the deficit to GDP ratio

d	F Statistic of H_{0L}	p value
1	3.155864	0.0338
2	4.693394	0.0063
3	0.176318	0.9119
4	4.175308	0.0113
5	2.018276	0.1263
6	3.782443	0.0177

Nonlinear Model Selection

Table 3 reports the result when H_{03} has the lowest p value at $d = 2$, indicating that the ESTAR model is the appropriate choice.

Table 3: Model specification of LSTAR vs. ESTAR

d	H_{04}		H_{03}		H_{02}	
	F Statistic	p value	F Statistic	p value	F Statistic	p value
1	3.165920	0.0819	6.011414	0.0181	0.006220	0.9375
2	0.108571	0.7433	10.45003	0.0023	2.828231	0.0993
3	0.026799	0.8707	9.42E-06	0.9976	0.228789	0.6346
4	0.628139	0.4325	3.620941	0.0638	8.783246	0.0048
5	2.407017	0.1285	0.015832	0.9005	1.573952	0.2158
6	2.607283	0.1142	0.878913	0.3540	2.783450	0.1019

ESTAR Estimation Results

The parameters of the ESTAR model are estimated by nonlinear least squares (NLS). Estimation results of the nonlinear ESTAR model and linear AR model are reported in Table 4. We observe the higher R^2 and lowest estimated variance under the ESTAR. The value of V is less than 1 and shows a 51% reduction of the residual variance from the estimated ESTAR compared to the linear regression (11). The results support the selection of ESTAR over the linear model. The estimated exponential transitional function is:

$$F(y_{t-d}; \gamma, \tau) = 1 - \exp[-0.542394291(y_{t-d} + 0.017768732)^2 / 0.00009] \quad (11)$$

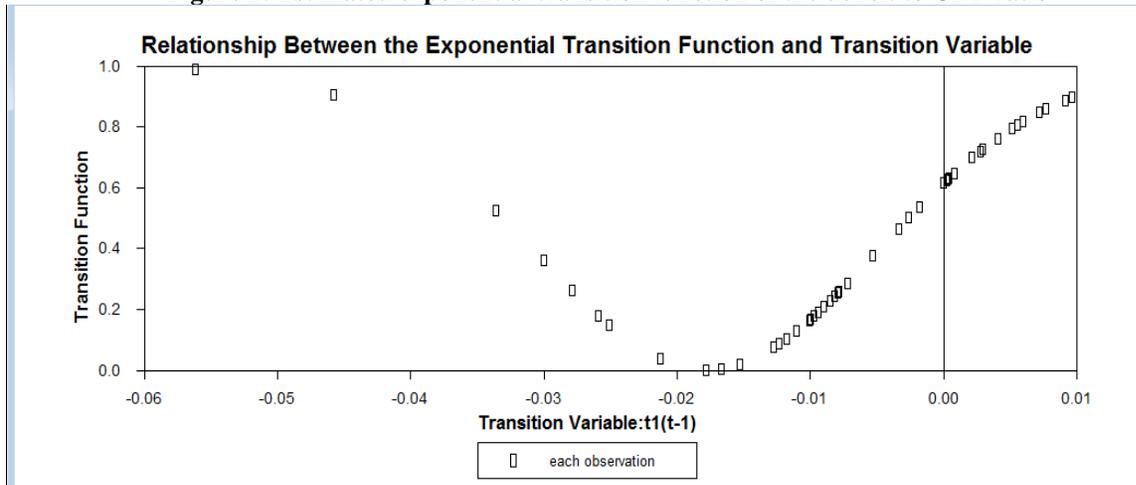
The graph of estimated exponential transitional function is illustrated in Figure 2. In the ESTAR model, the crucial parameters for the stability of y_t are λ and λ^* . For y_t to be mean-reverting, $(\lambda + \lambda^*) < 0$ must be true. According to the estimation results in Table 4, we find that $(\lambda + \lambda^*) \approx -1.297 < 0$. It indicates that y_t is mean-reverting. Hence, there is supporting empirical evidence for deficit sustainability in China.

Table 4: Estimation of linear and nonlinear models

Variable	Coefficient	Linear Model	ESTAR
constant	α_0	-0.004763** (0.001996)	-0.001094878 (0.003092781)
y_{t-1}	λ	0.489514*** (0.124684)	0.286585421 (0.492606264)
constant	α_0^*		-0.002768618 (0.004464288)
y_{t-1}	λ^*		-1.583145416** (0.714734558)
	γ		0.542394291 (0.613998149)
Location Parameter Threshold	τ		-0.017768732** (0.007002086)
Adjusted R ²		0.227298	0.416591
$\sigma_{y_{t-d}}^2$			0.00009
SSR		0.006717	0.0021276544
V			0.490462

- Notes: 1. SSR indicates the sum of the squared residuals from estimated models.
2. The figures in parentheses are standard errors.
3. ** and *** donate significance at the 5%, and 1% significance level, respectively.
4. V donates ratio of the residual variance from estimated ESTAR model to the residual variance from the estimated best fitting alternative linear model (an AR(1)).

Figure 2: Estimated exponential transition function of the deficit to GDP ratio



CONCLUSION

The concept of sustainability relies on the premise that a government needs enough resources to ensure their ability to carry out their functions, so analyzing sustainability helps determine whether a current fiscal policy can be maintained in the long run given a government's ongoing ability to generate fiscal resources. A nonsustainable fiscal policy potentially creates a risk of rising future interest rates that leads to a slowdown in economic growth.

This study focuses on the ratio of government deficit in respect to GDP and uses a nonlinear model and empirical analysis to examine whether the observed deficit to GDP ratio in fact displays patterns of sustainability. Based on the criteria set forth in this study, we propose the following conclusions. Results from linearity tests show a nonlinear relationship in China's deficit-GDP ratio and therefore encourages the use of nonlinear model analyses to properly address this observed behavior. Nonlinear modeling produces more significant results and has better explanation power when compare to linear modeling. The ESTAR model is applied in this study because while using a nonlinear model approach to examine China's deficit-GDP ratio, the ESTAR model is more appropriate than the LSTAR model. The ESTAR estimation results show that China's deficit to GDP ratio displays trend of a return to a state of equilibrium, suggesting that China's fiscal deficit has sustainable characteristics. This suggests that if the deficit increase can be sustained, the Chinese Government may prevent a potential financial crisis.

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AN ASSESSMENT OF VALUE CREATION IN MOBILE SERVICES: COMPARING SIMPLE AND SOPHISTICATED MOBILE SERVICES

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ABSTRACT

Compared with Japan, Europe, and the United States, the service of mobile phone in Taiwan is growing. The key point of the telecom company, therefore, aims to explore the needs of consumers, and improve the value of the mobile value-added service. The importance of perceived value in customer decision making is well known. However, few studies assess empirically the direct effects of various innovation characteristic on perceived value dimensions. This article examines the differences value creation perceptions between simple and sophisticated mobile content service users. This research uses a sample of 492 mobile service users; results are analyzed with multi-group structural equation modeling. The research findings support use of innovation characteristic and multidimensional value to identify differences between service user groups, and argue for the use of differentiated value-based marketing strategies for simple and sophisticated mobile services.

INTRODUCTION

Mobile devices have profoundly transformed the telecommunication industry and have become the new service frontier. For example, the growth in mobile data services has firmly established at 17% of total service revenues, offsetting the decline in prices for voice calls and extending mobile into multiple facets of users' daily lives (ATKearney, 2008). With mobile commerce refer to use of mobile devices (mobile phone, PDA, etc.) to communicate and conduct transactions through public and private networks (Balasubramanian, Peterson, and Jarvenpaa, 2002) which can be used to effectively deliver value-added service (Nysveen, Pedersen, and Thorbjørnsen, 2005). Despite the widespread introduction of new mobile services, recent reports reveal that the success of mobile data services is still limited (Carlsson, 2006) in contrast to the tremendous success of mobile voice communication services.

For efficiently getting the target customers to use content services, theories for targeting and marketing are used (Pihlström and Brush, 2008) leading to lower prices or higher margins. The research prior to this research has been conducted on comparing the level of mobile service loyalty intention between generation Y and baby boomers (Kumar and Lim, 2008). Due to the diversity of mobile content services, consumers use them for different reasons (Nysveen et al., 2005). Pihlström and Brush (2008) suggests that it would be worthwhile to investigate the existence of differences in the various mobile services. Therefore, our first objective is that investigates the differences between simple service sample and sophisticated service sample in mobile service value creation to extent of which deeply understand mobile services user behavior. Simple services in this study based on base communication services include such content as voice communication and text message, while sophisticated services included entertainment services (games, numerology, ring tones, MMS) and information services (news, weather reports, search services, e-mail service, and transaction service). Second, we propose a

direct effects model of functional value, hedonic value and social value creation, all of which reflect the main costs and benefits associated with mobile service delivery. Customer perceived value is the difference between the prospective customer's evaluation of all the benefits and all the costs of an offering with the perceived alternatives (Kotler, 2006). However, previous study has largely estimated the effects of overall perceived value on behavior constructs such as loyalty (Pihlström and Brush, 2008). The antecedents of multi-dimension perceived value has received only limited attention. As a response to several calls for further investigation (Pihlström and Brush, 2008), we would like to examine whether there are differences between simple and sophisticated service sample in how their various dimension of perceived value.

Third, we explore the innovation characteristics to reflect the main costs and benefits associated with different service group. In order to attract more subscribers to use mobile service, the telecom company needs to understand the driving force behind consumers' perceived value (Kumar and Lim, 2008; Pihlström and Brush, 2008). To gain an understanding the antecedents of perceived value, prior research has often embraced Technology Acceptance Model (TAM) to affect perceived value (Kim, Chan, and Gupta, 2007), because it is a parsimonious model (Plouffe, Vandebosch, and Hulland, 2001). Others argue that this parsimony represents its limited application, as the model does not fully reflect the variety of different contexts (Kleijnen, Ruyter, Wetzels, 2007). Furthermore, the innovation characteristic can be used to explain consumer's value perceptions (Plouffe et al., 2001; Kleijnen et al., 2007). From a consumer's perspective, the characteristic of m-commerce is ubiquity, that refers to engage in commerce anytime and anywhere, which can be explained through PCI (Perceived characteristics of innovations) framework, defined by Rogers (1995). As a result, we examine whether the PCI framework drive perceived value different from service group.

HYPOTHESIS DEVELOPMENT

Time convenience plays an important role in mobile service context, which can create the different value perception in customer mind via the benefit of time saving. The nature of mobile service highlights the ubiquitous "anywhere, anytime". It implies that consumer can perform task easily (Hourahine and Howard, 2004) and play games easily (Anckar and D'Incau, 2002) via mobile phone, which can create functional and hedonic perceptions in customer mind. Consumers can derive functional and hedonic value from efficient and timely interactive media technology (Chilers, Carr, Peck, and Carson, 2001). Also, using mobile service in public space can represent personal trait, social status, and personal image (Leung and Wei, 2000). As a result, we expect mobile services can immediately fulfill customer needs and enhance the functional, hedonic, and social value. However, time convenience is expected to be more influential in the sophisticated service users, where the immediate consequences of use are evaluated more important than in simple service users. We therefore hypothesize:

H1: (a) Time convenience will positively affect functional value, and (b) it is significantly stronger for sophisticated service users.

H2: (a) Time convenience will positively affect hedonic value, and (b) it is significantly stronger for sophisticated service users.

H3: (a) Time convenience will positively affect social value, and (b) it is significantly stronger for sophisticated service users.

According to Kleijnen et al. (2007), the authors examine compatibility of mobile channels with particular service needs, that is, service compatibility. Research on mobile services reveals that mobile channels enable consumers to fulfill service needs, and positively enhance functional value (Kleijnen et al., 2007). In addition, customization mobile services, for instance ring tone, voice communication, and pictures, can satisfy customer needs, fit with personal preference, and may to show off them to peers (Sigala, 2006), which will build hedonic value and social value in customer mind. Although, the service compatibility characteristic refers the basic needs to use mobile service, is not significant difference between simple and sophisticated services. Consequently, we suggest the following hypothesize:

H4: (a) Service compatibility will positively affect functional value, and (b) there is no significant difference in this relationship for simple and sophisticated service.

H5: (a) Service compatibility will positively affect hedonic value, and (b) there is no significant difference in this relationship for simple and sophisticated service.

H6: (a) Service compatibility will positively affect social value, and (b) there is no significant difference in this relationship for simple and sophisticated service.

Trialability is the degree to which an innovation may be experimented with on a limited basis (Rogers, 1995). Consumer tried out a new technology is a way to giving meaning to it, to understand how it works, and to reduce uncertainty about the new idea (Rogers, 1995). Then, these people are willing to share information of new product and new service to reduce others' uncertainty about the new product, and enhance social approval and self-image among other individuals (Sheth, Newman and Gross, 1991). Therefore, the authors propose that trialability will positively affect social value. However, the trialability is expected more important to simple services users of an innovation than to sophisticated services users, where the trialability characteristic can decrease uncertainty which is more important than heavy users. Hence, we propose the hypothesis as follows:

H7: (a) Trialability will positively affect social value, and (b) it is significantly stronger for simple service users.

Observability is the degree to which the results of an innovative are observed to others (Rogers, 1995). Previous research in broadband Internet technology context (Oh, Joongho, and Kim, 2003) shows that the results of using it can help individuals to obtain knowledge on how to use it and adopt it with less effort and time, and enhance efficiency of task accomplishment (functional value). Furthermore, customers may also receive hedonic value and social value through the results of using mobile service. For example, ring tone service is easily observed to user and other individuals, which can arouse the enjoyment perception (Babin, Darden, and Griffin, 1994) and represent the self-image (Weilenmann and Larsson, 2000). Therefore, we predict that observability will enhance functional value, hedonic value, and social value. Nevertheless, simple and sophisticated users may also view observability characteristic as the basic feature of mobile services which do not have significant difference between both users. As a result, we suggest the following hypothesis:

H8: (a) Observability will positively affect functional value, and (b) there is no significant difference in this relationship for simple and sophisticated service.

H9: (a) Observability will positively affect hedonic value, and (b) there is no significant difference in this relationship for simple and sophisticated service.

H10: (a) Observability will positively affect social value, and (b) there is no significant difference in this relationship for simple and sophisticated service.

Perceived risk means to the subjective expectation of a performance loss (Stone and Gronhaug's, 1993), which refers to the loss incurred when a product does not perform as expected (Horton, 1976). In recent research, the penetration of mobile phones has exceeded 100% in Taiwan, however, this growth do not represent the mobile service usage rate. It means that the diffusion of mobile service has limited by usage uncertainty (Rao and Monroe, 1989). When they are not familiar with new services, individuals are generally more concern about the possibility of losing money and information (Hourahine and Howard, 2004). It does not fulfill individuals' expectancy in mobile service and reduce the perception of functional value. In addition, Eroglu and Machleit (1990) indicated that customers have the bad mood when the products in the retail store can't satisfy their needs. According to impression-management theory, individuals will tend to make a more positive impression on others to derive social value (Iedema and Poppe, 2001). For example, in mobile service context, when perceived risk increases, individuals afraid to use it, and may make a negative impression on others, which decrease social value perception. Hence, we indicate that the relationship between perceived risk and three value categories are negative. However, the risk perception is different from simple and sophisticated services users, for example, heavy user more willing to use Internet because the www offers with a mix of risk relievers are evaluated favorably and can even challenge specialty store alternatives, on the contrary, the light users do not seem to consider that (Van den Poel and Leunis, 1999). Consequently, we propose the following hypothesis:

H11: (a) Perceived Risk will negatively affect functional value, and (b) it is significantly stronger for simple service users.

H12: (a) Perceived Risk will negatively affect hedonic value, and (b) it is significantly stronger for simple service users.

H13: (a) Perceived Risk will negatively affect social value, and (b) it is significantly stronger for simple service users.

METHOD

Mobile value-added service users were the target sample. The survey was conducted in Taiwan, and used purposive sampling method to collect data. A total of 492 self-administrated questionnaires were collected, of which 272 questionnaires were collected at online survey and 220 questionnaires were collected through personal networks. All answers were anonymous. To avoid demand effects, participants from the personal

network did not know the researchers personally. Responses did not differ by questionnaire source. This survey process generated 128 unusable responses, as the respondents either had not previously used mobile services or did not state the mobile service they had used. The characteristics of the respondents are as follows: In the simple services sample (173 respondents), there are 87 male and 86 female, both of them concentrates on 18~25 years old (54%), the pre-tax income is less than NT\$10,000 (49%), and mobile service billing is NT\$1~100 (85%); in the sophisticated services sample (316 respondents), there are 161 male and 155 female, both of than concentrates on 18~25 years old, the pre-tax income is less than NT \$10,000 (42%), and mobile service billing is NT\$1~100 (69%).

All measures were based on previous research, and 5-point scales were used throughout. All items were modified from previous studies by selecting items that apply to mobile services and by adapting the wording to fit the mobile service context. As a result, time convenience conducted three items modified from Kleijnen et al.(2007), service compatibility had three items from Meuter et al. (2005), trialability had two items (Moore and Benbasat, 1991), observability had three items (Plouffe, Vandebosch, and Hulland, 2001), perceived risk had three items (Kleijnen et al., 2007), functional value had two items (Babin et al., 1994), hedonic value had three items (Wang, Baker, Wagner, and Wakefield, 2007), and social value had three items(Pura, 2005).

ANALYSIS AND RESULTS

Measurement Model Estimation

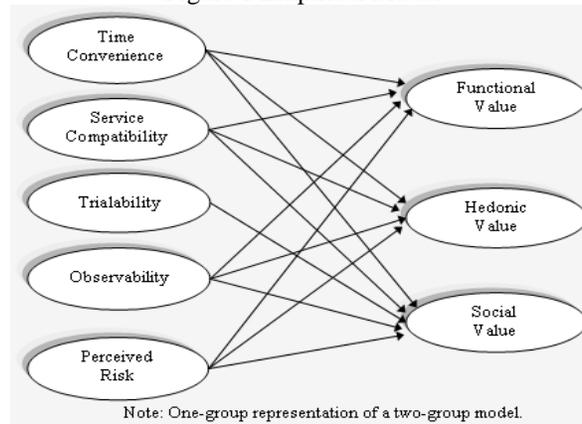
Exploratory factor analysis was conducted with SPSS in order to provide a preliminary examination of whether the items measure separate constructs. All variables were formed separate factors. Additional measurement development and estimation was performed with AMOS 6.0. A preliminary test of internal consistency indicated that all item-to-total correlations exceeded 0.50 (Churchill, 1979). The quality of the measurement model was assessed in two steps. First, confirmatory factor analyses (CFA) was used to assess the reliability and validity of each of the constructs in the model. All the factor loadings were significant statistically ($p < 0.01$). The standardized factor loadings for 21 items across both service samples exceeded the 0.60 standard that indicates that each measure is accounting for 50 percent or more of the variance in the latent underlying construct. Thus, these measures display adequate within-method convergent validity (Zaltman and Burger, 1985). Furthermore, the Cronbach alpha for most of the constructs in both samples was over 0.70, except for four constructs approximated to 0.70, significantly exceeding the 0.60 level advocated by Moschis and Churchill (1978) and supporting the unidiemsonality of the measures. Second, CFAs were also used to test the adequacy of the measurement model across groups. The equivalence of measurement across groups was assessed using the hierarchical method. This was undertaken to ensure that the measures could be used in cross-group comparisons. As a result, these analyses indicate that measurement models were invariant across groups at the factor loading levels, which was used in the structural model analysis.

The correlations between the composite variables are reported for each sample. Most of the constructs were correlated in the simple service sample, except for three constructs, supporting the nomological validity of the constructs. In the sophisticated sample 23/28 of the constructs were correlated. The convergent and discriminant validity tests suggested by Fornell and Larcker (1981) were conducted. The average variance extracted (AVE) approximated to 0.50 for all constructs, indicating that the constructs display a good degree of convergent validity. In addition, the square root of each construct's average variance extracted (AVE) was higher than the correlation between that construct and any other construct in the model. Therefore, the constructs are both theoretically and empirically distinct from each other.

Results

We tested the two-group model in figure 1. The results are presented in table 1. There are significant differences in the following relationships between the simple and sophisticated service groups: Time convenience → Hedonic value (H2b) and Perceived Risk → Functional value (H11b). In contrast to our expectations, other hypothesized differences were not significant and the relationships proved to be similar across service user groups.

Figure 1 Empirical Model



DISCUSSION AND IMPLICATIONS

This study contributes to contemporary research on new service delivery technology in two ways. First, we separated the sample into simple services users and sophisticated services users to investigate the differences between light users and heavy users in mobile service value creation. The analyses show a critical important support for this purpose, which identifies that functional value in simple service group, is primarily influenced by perceived risk, in contrast to sophisticated service group. However, previous research indicated that perceived risk do not play an essential role in mobile service use (e.g., Kleijnen et al., 2007), our results indicates that it is an important barrier for simple service users to use mobile services than sophisticated service users. In contrast, there are some relationships are not supported, time convenience and trialability has no significant difference effect on perceived value. Also, there is not positively relationship between time convenience and trialability and perceived value, only time convenience has a significant effect on social value in sophisticated service. One possible reason of this finding could be that time convenience and trialability are primarily the basic characteristics of mobile service and consumers frequently regard it as a hygiene factor.

Second, similar service compatibility and observability effect on three categories perceived value were found for both service groupings. The results indicate that functional value creation is significantly influenced by service compatibility, and hedonic value and social value is principally influenced by observability in both groups. This finding also confirms prior assertions about the importance of service compatibility in relation to technology-based services (Meuter et al., 2005). In addition, the results indicate that observability is a critical important factor in mobile service value creation which has a significant influence on hedonic value and social value. Although previous research indicates that only relative advantage, service compatibility and complexity relate consistently to innovation adoption (Agarwal and Prasad, 1997), researches should pay attention to the effect of observability, especially in mobile service context.

Managerial Implications

Our results also offer several implications for managers. We find that perceived risk negatively affect functional value and significantly stronger for simple service users, and our findings suggest several ways managers could emphasize on alleviate the risk perceptions. For example, companies are investing in mobile risk control by setting secure agreement and securing better mobile infrastructures and sophisticated data protection schemes (Kleijnen et al., 2007), also, they can employ some promotion methods to encourage consumers to use mobile services, such as offering more opportunity to trial mobile services, providing simpler service designs and reveal more mobile service information on the website, which can decrease risk perceptions.

In addition to these specific service enhancements, companies should consider more general promotional events, such as telecom company have launched a series activity to familiarize consumers with mobile service delivery. For example, Chunghwa telecom Company, the nation's largest mobile-phone-service operator, build a mobile service experience center to display new mobile phones and mobile services, which presents a diverse rangy of mobile service to create more consumer awareness of the impact of mobility.

Finally, research has suggested that service compatibility and observability are the most important factor to influence on three categories value in both simple and sophisticated service users. The producer of mobile devices should devote their attention to understand customer needs to design a set of service contents to fit their needs. Also, the results of mobile services are observable, therefore, managers could set up a community network platform to provide mobile services usage guidelines and more closely realize what consumers think about mobile services.

Table 1 Hypothesis Test Results

Hypothesized Relationship		Standardized Estimates (t value)		χ^2 Difference	Hypothesis Supported	Simple vs. Sophisticated
		Simple services	Sophisticated services			
H1a(+)	Time convenience → Functional value	-0.04 (-0.03)	0.15 (1.58)		NO	
H1b	Sophisticated < Simple			1.352	NO	Si = So
H2a(+)	Time convenience → Hedonic value	-0.18 (-1.52)	0.10 (1.09)		NO	
H2b	Sophisticated > Simple			3.344*	YES	Si > So
H3a(+)	Time convenience → Social value	-0.02 (-0.17)	0.16* (1.81)		Partial	
H3b	Sophisticated > Simple			1.664	NO	So = Si
H4a(+)	Service Compatibility → Functional value	0.50*** (3.93)	0.42*** (4.01)		YES	
H4b	Sophisticated = Simple			0.194	YES	So = Si
H5a(+)	Service Compatibility → Hedonic value	0.30** (2.52)	0.25** (2.86)		YES	
H5b	Sophisticated = Simple			0.096	YES	So = Si
H6a(+)	Service Compatibility → Social value	0.23** (2.08)	0.15 (1.51)		Partial	
H6b	Sophisticated = Simple			0.079	YES	So = Si
H7a(+)	Trialability → Social value	-0.12 (-0.8)	0.04 (0.40)		NO	
H7b	Sophisticated < Simple			0.746	YES	So = Si
H8a(+)	Observability → Functional value	0.30** (3.28)	0.15** (2.11)		YES	
H8b	Sophisticated = Simple			1.799	YES	So = Si
H9a(+)	Observability → Hedonic value	0.39*** (4.05)	0.35*** (5.08)		YES	
H9b	Sophisticated = Simple			0.232	YES	So = Si
H10a(+)	Observability → Social value	0.46*** (4.11)	0.33*** (4.63)		YES	
H10b	Sophisticated = Simple			0.308	YES	So = Si
H11a(-)	Perceived Risk → Functional value	-0.20** (-2.30)	-0.03 (-0.46)		Partial	
H11b	Sophisticated < Simple			2.705*	YES	So < Si
H12a(-)	Perceived Risk → Hedonic value	-0.01 (-0.12)	-0.02 (-0.39)		NO	
H12b	Sophisticated < Simple			0.013	NO	So = Si
H13a(-)	Perceived Risk → Social value	-0.24** (-2.73)	-0.20*** (-3.35)		YES	
H13b	Sophisticated < Simple			0.001	NO	So = Si
Base line model		GFI=0.88; AGFI=0.84; CFI=0.93; RMSEA=0.05; $\chi^2(373)=769.343$, p=0.000				
Simple services sample		GFI=0.85; AGFI=0.80; CFI=0.92; RMSEA=0.074; $\chi^2(186)=362.97$, p=0.000				
Sophisticated services sample		GFI=0.90; AGFI=0.86; CFI=0.93; RMSEA=0.061; $\chi^2(186)=406.137$, p=0.000				

Limitations and Future Research Directions

Any study's contribution must be evaluated in light of its limitations, and this research is no exception. First, the cross-sectional nature of our research might create some confounds. Mobile service is still in its infancy, and as consumers' awareness with the mobile service field increases, our results should be reassessed to ensure the robustness of our model. Second, in this conceptual model, we only investigate the effect of value creation. Future research could examine the value creation effect on consumer intentions to use to deeply explain the mobile service use behavior. Finally, we compare simple and sophisticated service users and less considers other influence factors, for example how long does he use the specific mobile service. Further research could investigate the existence of differences in usage time of specific mobile service and usage patterns to better predict mobile service use behavior.

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PALM OIL PRODUCTION AND ARMED CONFLICT IN COLOMBIA: EXPLORING THE CASES OF SAN ALBERTO AND SAN MARTÍN

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ABSTRACT

This article analyzes the relationship that exists between models of production of palm oil and armed conflict in Colombia. More specifically I compare two cases: the company Indupalma in the municipality of San Alberto, and a social project called 'Palma Campesina' in the municipality of San Martín. In both municipalities the production of palm oil has produced (in different degrees) economic growth and equality. At the same time, the two municipalities have been scenarios of political violence. This article argues that the implementation of particular horizontal models of production has partly helped to contain the violence. However, palm oil production has also spurred a violent dynamic in which different greedy actors fight for land.

INTRODUCTION

Consumer trends in Asia and the United States as well as the promotion of biofuels as a substitute (or complement) of conventional fuels have led to an increasing demand for palm oil in recent decades. Colombia has had exceptional natural conditions for producing palm oil. At present, Colombia is ranked as the first producer of palm oil in the Americas and the fifth in the world. President Alvaro Uribe has considered the expansion of palm oil production as a priority of his agenda.

Both government officials and entrepreneurs have praised the social impact of palm oil production in Colombia. Peasants that work in this sector receive a better salary than other rural laborers (FEDEPALMA, 2007: 45). In addition, arguably palm oil production has had a positive impact in terms of peacebuilding. In some drug-producing regions of Colombia, palm oil has served as a substitute to illicit crops. Additionally, several palm oil projects have provided jobs for forcibly displaced persons and even for demobilized members of the illegal armed groups.(1)

At the same time, the palm oil industry has also been associated with political violence and human rights violations in some Colombian regions. A number of palm oil plantations are located in conflict-ridden zones where both, leftist guerrilla organizations and right-wing militias (the so-called paramilitary groups) have operated. Furthermore, there are some cases (such as *Urabá chocoano*, *Tumaco* and *South of Bolivar*) in which the illegal armed groups have forcibly displaced individuals and communities, and the grabbed lands were later devoted to the cultivation of oil palm.(2)

The palm oil industry in Colombia has had a variety of socioeconomic impacts, and has interacted in different ways with the armed conflict. While in some places the living conditions of local dwellers have improved, in others they have worsened considerably. And whereas some politicians, practitioners and scholars consider that the palm oil industry should be held responsible for human rights violations and environmental degradation, others defend this business as a solution to a number of development-related problems.

The palm oil agribusiness and its impact are complex issues that require a balanced analysis. This article focuses on two case-studies: the municipalities of San Alberto and San Martín, which show the complex relationship that

exists between the palm oil industry and armed conflict. In San Alberto, the company Indupalma first implemented a vertical model of production, and then switched to a mixed vertical-horizontal one. In San Martín, instead, palm oil production is associated with a peculiar horizontal model implemented through the *Palma Campesina* social project. Both regions are important centers of palm oil production and have been scenarios of armed conflict in Colombia.

This paper seeks to answer the following questions. To what extent did the two production models help generate welfare, growth and distribution in the two regions? Did these models help contain the armed conflict? Did the palm oil business generate violence and forced displacement, or were the palm oil entrepreneurs victims of illegal armed groups?

I. Models of Palm Oil Production in San Alberto and San Martín

The palm oil agribusiness was first established in Colombia more than forty years ago, but has experienced rapid growth during the past decade. In 2007, income from palm oil exports was estimated at U.S.\$ 350 million, which corresponds to 3% of Colombia's GDP. In 2008 Colombia produced 732,445 tons of crude oil, exporting 307,442 of them (FEDEPALMA 2008: 24). The palm oil industry is not labor intensive, but requires huge extensions of land. Reportedly Colombia has 316,000 hectares planted with oil palms. This industry has generated 75 thousand direct jobs and 150 thousand indirect ones.

San Alberto is a town with a population of 20,911 inhabitants and an area of 67,610 km². About three quarters of the population somehow depends upon the production of palm oil (PDSA, 2009). For its part, San Martín has a population of 17,592 inhabitants and an area of 90,555 km². This municipality also has a thriving palm oil industry, but displays a greater variety of economic activities including crops such as rice, sorghum, corn and cocoa (PDSM, 2009).

Both municipalities are located in Colombia's most productive palm oil zone. Currently, the area of oil palm plantations in these two municipalities approximates 20,000 hectares of which 11,000 hectares are already producing fruits, and each municipality has one extracting plant.

In San Alberto, Indupalma initially implemented a vertical model of production in which the company owned the land, controlled various links of the productive chain (the cultivation, harvest, extraction and refinement of palm oil), and also the trade of palm oil. This model led to strained labor-management relations until 1995, the year in which Indupalma was about to declare bankruptcy. In fact, due to unsustainable labor costs and declining international prices of palm oil, this business was no longer profitable.

Soon afterwards, Indupalma shifted to a mixed vertical-horizontal model of production. Due to the implementation of this new model, Indupalma has fared well. Perhaps other factors were at play besides the production of palm oil. In fact, Indupalma diversified its activities, and now provides services in investment banking, business operations, the marketing of other products and the like. It has also developed two major projects (*Palmar* and *Horizonte*) and its future plans include the purchase of 20 thousand hectares of land as well as an expansion to Central America (Lizarralde, 2009: 59).

But the point that I want to underscore is that since the mid-90s Indupalma has combined three different models of production. It has maintained a vertical model of production in the extracting plant. This is the place of the productive chain where less manpower is required, and where greater value is added to the product. But as regards the cultivation and harvest of oil palms, two different "horizontal" schemes function: cooperatives of associated work (in Spanish *Cooperativas de Trabajo Asociado* or CTAs) and Strategic Alliances (or SAs).

In the case of CTAs the palm oil companies subcontract workers through cooperatives. That is, they do not hire workers but rather, pay for a service provided by cooperatives. In the case of SAs, peasants become partners of companies through the development of productive projects (FEDEPALMA-IICA-Finagro, 2006: 48). Apart from companies and peasants, SAs usually involve various intermediaries such as operators, banks and other financial institutions that help develop the productive projects. Peasants involved in such productive

projects often receive a loan for the purchase of land and the cultivation of oil palms. The palm oil companies serve as guarantors of these credits, and after paying their debts, peasants end up owning the cultivated plots of land. At present, Indupalma works with 23 cooperatives and 12 SAs.(3)

In contrast, the *Palma Campesina* project of San Martín started in 2003 as a social enterprise led by Jesuit Father Francisco de Roux.(4) This project was conceived as part of the Program for Development and Peace of Magdalena Medio (PDPMM), and has received substantial aid from international sponsors. This project was originally conceived as a way to promote not only development, but also various political goals such as governability, participation, social justice and the protection of human rights (Villegas, 2008: 1).

The *Palma Campesina* project has been quite profitable. At present 110 families participate in this project, and each owns about 10hc of land. The productivity of these peasant farms has been remarkable. According to Villegas, these farms have harvested 18 tonnes of fruit/hc./year which corresponds to the national average.(5) In addition, peasants in San Martín cultivate other crops in order to ensure their own food security.

The *Palma Campesina* project somehow resembles the SAs models of Indupalma, in the sense that it relies on the intermediation of a third party for the production of palm oil. Peasants that cultivate oil palms must gain access to credit from both the government (through the ICR stimulus)(6) and banks in order to buy lands and make their plots productive. But in San Martín the intermediary function is performed by the PDPMM that has no economic interests of its own. Whereas in San Alberto Indupalma charges a fee for providing technical assistance and facilitating access to credit, in San Martín the intermediation costs of the PDPMM are negligible. As reported by Villegas, the reduction of transaction costs is clear, for example, in the price of seedlings, which are produced in nurseries run by partners of *Palma Campesina*. The seedlings used in the plots are produced at a significantly lower cost compared to what the palm consortia charge (Villegas, 2008:14).

With the *Palma Campesina* project, the bank loans are assumed by peasant associations instead of individuals. This has been a strategy to reduce the vulnerability of peasants. In fact, as peasants respond collectively (through their associations) if a credit is overdue, individual peasants are not forced to sell their lands in times of crisis (Villegas, 2008: 12). The *Palma Campesina* has also been involved in the development of infrastructure in San Martín, building bridges, roads and the like in order to facilitate the transportation of the fruits of oil palms.

The downside of San Martín is that peasants still depend upon the big palm oil companies for the transformation and commercialization of their crops. Even if peasants sign 12-year contracts with these companies for the sale of fruits, peasants merely plant, maintain, harvest and sell their product. The big companies still are in charge of the extraction and commercialization of palm oil and its applications, which add more value.

II. The Debate on Production Models

The debate concerning the impact of *vertical* and *horizontal* production models of palm oil has led to polarization. Until the late 90s, the prevailing model of palm oil production in Colombia was one of vertical integration. This model was adopted because, on the one hand, setting up a plantation is costly and requires a great deal of expertise, and on the other, it takes a long time before oil palms yield their fruits. However, once oil palms enter a productive stage, their life span reaches up to 25 years. In any event, for a long time palm oil production was associated with big businesses, and was considered out of reach of small producers.

In the late 90s, however, drawing from the Indonesian experience(7) the government of President Pastrana promoted new horizontal models of production in Colombia, specifically the SAs. From the government's perspective, palm oil projects had a tremendous potential as they helped to cope with some of the worst consequences of war and drug-trafficking in Colombia. In fact, they could provide an economic alternative to both the victims of violence (such as forcibly displaced persons), and former combatants of the illegal armed groups. They could also help replace illicit crops, as the government hoped to make peasants switch from a coca-based economy to palm oil.

There is little doubt that the SAs have attained some success, as attested by the fact that “between 1998 and 2005 25% of the area planted with oil palms corresponds to SAs” (FEDEPALMA-IICA-Finagro, 2006: 47). By

involving small and medium peasants in oil palm production, SAs have achieved both competitiveness and fairness. Not only have the big companies accrued gains, peasants have benefited from a better access to finance, technical services and marketing.

One should add that the structure of land property in San Alberto and San Martín is more democratic than in other areas of oil palm cultivation. And unlike other crops, the harvest occurs throughout the year, and the average life-span of oil palms is about 25 to 30 years. These peculiarities help associate palm oil production with economic growth and stability. Some peasants that I interviewed in San Martín mentioned that their hope was to get their children involved in this business (interview, San Martín October 2008).

Wages are also comparatively good in this sector. Workers on the payroll of palm oil industries receive 1.7 times the minimum legal wage, and those who work indirectly with the industry earn 1.4 times the minimum wage (FEDEPALMA 2008: 45). This underscores that palm oil production promotes equitable development.

One might add that according to a 2005 census, in 24 palm oil-producing municipalities the housing conditions and the education standards were higher than the national average. And in those municipalities in which palm plantations exist, formal employment relationships are common, as attested by the fact that they implemented a health scheme based on contributions (FEDEPALMA 2007: 41-53).

Although horizontal models of palm oil production, namely the SAs have been praised as mechanisms that foster social equality and contain the armed conflict, critics have pointed out that they allow instead the legal over-exploitation of workers. In fact, the owners of big companies have been able to reduce labor costs and also refrain from purchasing land (which is an important, considering that oil palm plantations require big extensions of land).

Furthermore, peasants that participate in the SAs must bear the costs of their own social security and they also have to assume the risks caused by volatility in international prices. Even if they expect to become landowners, these peasants have to work without receiving social benefits, without getting a higher wage for working overtime, and they do not receive pension benefits (Grupo Semilla, 2007: 61).

CTAs are even more problematic than SAs. Reportedly, various cooperatives have abused their own workers by e.g making irregular discounts in the paychecks and keeping volatile contracts. This has caused strikes of disgruntled palm oil workers, as the one of Puerto Wilches in 2008 (Vanguard, 02.02.2008).

In any event, peasants who work in either CTAs or in SAs have a small bargaining power vis-a-vis the big palm oil companies. Since only these companies have the means to buy and run extracting plants, they also set the prices accordingly to the international fluctuations. In the case of SAs, as the companies act as guarantors of loans to purchase land, peasants end up tied to the big companies until they pay back their credit (Villegas 2008). According to Salinas (2008: 9-11) and Villegas (2008: 11-12), peasants have often been misled about their obligations when they purchase land. Other critics have pointed out that most financial incentives provided by the government have ended in the hands of big investors (rather than the poorer sectors), in particular the intermediaries of the palm oil companies.

I would not argue that all horizontal models of production have merely exploited peasants. There are different experiences that make it difficult to generalize. I would conclude by saying that both in San Alberto and San Martín palm oil production has been a profitable economic activity. Perhaps the *Palma Campesina* project has demonstrated a greater concern for social justice, but both projects have entailed economic growth and equity.

III. Palm Oil Production and Armed Conflict

Both, San Alberto and San Martín have endured varying degrees of political violence since the late fifties. It was then that Indupalma and Palmas del Cesar started the palm oil business in the region, and many peasants settled in the two municipalities. Some of these peasants had been forcibly displaced from other Colombian regions,(8) while others arrived due to the prospect of getting a job in the palm oil industry. Back then, the Colombian state

had a precarious presence in both municipalities. There were few (if any) state institutions that were able to provide collective goods to local dwellers (such as justice, security, and health services).

During the 1960s different communist guerrilla organizations emerged, seeking the overthrow of the Colombian state. These rebel groups (in particular the *Fuerzas Armadas Revolucionarias de Colombia* or FARC, *Ejército Popular de Liberación* or EPL, and *Ejército de Liberación Nacional* or ELN) for the most part settled in rural areas. Then, in the 1970s and early 1980s other rebel groups were formed such as the *Movimiento 19 de Abril* or M-19.

During the 1970s and 1980s the ELN and FARC arrived to the region and started obtaining illegal rents from various productive sectors. In particular, the rebel groups began kidnapping entrepreneurs, and extorting the palm oil industry, which was facilitated by the virtual absence of state institutions.

The rebel groups soon infiltrated the trade unions of the palm oil industry. As the labor conditions were precarious and there were no state institutions to enforce labor standards, polarization ensued. While the palm entrepreneurs were reluctant to make any concessions to the trade unions, the latter promoted a series of strikes and work stoppages that were backed by the rebel groups. The guerrilla organizations resorted to violence as a means to force the companies to make labor concessions, and this increased the rebel's influence upon the trade unions (Ospina, 2001: 125).

The increasing pressure from the rebel groups coupled with the strengthening of trade unions and the weakness of the Colombian state to provide security, led to the formation of the so-called right-wing paramilitary groups in the mid-1980s. In the beginning, these were private militias formed by the drug-traffickers to curb guerrilla extortion. Later on, some legal entrepreneurs and sectors of the Colombian army ended up supporting these militias that seemed to be effective in fighting against the guerrilla organizations. The paramilitary groups partly sought to prevent kidnappings and extortion by the guerrillas, and also to contain the influence of the rebel groups in several unions and social movements (OPPDH, 2006: 21).

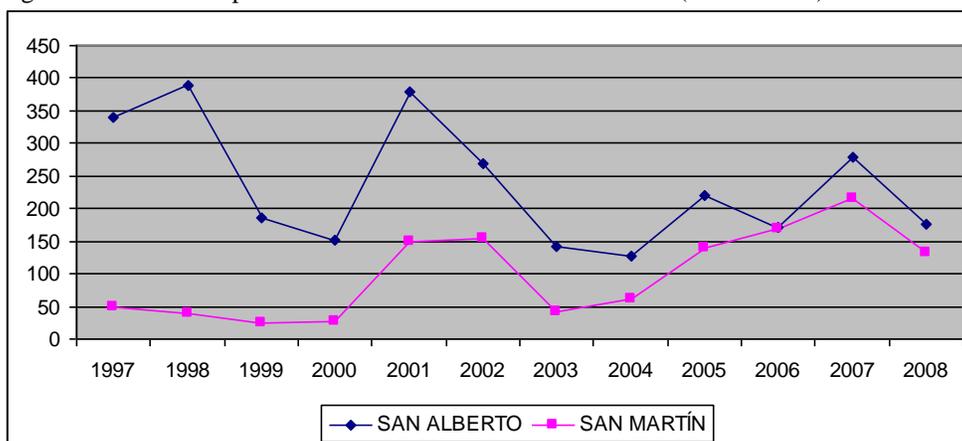
The confrontation between rebel groups and paramilitary militias led to increasing levels of violence in the region. Between 1988 and 1991, paramilitary groups killed more than more than 70 trade union members of Indupalma (Ospina, 2001: 125), and the number of forcibly displaced persons (henceforth FDPs) increased significantly (OPPDH database, 2008). Beginning in 2000 the paramilitary groups started to prevail in the palm-producing areas of San Alberto and San Martín,⁽⁹⁾ and eventually the rebel groups were pushed out of these municipalities. Since then, the number of armed confrontations, kidnappings, extortion has decreased.⁽¹⁰⁾

Although the security situation has improved in the region, this does not necessarily mean that the paramilitaries have delivered peace. In fact, several indicators suggest that there is a weak rule of law in the region and that democratic institutions are far from consolidated. For instance, Aída Cecilia Lasso⁽¹¹⁾ who ran for mayor of San Alberto was murdered in 2000, and two union members were killed in 2001 and 2003. In 2004 the owner of the radio station *La Palma Estéreo* was also murdered, probably due to political reasons.⁽¹²⁾

In 2003 several paramilitary groups started peace negotiations with the Colombian government, and shortly afterwards about thirty thousand members of these armed groups turned in their weapons and demobilized. However, some analysts argue that the demobilization of paramilitary groups has only been partial (González, 2007). In fact, some former members of the paramilitary groups re-mobilized and formed new criminal organizations known as the *Águilas Negras* (or Black Eagles) that are primarily devoted to drug trafficking. Reportedly some *Águilas Negras* operate in San Alberto and San Martín (OPPDH, 2006: 6).

Even though San Martín and San Alberto are no longer territories disputed by the illegal armed groups (in particular, the guerrilla organizations and the paramilitary militias), one observes worrisome numbers of FDPs. In San Alberto, for instance, there were over 300 FDPs per year in 1997, 1998 y 2001, and over 200 in 2002, 2005 and 2007. Even though the number of FDPs decreased in the two years in which the paramilitary groups underwent a demobilization process (2003 and 2004), there were more than 150 FDPs in 2008. From the table below it is difficult to conclude that San Alberto is becoming a safe place to live.

Figure 1 – Forced Displacement in San Alberto and San Martín (1997 - 2008)



Source: OPPDH data base

San Martín, has displayed lower numbers of FDPs. While less than 50 persons had been displaced per year between 1997 and 2000, in 2001 and 2002 the number rose to approximately 150. And while the number of FDPs decreased between 2003 and 2004 (when the paramilitary groups demobilized), there has been an upward trend since then.

If the indicator concerning the number of FDPs suffices for deriving conclusions about the evolution of armed conflict in the two regions, and (presumably) the impact of models of production, one arrives at some puzzling conclusions. One would have expected to observe the following: In the case of San Alberto and Indupalma, the transition from a pure vertical model of production to a mixed one should have led to diminishing levels of violence. In fact, the mixed model implies giving stakes to peasants in the palm oil business. Due to the formation of SAs (but not the cooperatives) some peasants entered into a partnership with palm oil companies and acquired the prospect of becoming landowners. By becoming stakeholders, such peasants had no incentives to join or support the rebel groups and threaten the palm oil industry. In contrast, workers in a vertical model of production are more likely to enter a zero-sum relationship with companies (and so are the workers who belong to cooperatives).

The figure above shows a gradual, diminishing trend of FDPs in San Alberto. However, the available information does not allow us to compare the years corresponding to a pure vertical model of production (that is, before 1995), and the years following the adoption of a mixed model (after 1995). Still one might conclude that the mixed model has had a pacifying effect on the basis of the qualitative information provided before.

Apart from this, one would have expected the *Palma Campesina* project to provide a much more effective buffer vis-à-vis the armed conflict. By implementing a pure horizontal model of production and giving to all the peasants involved in this project a stake in palm oil production, *Palma Campesina* should have helped to keep San Martín peaceful –especially in comparison to San Alberto. Although the figure above confirms that the number of FDPs per year in San Martín has been lower than in San Alberto, there has been an upward trend in violence since 2003. This is a troublesome, unexpected finding, because this is the very year in which the *Palma Campesina* project started. In other words, setting up the palm oil business in San Martín has gone hand in hand with increasing numbers of FDPs. Actually the patterns of FDPs have tended to converge in San Martín and San Alberto since 2006.

How could one possibly explain this? It might be the case that the recent violent dynamic in San Alberto and San Martín is due to factors not related to the palm oil agribusiness as such. In fact, state institutions are still weak in this region, and the two municipalities have become strategic corridors for smuggling weapons and trafficking drugs (in fact, these regions provide an easy access to both Venezuela and the Atlantic coast).(13)

A more disturbing hypothesis is that due to the increasing profitability of this business and also the greater security in this region, some groups have started a deadly competition for grabbing lands, and this has caused the displacement of people. In other words, profit and greed related to palm oil production might partly explain why there has been an upward trend in FDPs since 2003. This would mean that, while the introduction of horizontal models of production in San Martín and (to a minor extent) San Alberto has helped to contain the influence of guerrilla organizations, it has not prevented the upsurge of a violent struggle for the profits related to the palm oil production.

CONCLUDING REMARKS AND POLICY IMPLICATIONS

This article has argued that horizontal models of palm oil production in San Alberto and San Martín (Colombia) have been sustainable in economic and social terms. Nevertheless, neither the project of Indupalma nor the one of *Palma Campesina* have been particularly effective in containing the violence.

And while both the Colombian government and the private sector have been promoting the expansion of oil palm plantations, apparently they have paid insufficient attention to the growing number of FDPs in the municipalities studied in this article. The increasing number of FDPs provides a warning sign about the continuing operation of illegal armed actors in the region, and about a growing violent dynamic concerning the possession of lands. If no measures are taken, violence might once again threaten the sustainability of this industry, which is an important source of foreign exchange. A great deal of state-building in San Alberto and San Martín would help to ensure that the palm oil industry promotes peaceful development.

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ENDNOTES

- 1) Colombia has endured internal conflict for more than fifty years.
- 2) See Goebertus 2008, Álvarez y Castrillón 2007: 83-88; CIJP, 2007: 69-74; Rosas, 2007: 50-52; MMBT, 2006, 39-52; Mingorance, 2004.
- 3) Unpublished draft of the article FEDEPALMA-IICA-Finagro, 2006: 7-8. See also, Lizarralde, 2009: 62.
- 4) The *Palma Campesina* project has been implemented in other Colombian towns as well in the region of *Magdalena Medio*. About 650 families are directly involved in this project (Villegas, 2008: 1).
- 5) In Carmelo and Robert Sierra (Puerto Wilches) some farms have harvested up to 33 tons of fruit per hectare a year (Villegas, 2008: 3).
- 6) The Incentive of Rural Capitalization (*Incentivo a la Capitalización Rural ICR*) is a governmental stimulus aimed at encouraging the cultivation of crops such oil palms. It provides favorable conditions

for peasants that plant crops that take long before they produce fruits. In the case of oil palms, it takes three years to get the first harvest (FEDEPALMA-IICA-Finagro, 2006: 53).

- 7) The so called, Nucleus Estate and Smallholders (NES) -see Mingorance, 2004:27.
- 8) In the late 1940s Colombia endured a civil war between the Liberal and Conservative parties that produced about 200 thousand violent deaths.
- 9) San Alberto and San Martín are located in a plain zone, but they are surrounded by mountains where illegal armed actors fight for controlling illicit coca crops and routes for arms smuggling (OPPDH, 2006: 5).
- 10) Between 2001 and 2006 there were no armed confrontations or kidnappings in San Alberto and San Martín (OPPDH data base 2008).
- 11) Aída Cecilia Lasso was coordinator of a women organization (*Red de Mujeres de San Alberto*) of the Program for Development and Peace of Magdalena Medio. See Ministerio de Defensa http://www.fac.mil.co/index.php?idcategoria=16345&facmil_2007=9477b912b9a84d4ef92118c6a66c631.
- 12) A demobilized paramilitary leader 'Juancho Prada' confessed his responsibility in the killings of *Pablo Antonio Padilla López* -worker of Indupalma and vice-president of Sintraproaceites, and the journalist Martín La Rotta. See, "Dictan Medida de Aseguramiento contra 'Juancho Prada' Caracol Septiembre 14 de 2008, <http://www.caracol.com.co/nota.aspx?id=670656>; and "Crímenes contra periodistas Proyecto Impunidad." December 20th, 2007, <http://www.impunidad.com/index.php?cartas=2&idioma=sp>.
- 13) Interview with Colonel Gómez, the security chief of *Industrias Palmeras en Puerto Wilches*, September 16th, 2008.

SUSTAINABLE RETAILING: MARKETING INFLUENCE ON CONSUMER DECISIONS

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ABSTRACT

Since the 1992 Rio Earth Summit, guiding concepts for a more sustainable future have been developed. Retailers arguably have a pivotal role in sustainable development, that they are intermediaries between primary products producers and manufacturers on the one hand and customers on the other. This paper examines how consumers' beliefs, as well as their exposure to influences, shape their behaviour and perceptions of sustainable retailing activities, with a particular focus on the influential role of marketing. To frame the pieces, this paper first reviews the literature on sustainable retailing and environmentally conscious consumer behaviour. Then it considers how consumers in Turkish market will be influenced by sustainable retailing practices of grocery retailers. With this purpose we draw hypotheses to test in a questionnaire-survey based empirical study.

INTRODUCTION

For over thirty years scientists, environmentalists and social activists have been pointing out the pitfalls of continued consumption of natural resources without regard to the harm being done to the environment (Hodges, 2005). Sustainability is no longer just the air we breathe, or the world we live in, it has become a requirement for businesses to address the environment in order to maintain customers, and exist in an ever more competitive global market (Chavan, 2005). As Kleiner (1991) stated large firms are finding big savings in waste management and seeing competitive advantage in promoting their products and themselves as environmentally sound (Mirvis, 1994). Realizing these advantages there has been significant awareness of sustainable management practices all over the world. With this increasing awareness comes the realization that the potential impacts of sustainable development activities need to be assessed and understood so that appropriate management and control strategies can be adopted (Chavan, 2005).

Just like in the early 1990s when the concept emerged, environmental concerns have attained substantial momentum and as Stisser (1994) stated, is continuing to alter consumers' basic habits (D'Souza, 2004). Several studies (e.g. Brooker, 1976; Du Preez *et al.*, 1994; Kassarian, 1971) have shown that environmentally conscious consumers are willing to change their consumption behaviour to preserve the environment. Being in one of the most diverse and dynamic sectors and offering a wide range of goods and services to their customers, retailers are required to integrate sustainability in its all possible activities more quickly than any other business settings.

There are only a few studies that focus on sustainable retailing in developing countries (e.g. Erol ve Özmen, 2008; Erol *et al.*, 2009). Therefore, considering the retail sector's crucial impact on the sustainable development, it is believed that findings from consumers of Turkey's grocery retailing sector would a contribution. This study also provides a guide to develop sustainability strategies for retailers which can be appreciated by consumers. In this paper, given the importance of retailers in sustainable development and the need for further investigation, we develop a questionnaire to measure the consumer perceptions about sustainable retailing activities of grocery retailers in Turkey. When the environmentally sustainable retailing is to become mainstream concern, it is important to look at what factors influence the consumer's selection process. This paper examines how consumers' values/beliefs and attitudes, as well as their exposure to influences and

information, shape their behaviour and perceptions of product performance, with a particular focus on the influential role of marketing. To frame the pieces, this paper first reviews the literature on sustainable retailing activities and environmentally conscious consumer behaviour. Then it considers how consumers in Turkish market will be influenced by sustainable retailing applications of grocery retailers. With this purpose we draw hypotheses to test in a questionnaire-survey based empirical study.

SUSTAINABLE RETAILING

Since the 1992 Rio Earth Summit, as Meijkamp (2000) suggested, guiding concepts for a more sustainable future have been developed (Van der Zwan and Bhamra, 2003). WECD (1987) has defined sustainable development as “development, which meets the needs of the present without compromising the ability of future generations to meet their own needs”. The concept was first mentioned during the emergence of interest in environmental issues and problems in the 1970s and since then it has attracted growing interest as both marketing practice and research. Most of the work concerning environmental sustainability has been targeted towards the industrial companies which manufacture products through the use of natural resources and energy (Van der Zwan and Bhamra, 2003). As a result academic attention focused on design for sustainability rather than services sector. Recently consequences and potential of the sectors like retailing are realized.

Retailers arguably have a pivotal role in sustainable development, that they are intermediaries between primary products producers and manufacturers on the one hand and customers on the other (Jones et. al, 2005a). Although retailers are not often designated as major polluters, they are recognized as having the power to induce change among manufacturers because they are a critical link in the supply chain (Bansal and Kilbourne, 2001). Also their tight bounds with manufacturers, consumers and government regulations, retailers are required to integrate sustainability in its all possible activities more quickly and easily than any other business settings.

Owing to these facts retailing started to attract attention in the field of sustainable development literature. First article about sustainable development handled within the retailing sector was published by Ifferhus *et al.* (1999) explaining the process towards more sustainable production in the retailing sector. Bansal and Kilbourne (2001) considered the practical implications of an ecologically oriented perspective, referred to as the new environmental paradigm (NEP), on the retailing sector. The British Retail Consortium (BRC) launched its “Towards retail sustainability” strategy in 2001, having a vision of “a sustainable retail sector which combines promoting a competitive sector with valuing the retail workforce and our local communities, improvement of our environmental performance and prudent use of natural resources”. Jones *et al.* (2005a) provide an exploratory review of how the major retailers in the UK are tackling the issue of sustainable development and explored retailers’ corporate social responsibility by selecting top 20 retailers in UK, based on 2002 sales figures. Iles (2007), compared how food retail industries in UK and the USA are facing sustainability today by examining what retailers are doing, how accountability systems can inform retailers and the business case for accountability. Erol *et al.* (2009) aim to establish the most suitable indicators for future evaluation of industrial sustainability performance for grocery retailing.

According to the related literature, retailers are being confronted by a wide range of ecological issues (see Table 1). Consumer awareness, government, investor and other environmental group pressures, media attention and developments in information and communication technologies have forced many retailers to focus environmental and social impacts of their activities (Jones *et al.*, 2005b).

Table 1: Ecological Impacts of Retailers

Activity	Cause	Main Environmental Impact
Distribution	Operation of motor vehicle fleet for distributing products	Burning of fossil fuels Pollution and traffic congestion
	Cleaning motor vehicle fleet	Water depletion

		Water quality
Location	Out-of-town or edge-of-town hypermarkets	Burning of fossil fuels
		Noise pollution and traffic congestion
		Aesthetics
	Hardwoods on building sites	Reduction of bio-diversity
	Building on green field sites	Bio-diversity
		Aesthetics
Forrest depletion		
Processes	HVAC, lighting and other power usage in shops and offices	Burning and release of fossil fuels
	CFCs in refrigerant and packaging, insulation	Ozone depletion
	Disposable transit packaging	Landfill
		Forrest, and oil and gas depletion
	Non-reusable plastic or paper bags	Landfill
Forrest, and oil and gas depletion		
Merchandising	Excess packaging on private label products	Landfill
		Forrest, and oil and gas depletion
	Excess stocking of perishables	Landfill
		Excessive and ine\$cient use of agriculture

Source: Bansal, P. and Kilbourne, W.E. (2001),

CONSUMER PERCEPTIONS OF SUSTAINABLE RETAILERS

There is growing consumer concern regarding the implications of global warming and the currently unsustainable level of exploitation of Planet Earth's finite resources. This is driving increasing consumer support for "environmentally-friendly" products and practices (Harris, 2007). In this study marketing influence on consumer attitudes towards sustainable retailing and retailer decisions will be explored. Brief literature review environmentally conscious consumer behaviour will be summarized under the topics of consumer beliefs and behaviour, consumer response to marketing of being sustainable, trust in the retailer and consumer perceptions of sustainable retailers and their marketing practices. Hypotheses will be drawn accordingly.

As Hoyer and MacInnis (2004), consumers' values and beliefs need to be considered when examining the influences that affect purchasing decisions (Pickett-Baker and Ozaki, 2008). Ajzen's (1991) Theory of Planned Behaviour also shows that beliefs form attitudes towards behaviour, which is then translated into intention of behaviour. However, as we all know an individual concerned about the environment does not necessarily behave in a sustainable way in general, or in their purchasing. This is known as the value-action gap. A recent study finds that people who are environmentally conscious do not necessarily behave sustainable (Ohtomo and Hirose, 2007).

H₁: There is a gap between consumer beliefs and behaviours in relation to sustainable consumption.

Rokeach (1973) states values are principles that guide the formation of attitudes and actions, although values do not always lead to behaviour in real life. According to Hoyer and MacInnis (2004) it is people's attitudes affect their thoughts, feelings and thus influence behaviour such as purchasing behavior (Pickett-Baker and Ozaki, 2008). The Theory of Reasoned Action (Ajzen and Fishbein, 1980) suggests that marketers can influence consumers' attitudes and intentions by changing their evaluations through adding new beliefs and targeting normative beliefs. As Hawkings et al. (1998) suggested the purchase and consumption of products and services is often related to attempts to achieve, or maintain, ideals conceived either by the self or others (Pickett-Baker and Ozaki, 2008). Some consumers may have an ideal self-concept of being environmentally responsible, but the actual self-concept may fall far short of this ideal, with no significant change towards a sustainable lifestyle.

H₂: Consumers purchase more from retailers that are seen to be sustainable.

Word-of-mouth is a very powerful communication type that has a strong affect on consumer behaviour. More over, the main influence on food and household product purchases is word-of-mouth (Pickett-Baker and Ozaki, 2008). So, we can easily say that word-of-mouth and previous experience of the consumer play a very critical role on consumers' retailer related perception.

H₃: Consumers will judge sustainable retailers based on previous experience and word-of-mouth.

Marketing efforts like listening to consumers are mainly seen as efforts for controlling them. Paradoxically, consumers are increasingly sophisticated and principled. Marketing plays a key role in understanding and changing consumer behaviour and more generally in influencing attitudes and beliefs. As such marketing can be seen to recognize the key role of consumers as decision makers in moving towards sustainability (Jones et al., 2007), for example in shopping from sustainable retailers and adopting healthier lifestyles.

H₄: Better marketing activities will lead consumers to decide sustainable retailers.

EMPRICAL METHODOLOGY & FINDINGS

Retailing is a growing sector in Turkey with a total share varied between 17% and 21% in GDP. Grocery retailers, with their very fragmented structure, have the largest market share of the Turkish retailing sector (Erol *et al.*, 2009). Total turnover of the retail industry (non-food and food) was USD 136.9 billion in 2006 and is expected to reach USD 199 billion by 2010 (see Planet Retail). This figure in itself is self-evident of the actual and potential impact of the retail sector on the Turkish economy. Traditional retailers are known to have a 65% market share of the total Turkish retail market, while modern retailers have a 35% market share which amounts to some of USD 47.9 billion (PriceWaterhouseCooper Turkey, 2009). The most important segment of the market is grocery retailing, which accounts for 52.8% of total sales. According to Cushman & Wakefield's report Turkish retail sector is the 7th biggest retail sector in Europe and 10th in the world (TCSCR, 2009).

After deciding on the Turkish grocery retailers a questionnaire was developed after reviewing the extant literature on environmentally conscious consumption, sustainable retailing and consumer perceptions of sustainable retailing. The first part of the questionnaire contains items adopted from the HEP-NEP questions (Dunlap and van Liere, 1978), which is considered as an unofficial standard (Bachtel, 1997) to measure general environmental beliefs. And also the first part also includes RSW Green Gauge (Ottman, 1998) to measure consumers' past environmental behaviour and also their perceptions of retailers. Respondents were asked to rate their agreement level on 5-point Likert scale, from 1: completely agree to 5: completely disagree. In the second part of the questionnaire demographic data on age, gender, and income was also collected.

A total 430 respondents from fourth biggest city of Turkey, with almost 2 million population, were interviewed by a small team of professional interviewers in the biggest shopping mall of the city. Respondents verbally replied to a structured questionnaire their answers were recorded accordingly by the interviewers. The technique used was time-based shopping centre sampling method (Aaker et al.,1998). The research was conducted over a 3-day period and a total of 429 usable responses were included in the analysis. The high response rate was also attributed to the respondents' enthusiasm or willingness to participate obviously, to what they considered as an interesting subject to put their views across. There were two main advantages for prompting respondents. First, questionnaires were fully completed, thus reducing non-response items. Second, as collection of questionnaires was on the spot, no reminders were needed and, hence, time was considerably saved.

The sample size decisions were primarily based on cost considerations and in line with central limit theorem. The sample was not necessarily representative of the Turkish population as a whole as it ignored the large rural population. However, the target market for sustainable retailing activities are likely to be urban and

relatively educated so we have a sample which is potentially representative of the target population. Respondents were randomly selected customer that enters one of the three entrances.

The distribution of total population according to gender is 62 per cent male and 38 per cent female. Of the total population 24 per cent aged under 25, 41 per cent are aged 25-35, 21 percent are in the 36-45 age range, and 14 percent are at least 45 years old. The proportion of the total sample based on education is, 19 percent has at most upper secondary school degree, 39 per cent has a high school degree, 40 percent has college or bachelors degree and 2 percent has master's or PhD degree. The distribution of total population according to monthly average household income is 25 percent has at most 1000 TL, 20 percent are in 1001-1500 TL income range, 25 percent are in the 1501-2000 income range and 16 percent are in the 2001-3000 TL income range and finally 14 percent possessed more than 3000 TL income. Of the total population 44 percent are single, 56 per cent are married. Sample was mostly composed of salaried employees and senior managers (47 per cent). The high response rate coming from younger consumers indicated that they were more interested in sustainable retailing topics than older consumers and were willing to participate in the survey. Over majority of the respondents indicated that they were environmentally conscious consumers (84.6 per cent), among which were commonly males (60.1 per cent), with an age group between 26-35 years old (41 per cent), with a high school education (39.9 per cent).

Cronbach's alpha is presented as a measure of scales' internal consistency or reliability. Cronbach's alpha score for 40 items included in the questionnaire is 81.6 per cent which can help to interpret the scale as consistent. Descriptive statistics of the measurement tools are summarized in Table 2.

Table 2: Descriptive Statistics

Variable	Mean	Std. Deviation	95% Confidence Interval Lower – Upper
General Environmental Beliefs	3.67	0.438	3.63 – 3.71
Environmental Behaviour	3.19	0.539	3.13 – 3.23
Retailer Related Perceptions	3.66	0.640	3.60 – 3.72
Sustainable Marketing Activities	3.91	0.569	3.85 – 3.96
Word-of-Mouth*	2.54	0.764	2.47 – 2.61

*Word-of-Mouth items were evaluated under three topics which were 'agree', 'not sure' and 'disagree'.

Regression analysis was used to test the three hypotheses (Hypothesis 1, 2 and 4). Environmentally conscious behaviour (ECB) was regressed on general environmental beliefs (GEB) in the first hypothesis. Regression analysis results show that ECB is not significantly affected by GEB (beta = 0.041, $t = 0.683$, $p = 0.495$) which supports the widely accepted gap between GEB and ECB. This finding is consistent with the results of Darnton's (1994), Kollmuss and Agyeman's (2002), Ohtomo and Hirose's (2007) and Pickett-Baker and Ozaki' (2008) value - action gap findings. As literature suggested, environmental beliefs do not guarantee environmentally conscious behaviour. However, it is likely that environmental beliefs lead to environmentally conscious behaviour.

Likewise, regression analysis results show that retailer related perceptions of the consumers (RRP) are not significantly affected by GEB so Hypothesis 2 is not supported (beta = 0.107, $t = 1.516$, $p = 0.130$). This can be explained by consumers' lack of knowledge about sustainable side of the retailers. During the data gathering process respondents were observed and listened closely. It was seen that they have a very limited idea about what has been done for sustainability by their well known retailers. Most of the initiatives can not be easily recognized by consumer like rare shipping for overcoming the air pollution. By making these efforts visible with

marketing communication tools and positioning themselves as sustainable retailers, retailers can be frequently decided by environmentally conscious consumers.

Finally, sustainable marketing activities of the retailers (SMA) is positively affecting consumers' retailer related perceptions (beta = 0.649, $t = 14.619$, $p = 0.000$). This supports Hypothesis 4 that suggests that the better the sustainable marketing activities established by retailers the more likely consumers prefer these retailers to their competitors. Although, marketing is often seen as the antithesis of the concept of sustainability (Jones *et al.*, 2008), it is also an inevitable tool to promote it. A focus on changing behaviours is one of the key elements in sustainable consumption. And the role of marketing in understanding and changing consumer behaviour and more generally in influencing attitudes and beliefs is very influencing. Clearly our finding is supported with the related literature.

ANOVA was used to test whether there is a significant difference of RRP between the groups of word-of-mouth. The results of ANOVA showed that there is a significant difference between the groups of word-of-mouth ($F = 67.523$, $p = 0.000$). Multiple comparisons between these groups are also significant and the mean of RRP is increasing with word-of-mouth. This supports Hypothesis 3 that suggests that the consumers' judgments about retailers based on previous experience and word-of-mouth.

CONCLUSION & OPPORTUNITIES

Realizing the necessity of integrating sustainable development into daily business activities, organizational environmental sustainability has been the mantra of many management theorists and forward thinking practitioners (Sarkis, 2001). Since retailing is a very dynamic sector for global economies, it did not take very long to realize the potential importance of sustainable retailing applications both for the sector and the societies. Retailers because of their very unique nature play a key role as a bridge between suppliers/producers and consumers which brings sustainable retailing in to a focal point of interest both in theory and practice.

The Turkish grocery retailers are at the different but mostly early stages of maturity in responding to sustainability. There has been a lack of empirical research in the sector. Therefore, in this paper, Turkish grocery retailers and their sustainable retailing practices were evaluated through the eyes of the consumers and marketing influences on consumers were explored. Based on our analysis nearly 85 percent of the respondents define themselves as environmentally conscious consumers, proving that there is a growing concern regarding especially the implications of global warming. This awareness is driving increasing consumer support for sustainable products and practices (Harris, 2007). According to our findings, a widely cited value-action gap was also confirmed. This result shows that the increasing consumer support for sustainable products and practices will not definitely mean these consumers also have an increasing demand for a sustainable retailer or make their purchases mainly on these types of retailers. Having a general environmental belief can only lead a consumer to prefer sustainable retailer to their competitors. The research also found that there is no significant relationship between environmentally conscious behaviour and retailer related perceptions of the consumers. This appears to be due to the consumers lack a means whereby they can be independently assured that a retailer is or not genuinely sustainable. Another problem is the difficulty of identifying sustainable practices. For example, digital labeling for reducing the paper consumption can be interpreted as an innovation of the retailer's inventory system. Different colored or recyclable packaging, naming the aisles as sustainable, promoting sustainable practices and environmentally responsible public relation programs could be very effective ways of minimizing the major knowledge problem.

As the responses show, consumers judge retailers depending on their sustainable practices based on their previous experience and word-of-mouth. Several studies have shown that word-of-mouth communications often exert a strong influence on consumer judgments (Herr *et al.*, 1991). Consumers frequently rely on word-of-mouth when selecting an automotive diagnostic centre (Engel *et al.*, 1969). Especially products and services for which performance is a significant perceived barrier like sustainable products and services, word-of-mouth is getting more and more important. The potential and opportunities must be recognized and consumer experience must be enhanced. The effect of emotions on influencing decisions, attitude formation and consumer response to brands must be taken in to consideration (Pickett-Baker and Ozaki, 2008). Marketing is a very efficient tool to influence emotions, attitudes and decisions. Although some think marketing is the principal driver of

consumption, satisfying customer's needs and wants have always been the main issue. Respondents in our research think better sustainable marketing activities will induce consumer to make purchases from sustainable retailers. Designing, packing, promoting, branding, pricing, shipping are all very important decisions to make.

Future research can bring retailer side and consumer side together to understand and contribute the concept better. Because of the constraints our question quantity and sample were limited. Following research can be use different scales on another sample with a unique nature. Also, further research is needed to evaluate and compare sustainable practices of different industries.

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THE ROLE OF DESIGN IN NEW PRODUCT CONCEPT DEVELOPMENT

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ABSTRACT

Design is defined as the 'creative' visualization of a concept by Walsh et al (1992). This paper clarifies the role of design in concept development for NPD (New Product Development) by comparing concept development conducted by design-oriented firms (those emphasizing and investing more in design) with general concept development conducted by firms that are not particularly design-oriented. A typology of concept visualization according to a firm's orientation is presented based on a literature review. There is then an analysis of cases involving NPD projects of two major Japanese firms in the beverage industry based on their concept development/visualization approaches.

The result shows the following: (a) A concept visualization has two types: one is linear visualization, which occurs in a general concept development process; the other is 'creative' visualization, which forms part of the concept development adopted by design-oriented firms. (b) 'Creative' visualization, or design, is the process that involves iteration between visualization-idea generation (or improvement) and market testing of these ideas in order to realize creativity (perceived novelty and meaningfulness) in a prototype. The implication is that, when a firm operates in a market where consumer perception of a product's appearance is crucial, applying design (the 'creative' visualization of a concept) in concept development by investing in it can help to realize consumer-perceived creativity in a product's appearance.

INTRODUCTION

Design as a set of particular activities in NPD has been frequently discussed in NPD related studies. Although design in NPD has multiple elements for discussion (Veryzer & Mozota, 2005; Perks, Cooper & Jones, 2005; Kotler & Rath, 1984), this paper addresses design in idea generation/concept development for NPD. Design is defined by Walsh et al (1992) as the creative visualization of a concept. Concept in an NPD context can be defined as a clear statement of (product) benefit for which we have either a form or a technology that promises to yield this benefit (Crawford, 1991). For example, a concept can be, "Slager beer: A double-strength beer that recaptures the taste enjoyment of the 1800s" (Crawford, 1991).

Researchers have argued that more effective use of design in NPD can lead to higher chances of success by referring to NPD management in firms such as Bang & Olufsen (Kotler & Rath, 1984), Dyson (Bruce & Cooper, 1997), OXO, Motorola (Cogan & Vogel, 2002), and Apple (Schmitt, 2003). These firms, often referred to in NPD related studies, can be characterized as emphasizing design in NPD management, investing more heavily in it than other firms, and having a history of project successes attributed to their design successes (Cogan & Vogel, 2002; Bruce & Cooper, 1997; Walsh et al., 1992; Kotler & Rath, 1984). These firms are classified as 'design-oriented firms' in this paper. Based on Walsh et al's (1992) definition, design-oriented firms are those firms investing in design, i.e. creative visualizations of concepts, in their NPD processes.

Although design-related NPD studies have highlighted the effective use of design for NPD success, it is still unclear *how* design-oriented firms make use of design for their concept development, or how their concept development differs from a more general concept development approach. In other words, what is the role of

design in concept development managed by design-oriented firms, and how is it different from the more general concept development managed by firms that are not particularly design-oriented? Finding an answer to these questions is important, as making more effective use of design is bound to require resource investment. In order to make a decision on resource investment in design, a firm has to know whether the required resources and its management are compatible with its strategy and orientation, and whether the expected outcome in return from investment in design supports the firm's goal and is required for the success of an NPD project. By finding an answer to the research question, it is then possible to make a decision on resource investment in design, taking into account the firm's goals, strategy, orientation and conditions of the market in which it competes.

After a literature review, there is a multiple case study of NPD in two firms operating in the Japanese beverage industry, one of which can be viewed as design-oriented while the other can be regarded as not particularly design-oriented. Implications are presented based on discussion of the findings.

LITERATURE REVIEW

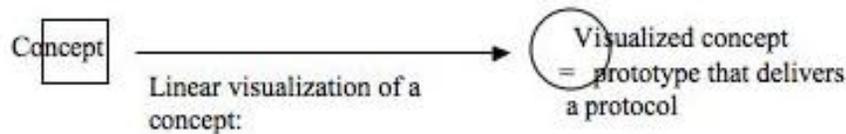
First, findings from NPD studies dealing with design are summarized in terms of characteristics of design management contributing to business, which clarifies the problem this paper addresses. Then, representative NPD studies on concept development are reviewed, leading to characteristics of concept visualization in a general concept development approach, which is a linear visualization of a concept. Next, following the definition of design (the 'creative' visualization of a concept), studies on creativity are reviewed to clarify the nature of a creative process. This makes it possible to identify the distinctive characteristics of concept visualization in a concept development conducted by design-oriented firms, which is a 'creative' visualization of a concept.

Design is defined as the 'creative' visualization of a concept (Bruce & Cooper, 1997; McWilliam & Dumas, 1997; Roy & Potter, 1993; Walsh et al, 1992). Researchers have argued that more effective use of design in NPD can lead to higher chances of success by referring to NPD management by such firms as Bang & Olufsen (Kotler & Rath, 1984), Dyson (Bruce & Cooper, 1997), OXO, Motorola (Cogan & Vogel, 2002), and Apple (Schmitt, 2003). These researchers have shown that design-oriented firms have managers who are design-conscious and value its role (Jevnaker, 2000; Roy & Potter, 1993; Kotler & Rath, 1984). They fund design sufficiently (Cagan & Vogel, 2002; Jevnaker, 2000; Bruce & Cooper, 1997; Kotler & Rath, 1984), and have designers, marketers and engineers liaising frequently with one another (Cagan & Vogel, 2002; Jevnaker, 2000; Bruce & Cooper, 1997; Kotler & Rath, 1984). They also have their designers execute the design based on consumer understanding (Veryzer & Mozota, 2005; Schmitt, 2003; Cagan & Vogel, 2002; Kotler & Rath, 1984), and a focus on aesthetics or styles on top of utilitarian benefits or technologies (Schmitt, 2003; Cagan & Vogel, 2002). In addition, their designers are accountable for the design work (Roy & Potter, 1993; Kotler & Rath, 1984). The findings also conclude that design can contribute to product idea & concept development (Perks, Cooper, & Jones, 2005; Veryzer & Mozota, 2005; Cagan & Vogel, 2002; Bruce & Cooper, 1997; Roy & Potter, 1993; Walsh et al, 1992; Kotler & Rath, 1984). However, so far, no research can be found that clarifies how design contributes to concept development, *how* design-oriented firms are making use of design for their concept development, or how their concept development approach differs from a more general concept development approach.

Krishnann & Ulrich (2001), conducting a meta-study on NPD, identified Crawford (1991) as one of the most influential researchers in NPD literature in terms of concept development. The NPD process model introduced by Crawford (1991) is intended to be a general NPD management approach (Crawford, 1991). Therefore, to identify the distinctive feature of concept development conducted by design-oriented firms relative to the general concept development approach, this paper compares concept development conducted by design-oriented firms with the concept development in Crawford's NPD model (1991). Crawford (1991) argues that, while the development of concept ideas requires creativity and a process that facilitates it (Crawford, 1991), the visualization of a concept or development of a prototype should be done in order to meet a protocol, which is a list of attributes or benefits the concept intends to offer (Crawford, 1991; 1984). It is assumed that, as long as the prototype was developed according to the protocol and delivered the benefits defined by the concept, the resulting product would be sold profitably (Crawford, 1991) providing the concept, which is the subject of the visualization, had been confirmed as attractive to the market. Cooper & Kleinschmidt (1987) also emphasize the

importance of establishing a protocol for NPD success but do not place similar emphasis on consumer testing of prototypes. Likewise, Kotler (2003) discusses the creative process for concept idea development at great length, but does not mention the visualization of a defined concept. This indicates the assumption that a concept can be visualized without the need for any creative process. In this paper, this method of concept visualization where the development of a prototype delivers the protocol is described as a linear visualization of a concept. This is because the visualization is a linear process aimed at identifying a prototype idea that delivers a protocol, involving no iteration between idea generation, evaluation using market testing, or idea improvement. Figure 1 illustrates a linear visualization of a concept carried out by non-design-oriented firms.

Figure 1: Concept visualization by non-design-oriented firms: Linear visualization



Nevertheless, if it is carried out by design-oriented firms, the visualization of a concept or the development of a prototype may not only be conducted to deliver a protocol but also to realize creativity in a prototype. Design, which itself is a kind of concept visualization process, is by definition a creative process. Because creativity is a key component in this definition, it is important to understand how the nature of creativity differs from the linear visualization assumed by Crawford's NPD process model (1991).

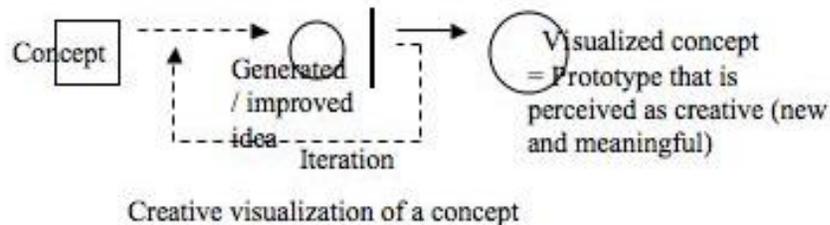
Creativity in an outcome can be defined as one with meaningful novelty relative to conventional practice in the domain to which it belongs. This is the most widely used definition in social science research (Andrews & Smith, 1996; Hennessey & Amabile, 1988; Amabile, 1996; Gummings & Oldham, 1997, Stevens et al., 1999; Bharadwaj & Menon, 2000). According to Csikszentmihalyi (1996), the creative process which produces such a creative outcome is traditionally described as a sequence of five steps: Preparation, Incubation, Insight, Evaluation, and Elaboration. The elaboration step is constantly interrupted by periods of incubation and is punctured by small epiphanies. It is more recursive than linear. The number of iterations it goes through, the number of loops involved, and the number of insights needed, depends on the depth and breadth of the issues dealt with. During the incubation, seemingly irrelevant associations between ideas may occur as a result of a prior connection. While truly irrelevant connections dissolve and disappear from memory, ones that are robust survive long enough to emerge eventually into consciousness. The insight presumably occurs when a subconscious connection between ideas fits so well that it is forced to transform into awareness (Csikszentmihalyi, 1996).

To explain how a potentially creative idea is to be identified as truly creative, Csikszentmihalyi (1996) introduces the Systems Model. He maintains that creativity can be observed only in the interrelations of a system made up of three main parts: the domain, which consists of a set of symbolic rules and procedures, a field, which includes all the individuals who act as gatekeepers to the domain, and the individual person(s). Creativity occurs when a person, using the symbols of a given domain, has a new idea or sees a new pattern, and this novelty is selected by the appropriate field for inclusion into the relevant domain. Applying this Systems Model to an NPD context, it can be said that a potentially creative new product idea can be identified as creative by the interrelations within the market, which serves as the domain, consumers, who serve as the field, and the NPD members, including the firm's marketing department, engineers, designers, and management, who serve as persons. Therefore, the definition of creativity in a new product idea has to involve the market, the consumers, and the NPD members.

When applying the creativity theory to creative concept visualization in the NPD context, the process should be an iterative one, involving visualization-idea generation (Preparation, Incubation, Insight), idea evaluation from market testing with consumers as well as NPD members (Evaluation), and idea improvement based on the findings gained from market testing (Elaboration). The visualization process involves trials of association between seemingly irrelevant ideas. This process should continue until a visualization-idea is perceived as creative (new and meaningful) to consumers through market testing, as well as to the NPD members. This accords with the point made by Cagan & Vogel (2002) that design-oriented firms run the concept

development process by involving iterative circles from developing prototypes representing the concepts, testing them, getting feedback from users and expert advisors, and tuning feedback into a new generation of prototypes. As opposed to the linear visualization of a concept presented by Crawford's NPD process model, which is viewed as a general NPD process, the design process (creative visualization of a concept) can be a unique feature of the NPD process in design-oriented firms. Figure 2 illustrates the creative visualization of a concept carried out by design-oriented firms.

Figure 2: Concept visualization by design-oriented firms: Creative visualization



CHARACTERISTICS OF CONCEPT VISUALIZATION BY DESIGN-ORIENTED FIRMS

A review of the literature suggests that the differences between general concept development and concept development by design-oriented firms lie in their objectives (what they are trying to achieve with the concept visualization) and their processes of concept visualization (how they are trying to achieve the objectives).

Based on the Crawford's general NPD model (1991), the key characteristics of the concept visualization in a general concept development approach can be defined as follows:

- The primary objective of concept visualization is to develop a prototype - a visualized form of the concept - that delivers a protocol or a list of benefits defined by the concept, designated as ND-d.
 - In order to achieve the objective, the concept is visualized in a linear way, designated as ND-op.
- The linear visualization of a concept is aimed at identifying a prototype idea that delivers a protocol, involving no iteration between idea generation, evaluation with market testing, or idea improvement.

On the other hand, based on Walsh et al's (1992) definition of design, the creativity theory by Csikszentmihalyi (1996), and the NPD model presented by Cagan & Vogel (2002), the key characteristics of concept visualization in concept development conducted by design-oriented firms can be defined as follows:

- The primary objective of concept visualization is to realize creativity (perceived novelty and meaningfulness) in a prototype - the visualized form of the concept - as well as its development, designated as D-d.
 - In order to achieve the objective, they visualize the concept in a creative way, designated as D-op.
- The creative visualization of a concept is an iterative process, involving visualization-idea generation, idea evaluation from market testing with consumers as well as NPD members, and idea improvement based on the findings gained from market testing. The visualization process involves trials of association between seemingly irrelevant ideas. The process should continue until a visualization-idea is perceived as creative (new and meaningful) to the consumers through market testing, as well as to the NPD members.

MULTIPLE CASE STUDY OUTLINE

Multiple case study based on qualitative research was adopted as the research design for the following reasons: qualitative research is appropriate for theory generation and for understanding the social world through an examination of the interpretation of that world by its participants (Bryman, 2001). This research intends to generate theory regarding the role of design in concept development by comparing the concept development approach of design-oriented firms with a more general concept development approach. Case study is appropriate

for dealing with the complexity and particular nature of the case in question (Bryman, 2001), and in this research, an NPD case involving design for concept development and an NPD case not involving design in concept development are examined. Multiple-case study improves theory building, and by comparing two or more cases, the researcher is in a better position to establish the circumstances in which a theory will or will not hold (Yin, 2003; Bryman, 2001). In this research, it is assumed that, by comparing these two firms, it should become possible to understand in detail what roles design plays in concept development managed by design-oriented firms and how this differs from a general concept development approach. In addition, understanding the role of design in concept development should be associated with its effectiveness in NPD project performance. Therefore, the project cases selected include both a successful and an unsuccessful one.

The field selected for research should be one where consumer perception of a product is crucial for the NPD project's success. The field selected was Japan's unsweetened tea drink market during the 6 years from 2000 to 2006. The market during this period was characterized as follows: 1. Consumer perception of a product may determine whether a project will succeed or not within the context of a high product turnover rate due to intense competition. Unless the product was perceived as creative (new and meaningful) to consumers two to four weeks after its appearance on the retail store shelf, it was never able to draw purchase trials or purchase repeats (Hemmi, 2008; Mine, 2006). This would result in the product's elimination and replacement by other products with a greater momentum of purchase trials or repeats (Hemmi, 2008; Ito, 2004). On the other hand, prices in the market were, in general, set flat across products / brands (e.g. 150 yen per 500 ml at convenience stores), except for minor products or short-term promotional periods. The effect of pricing on consumer purchase trials and repeats is relatively small in this market. Therefore, as far as this market during this period is concerned, for a product to gain high purchase trials and high purchase repeats, it must be perceived by consumers as creative (new and meaningful to them) in retail stores (the purchase trials and repeats are influenced by TV-copy, promotion, yet they cannot be gained without consumer-perceived creativity in product appearance). In fact, in their NPD process, major firms in this market, such as the ones examined in this case study, conduct market testing with prototypes using criteria that includes whether the prototype is perceived as new and meaningful to consumers, along with their purchase intention. This is done in order to estimate whether the product to be launched can gain the expected purchase trials and repeats (Maeda, 2006; Nagasawa & Kawae, 2003). 2. The market had been growing rapidly, due mainly to the recent consumer trend of health consciousness. Unsweetened tea drinks were regarded as the next core market for Japanese beverage products, and establishing a core brand in this market was considered essential for every drinks firm seeking to grow their business. Drinks firms therefore put the highest priority on their NPD projects in this market. These features meet the research purpose.

The firms examined in the research should be a pair: a design-oriented firm, using design for their concept development, and a firm that is not particularly design-oriented and that employs a general concept development approach. For fair comparison, they should be operating within a similar field and have similar capabilities in terms of marketing activities, but different orientation as regards design in NPD processes. The firms selected were Coca-Cola Japan and Suntory. These are two of the major firms in the beverage industry in Japan. In 2004, Coca-Cola Japan had the biggest market share (34.6%), while Suntory had the second biggest market share (16.6%) in the Japanese beverage market (Nikkan Keizai Tsushin, 2005). They have almost the same distribution channels for tea drinks: convenience stores, supermarkets and vending machines. They also have similar levels of investment in marketing promotion, which includes TV media.

Suntory can be regarded as a design-oriented firm for the following reasons: (1) They place a strong emphasis on design, confirmed by their nomination for a number of design awards (for example, Nikkei Design, December 2003, pp.40-75) and remarks by top management (Nikkei Design April 2006; Suntory, 1999; Torii & Kagono, 1994). (2) They invest particularly heavily in their design management compared to other firms. For example, they have both design management capability and design execution capability in-house (Kato + Suntory Design, 2001). (3) They have a history of project successes attributed to their design (for example, Nikkei Design Dec 2003; Suntory, 1999; Brain, Sept 2005), which meets the definition of a design oriented firm in this paper. On the other hand, Coca-Cola Japan is not regarded as a design-oriented firm given that: (1) Any particular record showing that they constantly emphasize the importance of design as a corporate capability cannot be found. (2) They do not invest heavily in design - for example, they only keep their design management capability in-house while outsourcing design execution capability (Maeda, 2006). (3) Any particular record of them constantly achieving project successes through their design capability has not been found, although from

time to time their package designs have been viewed by design magazines as contributing to their respective businesses. In addition, as described in the later part of this paper, Coca-Cola Japan usually employ a standard approach which bears the same characteristics as the general concept development approach in terms of concept visualization.

The projects selected from Coca-Cola Japan were the 'Hajime' product brand development and the 'Karada-Meguri-Cha' development. 'Hajime' was not successful in generating purchase trials and repeats for three months after its introduction, the reason possibly being a lack of perceived creativity (novelty and meaningfulness) in the product in retail stores. 'Karada-Meguri-Cha', however, was successful in generating high trials in retail stores immediately after its introduction, and the trials and repeats continued for over a year, even after major competitive products were introduced. The projects selected from Suntory were the 'Juku-Cha' product brand development and the 'Iyemon' development. 'Juku-Cha' was not successful in generating purchase trials soon after its introduction, due to a lack of perceived creativity in the product, while 'Iyemon' succeeded in generating high trials in retail stores right after its introduction, and the trials and the repeats continued for over a year, even after major competitive products were introduced.

The qualitative research that followed was based primarily on analysis of secondary information related to NPD processes by Coca-Cola Japan and Suntory. First, the 'Karada-Meguri-Cha' development was reviewed with reference to Maeda (2006), where the project development is described in detail by a brand manager at Coca-Cola Japan. The 'Juku-Cha' and 'Iyemon' developments were reviewed with reference to Mine (2006), where the two project developments are described in detail following interviews with the team members of both projects. Next, the research followed this up with a review of Coca-Cola Japan's and Suntory's news releases. Finally, semi-structured interviews (Bryman, 2001) were conducted with members of the marketing, design and R&D team at Coca-Cola Japan and a design director at Suntory. The interviews followed a semi-structured flow with general questions about the subject: NPD project processes and their management of them, including their typical NPD processes, NPD processes conducted for the subject projects, their approaches to concept development and visualization, organizational management for NPD, and the project performances as an outcome of the NPD management. The interview flow was pilot-tested and subsequently modified. Interviews had an average duration of 1.5 hours. On each, special attention was paid to collecting data on these questions while not limiting them in order to make sure of capturing any unanticipated information that was potentially important for theory construction. All the interview description contents were checked by the interviewees after each interview to ensure accuracy and to confirm that what the interviewer had taken down accurately reflected what the interviewee had meant.

FINDINGS

The findings from the multiple-case study are summarized in Table 1.

For their 'Hajime' project, Coca-Cola Japan adopted their standard process which they normally used for other NPD projects. With 'Krada-Meguri-Cha', however, the NPD process was a unique one for them. The brand manager of Coca-Cola Japan called it the 'Left & Right Brain Combination Approach' (Maeda, 2006).

In their standard process, development of the concept idea involved iteration from concept idea generation/improvement and market testing of these ideas. This continued until the concept idea was confirmed as appealing to consumers. However, the concept visualization (prototype development) was conducted in a linear way. For the concept visualization, a list of targets was given to the design team, who then developed concept visualization ideas (prototype ideas) that addressed this list using the resources they had at their disposal. Here the objective was to develop a visualization idea that meets the list of targets, which supports ND-d. This visualization process did not involve visualization idea improvement based on findings from market testing, which supports ND-op. It is also noted that visualization started only after the concept idea was clearly defined and agreed in a management meeting called 'Innovation Committee' (Maeda, 2006).

For 'Karada-Meguri-Cha' development, the brand manager's strong belief was that employing the general NPD process for this project would not be sufficient to bring success. Therefore, what he called the 'Left & Right Brain Combination Approach' was taken. This approach consists of using both 'left and right brain

thinking’ in order to explore potential consumer needs, devoting more time to concept development, including concept visualization (Maeda, 2006). In this process, unlike the standard process, iteration from idea generation (using metaphors that facilitate associations between two different ideas to market testing) and idea improvement based on the tests were fully committed to both the concept idea development and the concept visualization. This was done in an attempt to achieve creativity in both the concept itself and the final product, which was tested and confirmed quantitatively at the end of the concept visualization process. This fits D-d and D-op1, not ND-d nor ND-op1, despite the fact that ‘Karada-Meguri-Cha’ was run by Coca-Cola Japan as a non-design-oriented firm.

Table 1: Summary of findings from the case study

	‘Hajime’ (Standard process) by Coca-Cola Japan	‘Karada-Meguri- Cha’ (Left & Right Brain Combination Approach) by Coca-Cola Japan	‘Juku-Cha’ (Process not aspired) by Suntory	‘Iyemon’ (Process aspired) by Suntory
<i>Preceding arguments on characteristics of concept development approach taken by design-oriented firms and a general concept development approach</i>				
<i>Concept development/visualization by non-design-oriented firms</i>				
(ND-d) Objective is to develop a prototype, which is a visualized form of a concept, that meets the protocol	Supported	Not supported	Not supported	Not supported
(ND-op) To achieve the objective, they visualize a concept in a linear way.	Supported	Not supported	Not intended, but consequently done	Not supported
<i>General concept development/visualization</i>				
(D-d) The objective is to realize creativity in the prototype, which is a visualized form of the concept	Not supported	Supported	Supported	Supported
(D-op) To achieve the objective, they visualize the concept in a creative way.	Not supported	Supported	Intended, but Not supported	Supported

A year and a half after the introduction of the two products to the market, Coca-Cola Japan was forced to change the concept and product appearance of ‘Hajime’ (Coca-Cola Japan News Release, 2007; Coca-Cola Japan News Release, 2006) due to its low purchase repeats (Coca-Cola CJ, 2007; Coca-Cola CJ, 2006). This was despite its highly recognized taste and the firm’s season-highest investment in marketing promotion including TV media (Coca-Cola Japan News Release, 2007; Coca-Cola Japan News Release, 2006). This suggests that the product in retail stores was not perceived as creative (new and meaningful) to consumers. Meanwhile, ‘Karada-Meguri-Cha’ proved very successful in generating higher purchase trials in retail stores over an initial two-month period. It maintained high purchase repeats, resulting in a 35% increase over the original sales estimate in these first two months after its introduction, and steady growth since its introduction (Maeda, 2006). This indicates that the product in retail stores was perceived as creative (new and meaningful) to consumers. Purchase trials and the repeats could have been generated by other factors such as TV-copy or marketing promotion activities, and in the case of ‘Karada-Meguri-Cha’, these factors would have contributed. However, in these market conditions, consumer-perceived creativity in a product’s appearance is a key factor, as without it, the purchase trials and repeats cannot be generated, as explained earlier. Figure 3 illustrates the concept development process, including the concept visualization, of ‘Hajime’ and ‘Karada-Meguri-Cha’ by Coca-Cola Japan.

In the case of Suntory, a design-oriented firm, the NPD process adopted for ‘Juku-Cha’ was the kind they wished to follow; the process for ‘Iyemon’ was closer to their aspirations. The process they wanted to use is one where designers are fully involved in the concept development; the designers ensure that the concept visualization ideas (design ideas) they develop are truly appealing to consumers. For this to be achieved, the designers do not just focus on concept visualization, but also attempt to influence concept idea development from a design point of view (Mine, 2006).

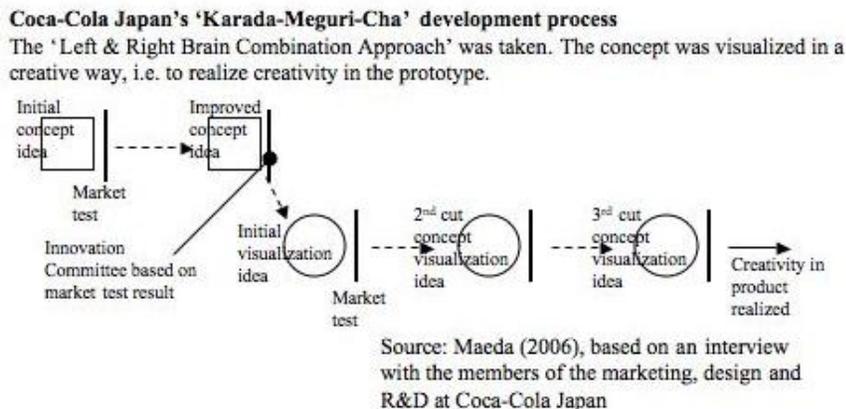
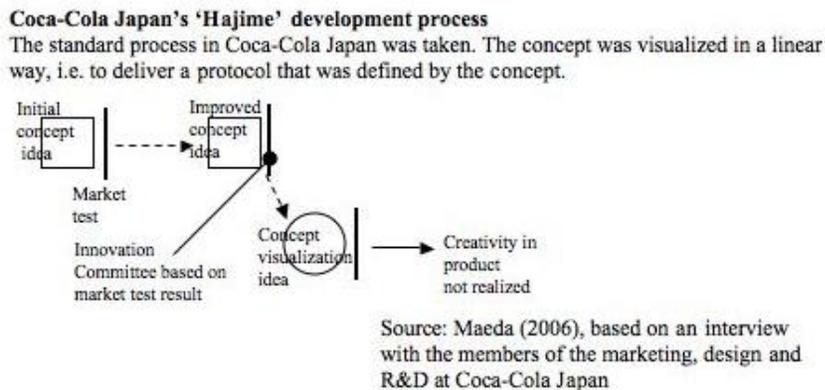
For the ‘Juku-cha’ development, due to the short period of time allotted to concept development and concept visualization, the team could not adopt their aspired process (Mine, 2006). They could not involve sufficient iteration from idea generation to market testing and idea improvement based on findings from the

testing for both concept idea development and concept visualization, while the concept visualization itself was geared more towards delivering a protocol defined by the concept. This means that D-op was not supported, and ND-op is a better fit for the case of ‘Juku-Cha’, despite the fact that this project was run by Suntory, a design-oriented firm. However, it was understood that they aimed at realizing creativity in the prototype in the concept visualization, which supports D-d.

However, based on the findings from the ‘Juku-Cha’ project, with ‘Iyemon’, Suntory made sure they adopted their aspired process. In this process, once the initial concept idea was developed by the marketing team, the design director got involved in the project and initiated concept visualization. Both the concept idea development and its visualization process applied iteration from idea generation (for concept and its visualization), often using metaphors that facilitate associations between two different ideas to market testing and idea improvement based on the findings from these tests, until a prototype that could be perceived as creative by consumers was identified. This supports D-d and D-op1. Moreover, as they had hoped, the project team used the findings from concept visualization and market testing against the visualization ideas in order to achieve concept improvement.

‘Juku-cha’ had to be discontinued soon after its introduction due to significant low purchase trials in stores, despite its highly recognized taste and the firm’s season-highest investment in marketing promotion including TV media (Mine, 2006). The project team learned from retail observation that this was because the product was not perceived in retail stores as creative, new and meaningful to consumers (Mine, 2006). ‘Iyemon’ was very successful in generating the purchase trials and the repeats, resulting in a record high 2.6 million cases of shipment in seven months (Suntory News Release, January 20, 2005). The project team learned that consumer perceived product creativity is one of the key drivers for purchase trials and repeats. Figure 3 illustrates the concept development process, including the concept visualization, of Suntory’s ‘Juku-Cha’ and ‘Iyemon’.

Figure 3: Concept development including concept visualization process of Coca-Cola Japan’s ‘Hajime’ and ‘Karada-Meguri-Cha’, and Suntory’s ‘Juku-Cha’ and ‘Iyemon’



DISCUSSION

Past NPD studies dealing with design have argued that more effective use of design in NPD can lead to higher chances of success by referring to NPD management by firms that can be regarded as design-oriented. Their findings include that design can contribute to product idea & concept development. However, it was not yet clarified how design contributes to concept development, *how* design-oriented firms are making use of design for their concept development, and how their concept development approach differs from a general concept development approach. Based on the findings, we shall now discuss concept development conducted by design-oriented firms, and general concept development by firms not regarded as design-oriented.

Suntory was regarded as design-oriented, and the process they wanted to follow involved the creative visualization of a concept. On the other hand, Coca-Cola Japan was not regarded as design-oriented, and their standard process bore the characteristics of the general concept development approach introduced by Crawford (1991) in terms of concept visualization. In this standard process, the concept was visualized linearly.

Linear vs. Creative method of concept visualization

The comparison between Coca-cola Japan's 'Hajime' (where their standard process was used) and Suntory's 'Iyemon' (using their aspired process), indicates that design-oriented firms attempt to visualize a concept in a creative way in order to realize consumer-perceived creativity in a prototype. On the other hand, firms that take a general concept development approach usually visualize a concept in a linear way in order to develop a prototype that delivers a protocol defined by a concept. Design is defined as the creative visualization of a concept (Walsh et al, 1992). Using this definition of design, it can be said that design-oriented firms make use of design for their concept development in order to realize consumer-perceived creativity in a prototype (and ultimately in the final product), going beyond delivering a protocol defined by the concept, and that they apply sufficient resource investment towards it. Realizing consumer-perceived creativity in a prototype using creative concept visualization is the role of design for design-oriented firms.

As is shown by the differences between the 'Hajime' and 'Iyemon' project performance, when a firm aims to achieve consumer-perceived creativity in a product, a creative process is needed not only for concept idea development but also for concept visualization. This creative visualization of a concept can be adopted by firms that are not design-oriented as well, as shown by the case of Coca-Cola Japan's 'Karada-Meguri-Cha'. Here, it was not their standard process, but instead their unique 'Left & Right Brain Combination Approach' for NPD, that was adopted. This case suggests that, *if resources are committed to design*, creative visualization of a concept for realizing consumer-perceived creativity in a prototype is possible for firms those not particularly design-oriented firms as well. In the same vein, even design-oriented firms, when not investing sufficiently in design, and therefore not being able to apply creative visualization of a concept, cannot realize consumer-perceived creativity in a prototype (hence the final product), as shown by the case of Suntory's 'Juku-Cha'.

Concept visualization that leads to concept improvement

In addition, the case of Suntory's 'Iyemon', in comparison to Coca-Cola Japan's 'Karada-Meguri-Cha', shows that design-oriented firms not only visualize a concept in a creative way, but also apply what they have learned from the concept visualization to concept improvement, further ensuring creativity in a prototype. They also invest sufficiently in required resources to achieve this. In other words, the creative visualization of a concept can lead to its improvement, further ensuring creativity in a prototype. Bhattacharya, Krishnan & Mahajan (1998) argue that, as opposed to the early definition of concept in the NPD process, a concept that is refined in real-time using consumer feedback on prototypes can improve product attractiveness. This supports the effectiveness of design process management by design-oriented firms, who apply the findings from concept visualization to achieve concept improvement, depending on the conditions of the firms and/or their circumstances.

CONCLUSION, IMPLICATIONS AND FUTURE RESEARCH

Design is the creative visualization of a concept, a process involving iteration between visualization-idea generation (or improvement), including associations of seemingly irrelevant ideas, and market testing. Creative visualization aims at realizing consumer-perceived creativity (novelty and meaningfulness) in a prototype. These are the key characteristics of concept development conducted by design-oriented firms and distinguish it from the general concept development approach.

In a general concept development approach, concept visualization is linear. It is a process for the development of a prototype that delivers a protocol defined by the concept with no iteration involved. This approach may encounter limitations when a firm aims to realize consumer-perceived creativity in a product's appearance, and may hamper NPD success in a market where such perceptions are crucial.

There are two main areas for future research. First, this research has identified that, in addition to the creative visualization of a concept, design-oriented firms apply the findings gained from concept visualization to concept improvement, thus ensuring creativity in a prototype (hence the final product). To what extent this is effective for NPD success should be further investigated. Secondly, these research findings should be explored and applied to contexts other than the Japanese unsweetened beverage market.

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CORPORATE DIVERSIFICATION EFFECT ON FIRM VALUE IN EMERGING MARKETS: EVIDENCE FROM BRIC COUNTRIES.

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ABSTRACT

Researchers have long tried to define the impact of corporate diversification on firm value. Academic papers mainly concentrate on the effects of corporate diversification in mature markets while its consequences in emerging capital markets are less explored. The article presents the results of empirical analysis of diversification strategies of the sample of 6 Brazilian, 9 Russian, 63 Indian and 50 Chinese companies. The research has been done in Corporate Finance Center, State University – Higher School of Economics. Using event study method we demonstrate that corporate diversification had a positive impact on a firm's value within the sample of the firms from BRIC countries.

INTRODUCTION

Despite that the phenomenon of corporate diversification has been actively discussed in financial academic literature the evidence is still controversial. According to the principles of corporate finance the efficiency of diversification strategy is always assessed by its impact on shareholder value. Based on the sample of the firms from BRIC countries we examine stock market reaction to mergers and acquisitions that lead to greater firm-level diversification. In the analysis we distinguish between deals that are stand-alone focused, related and unrelated diversification and attempt to determine which type of deals influence firm's value. The paper is organized as follows. We first review the recent developments in the literature on corporate diversification concentrating on researches in emerging markets. We next describe the sample selection procedure and define the methodology. Finally, we provide the discussion of our results and make conclusions.

LITERATURE REVIEW

The studies of diversification at the corporate level in developed markets can be divided into three groups (Martin and Sayrak, (2003)). The first group of research suggests that diversified firms destroy firm value. Berger and Ofek (1995), Lang and Stulz (1994) find that diversified firms in US are traded at a discount. Lins and Servaes (1999) confirm the discounts in Japan and the UK. Value-decreasing investments and inefficient allocation of funds among divisions of diversified firms via the internal capital market have been viewed as the main sources of value destruction (Rajan, Servaes and Zingales (2000); Scharfstein and Stein (2000)). Even if capital allocation among divisions within the diversified company leads to economic benefits it also creates the conditions for an increase in agency costs (Gautier, Heider, (2002); Inderst, Laux (2005); Brusco, Panunzi (2005)).

The second group of authors has argued that the diversification discount is not due to the diversification strategy per se but may be connected to the target's characteristics or endogeneity of the diversification decision (Villalonga (1999); Graham, Lemmon, Wolf (2002); Campa, Kedia (2002); Pal, Bohl (2005)). In some cases corporate diversification discount was related to the premium.

The founder of the third group of research Belen Villalonga (2000) shows that there is no diversification discount. Using BITS (Business Information Tracking Series) database instead of COMPUSTAT, which has been used by the most scholars, she proves that diversified firms trade at a significant premium.

Whereas corporate diversification has negative impact on firm value for firms based in developed countries this strategy may be valuable for companies that operate in emerging capital markets. These markets are characterized as a rule by a dominance of diversified companies. The specific features of emerging markets, to some extent, can affect the effectiveness of integration strategy. In developed countries well-developed structures in capital market, competitive product market and labor markets as well as strong contract enforcement guarantee similar rules of play for both diversified and focused firms. In these conditions benefits of integration may be reduced. On the contrary, in an imperfect institutional environment like emerging markets and with weak enforcement of contracts diversified firms may be of value. They can mimic the beneficial functions of various institutions that are present in developed markets and thereby create a potential source of value growth for integrated firms (Khanna, Palepu (1997)). But on the other hand severe market imperfections which increase the potential agency costs resulting from higher information asymmetry can lead to value destruction in firms that undertake such strategies.

Fauver, Houston and Naranjo (2003) suggest that the value of diversification is negatively related to the level of capital market development. For companies that operate in developed and internationally integrated capital markets the authors find statistically significant diversification discount, which is consistent with Berger and Ofek (1995) and Lang and Stulz (1994) findings. But for companies that operate in emerging and segmented capital markets diversification premium is found. Furthermore, authors suggest that financial, legal, and regulatory environment have an important influence on the firm's value in case of diversification, and the optimal organizational structure depends on where the company operates. These results are consistent with Khanna and Palepu's evidence that the evolution of institutional environment alters the value-creating potential of business groups (Khanna, Palepu (2000)). Comparing diversified companies in Hong Kong, Malaysia, Indonesia, Singapore, Korea, Thailand, Taiwan, and the Philippines with diversified companies in US and Japan Claessens, et al (2001) suggest that diversification diminishes corporate value for US firms, but it does not have the same effect for most East Asian firms. In their later study, using a sample of 2000 Asian companies they found that group affiliation was positive for mature, slow-growing firms than for young and high-growth companies (Claessens, Fan, Lang (2006)). Similar results were obtained by Bae's et al (2006) evidence from Korean business groups and Khanna and Palepu's (2000) evidence from Indian business groups. Khanna and Palepu (2000) found that diversified Indian business groups often outperform their stand-alone counterparts and there is no diversification discount in value of diversified business groups. Perotti and Gelfer (2000) have examined the role and impact of Russians financial-industrial groups (FIG) on capital allocation among group's firms. The authors suggest that FIG's firms allocate capital comparatively better than stand-alone firms. On the basis of the accelerator type model of capital expenditures Volchkova (2001) argues that Russian unregistered groups invest a larger proportion of their retained earnings relative to the rest of the economy. In her next paper the author finds that the efficiency of Russian business groups is doubtful and their access to external financing is constrained, (Volchkova, Shulimov (2004)). Avdasheva (2005, 2006) and Dolgopyatova, Yakovlev, Iwasaki (2006, 2007) have tried to explain the reasons the difference between the results of various Russian business groups based on the peculiarities of its ownership structure and governance, the impact of groups on restructuring and competitiveness of Russian privatized companies.

The previous research allows us to reach the conclusion that the peculiarities of emerging markets form a potential source for value creation by diversified companies.

METHODOLOGY.

We study four the most important emerging markets - Brazil, Russia, India, and China – BRIC countries. We use an event study method to analyze the valuation effects of corporate diversification. An “event” in our case is an announcement of merger or acquisition. We measure the effect of an event on the stock price of acquiring firm. The abnormal returns can be computed through an analysis of the residuals from three statistical methods. The first is the mean adjusted return method:

$$(1) \hat{R}_{jt} = \bar{R}_j = \frac{\sum_{estim.period} R_{jt}}{n}$$

where n is number of days in estimation period.

The second is the market model:

$$(2) R_{jt} = \alpha_j + \beta_j R_{mt} + \varepsilon_{jt}$$

where R_{mt} is return on a market index on day t ; β_j measures the sensitivity of firm j to the market; α_j measures the mean return over the period not explained by the market; ε_{jt} - statistical error; $E(\varepsilon_{jt}) = 0$, $\text{var}(\varepsilon_{jt}) = \sigma^2$

The abnormal return here is $AR_{j\tau} = R_{j\tau} - \hat{\alpha}_j + \hat{\beta}_j R_{m\tau}$, where $\tau \in [T_1; T_2]$ is the event window.

The third one is the market adjusted return method:

$$(3) \hat{R}_{jt} = R_{mt}$$

This method can be thought of as an approximation to the market model where $\hat{\alpha}_j = 0$, $\hat{\beta}_j = 1$ for all firms.

We use all these statistical methods, but the last one – market adjusted return method - we modify. We do not imply that when $\hat{\alpha}_j = 0$, $\hat{\beta}_j = 1$, we try to find true value of $\hat{\beta}_j$ when $\hat{\alpha}_j = 0$. We believe that such modification allows predicting return more precise. For two last models we ran a regression analysis where the independent variable was market index. For the sample of Russian companies we use the RTS index, for Brazilian companies the Bovespa, for Indian companies the Sensex, and for Chinese companies the Shanghai Composite.

We employ a 41-day event window, comprised of 20 pre-event days, the event day, and 20 post-event days. We take 80 trading days prior to the event window as the estimation period to calculate predicted return to each firm. Cumulate the average residuals for each day over event window we get cumulative abnormal return (CAR). The market reaction to an event is positive if CAR is higher than zero ($CAR \geq 0$). The statistical significance of the results is the integral part of the analysis.

The key objective of the empirical analysis is testing following hypothesis on the entire sample and on subsamples of each country:

- (1) Corporate diversification doesn't destroy value of a firm ($CAR^{diversification} \geq 0$).
- (2) Corporate diversification doesn't destroy value of a firm irrespective of diversification type.

In case of related diversification $CAR^{related_diversification} \geq 0$.

In case of unrelated diversification $CAR^{unrelated_diversification} \geq 0$.

- (3) The market reaction on average is the same to the announcement of related and unrelated diversification.
- (4) The market reaction on average is the same to the announcement of diversification and focused deals.

SAMPLE SELECTION

We use the Zephyr Mergers and Acquisitions database from Bureau Van Dijk to identify an initial sample of 935 publicly traded deals that fit into the categories of complete, announce or pending transaction for the acquisition of target firm's 51 percent shares during the period of 1997-2008. We require that only acquirers are publicly traded firms. We refine this sample by applying criteria on deal size, type of quotes, and lack of significant corporate events in estimation period. This leaves the sample of 128 mergers and acquisitions. We group firms based on two different measures of the type of diversification and also single out focused deals. We use SIC-code classification to group firms which is consistent with Berger and Ofek (1995) and Denis, Denis, and Sarin (1997). If the acquirer and the target have no commonality in first or second digit of four-digit SIC codes, the acquisition is classified as unrelated. Other deals are classified as related diversification. If the acquiree and target have the same SIC codes, this is classified as focused deal. For our sample, 51 of the acquisitions are unrelated, 24 are related and 53 are focused deals. Table 1 shows deals distribution across countries:

Table 1: Deal distribution across BRIC countries.

	Brazil	Russia	India	Chinese	Total
Diversification deals, including.:	3	6	35	31	75
unrelated	2	4	22	23	51
related	1	2	13	8	24
focused	3	3	28	19	53
Total	6	9	63	50	128

EMPIRICAL TESTS AND RESULTS

We present results for the entire sample. Aggregation of data of BRIC countries seems to be the most interesting because allows testing our hypotheses on a large sample and to get typical results for emerging markets within the BRIC group. We admit that examined firms are based in countries that have different proportional contribution to the overall sample: Russia and Brazil yield to India and Chinese in number of deals. But analyzing the results for each country separately we get similar tendencies in market reaction to diversification and focused deals. Therefore we consider that it is possible to aggregate the data and extend our results to BRIC markets in whole. The results for our entire sample are shown in Table 2.

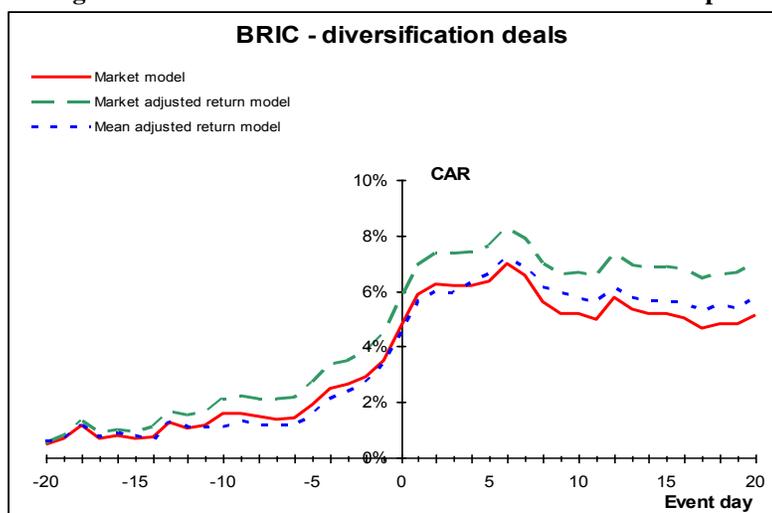
Table 2: CARs for diversification and focused deals for the entire sample.

	Market Model	Market Adjusted Return method	Mean Adjusted Return Method
Panel A. BRIC –diversification deals			
CAR average	5,13%	7,06%	5,76%
Number of observations	75	75	75
t-statistics	2,55	3,52	2,47
Significance	1,47%	0,11%	1,80%
Panel B. BRIC- focused deals			
CAR average	7,90%	9,47%	8,08%
Number of observations	24	24	24
t-statistics	2,62	3,14	2,05
Significance	1,25%	0,32%	4,67%
Panel C. BRIC – unrelated diversification deals			
CAR average	3,83%	5,93%	4,67%
Number of observations	51	51	51
t-statistics	1,37	2,13	1,52
Significance	17,80%	3,98%	13,52%
Panel D. BRIC –related diversification deals			
CAR average	5,25%	5,67%	4,28%
Number of observations	53	53	53
t-statistics	2,24	2,42	1,52
Significance	3,10%	2,00%	13,62%

Panel A of Table 2 shows CARs for diversification deals. The evidence strongly supports our first hypothesis that corporate diversification does not destroy firm value. According to the market adjusted return model the cumulative abnormal return (CAR) for corporate diversification deals is 7%. This return is statistically significant at the 0.01 level. The conclusions using the abnormal returns from the market model and mean adjusted return method are consistent with those from the market adjusted return method. The CARs are also graphed in Figure 1. The plot shows that the market learns about the deals before the announcement. The

average CAR drifts up in days -20 to -1 then we see a sharp rise after the announcement and then CAR values drifts down slightly, that reflects investors adjustments about future positive effects of diversification.

Figure 1. CARs for diversification deals for the entire sample.



Panels B and C in Table 2 report that diversification irrespective of its type is not associated with value destruction. The mean market returns, the mean adjusted market returns and the mean adjusted returns are positive and statistically significant for related diversification. In case of unrelated diversification the CARs are also positive but only mean adjusted market returns are statistically significant. This evidence support our second hypothesis that corporate diversification does not destroy value of a firm irrespective of the diversification type. Panel C suggests that market reaction to focused deals is also positive, both mean market return and mean market adjusted return are positive and statistically significant. We also can conclude that the market reaction is roughly the same to related and unrelated diversification and similarly to diversification and focused deals. That is, there is no statistically significant mean difference for such deals. This evidence support our third and forth hypotheses.

The empirical study does not pretend to be a complete and detailed analysis of the examined question. The study is limited by small sample size, a certain part of subjectivism in the process of sample selection, and noise in data connected with applying a long enough event window. But in spite of these shortcomings, we have found statistically significant results. Our limits open space for further investigation that may expand the sample of firms studied, apply other analysis methods to increase the robustness of the results, and add the analysis of vertical and horizontal diversification.

CONCLUSIONS AND DISSCUSION

According to Khanna and Palepu (1997) diversification companies in emerging markets have potential to add value. This evidence is supported by number of empirical studies [Fauver, Houston, Naranjo (2002), Khanna, Palepu, (2000), Claessens, et al (2001, 2006)]. Our empirical examination contributes to the growing literature analyzing the link between corporate diversification and firm value on the sample of BRIC group countries using event study analysis. Our results support the evidence that there are positive effects of corporate diversification in emerging markets.

The existence of opportunities to create value does not mean that diversified companies automatically become efficient and can create value. It depends to a large extent on how the company is managed and what potential it has. Having the correct management model is one of the main factors of successful diversification. A skillful management system that allows for a complete understanding of which businesses in the company's portfolio are value-creators or value-destroyers, what investments are efficient, how to coordinate and control the activities of business-units and how to make the company more transparent to investors can lead the success of diversified companies in any market.

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CAPITAL STRUCTURE CHOICE IN BRIC: DO RUSSIAN, BRAZILIAN AND CHINESE FIRMS FOLLOW PECKING ORDER OR TRADE-OFF LOGIC OF FINANCING?

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ABSTRACT

Capital structure puzzles still remain unsolved in emerging capital markets including the BRIC group which was supposed to be the most attractive to investing. The analysis of capital structure is even more urgent in current financial crisis conditions when high leverage could become the crucial factor of financial instability of the firm. Thus by our research we contribute to the literature in corporate finance by deriving sustainable patterns of capital structure determinants for the panel data of 74 Russian, 84 Brazilian and 246 Chinese companies within the 2001-2006 period. To analyze the motivation for capital structure choice of large-scale firms in emerging markets we empirically test pecking order of financing and trade-off theories. Finally, we discuss comparative evidence for the relevance of pecking order and trade-off logics for developing financing policies by large-scale companies in emerging capital markets.

INTRODUCTION

The capital structure choice has always been one of the crucial elements of the financial architecture of the firm [Myers, 1999] which itself includes debt-to-equity proportion, ownership structure and internal corporate governance structures and, thus, becomes the key factor of the firm's value. It has been also demonstrated that the capital structure is vital for the appropriate development of the relationships between company's stakeholders [Titman et al., 1997].

There are heaps of papers devoted to the capital structure on the developed markets whereas emerging markets still lack thorough investigation. The research in the area of capital structure in the emerging markets has only recently appeared. It is mostly focused on the determinants of debt to equity choice. Most researches of this group of countries reveal the dependence of the debt- to - equity decisions on the traditional factors: profitability, tangibility of assets, taxes and growth opportunities. One of the most accurately performed researches [Pandey, 2001] has shown identical influence of the factors: as the result of the model, the capital structure of the analyzed companies significantly depends on the profitability of the assets and the company size, its growth rate, risk level and the share of tangible assets. The Hungarian companies' data research [Nivorozhkin, 2002] has shown a low level of debt and the dependence of their capital structures on the proportion of noncurrent assets, company size and the return on total assets. The dynamic model developed for India [Bhaduri, 2002] assumes that the company capital structure is influenced by such factors as its growth rate, cash flow, size, uniqueness, and industry parameters. According to the model, the costs of recapitalization on the Indian capital market are positive and are different for short and long-term borrowings. Apart from the traditional factors some scholars consider the influence of specific factors. The analysis of the Hungarian companies has shown that companies whose main shareholder is the state or those operating in the industrial sector of the economy, have a bigger share of debt [Nivorozhkin, 2002]. The research of the Thai companies [Wiwattanakantang, 1999] has revealed that the capital structure of the listed companies is also heavily influenced by company ownership structure.

The research of Booth-Maksimovic [Booth et al., 2001], based on the sample data of 10 countries with growing capital markets, revealed some common features in the choice of debt to equity capital characteristic of the

growing economies. It was stated that debt ratios were correlated with mostly the same factors both in the USA market and many other developed countries. The authors thought that the variables controlling information differences and agency costs were strong in these countries and the impact of these factors had to be considered greater than in the developed economies. It was also revealed by the authors that institutional features matter. While the traditional determinants influence in the same way in any country, the research results presented systematic differences in the way debt ratios depend on such country factors as GDP growth rates, inflation rates, and the development of capital markets.

In 2006 Center for Corporate Finance, Moscow (SU-HSE) started up a project devoted to capital structure analysis on emerging markets. First step of the research was conducted on the data of 62 large Russian companies with IAS financial reports. The results were published in “Corporate Finance” electronic journal [Ivashkovskaya, Solntseva, 2007]. This paper presents the results of the extended research based on the samples of BRIC companies. The remainder of the paper is organized as follows. In the next section we describe the research methods we used to identify the key determinants of financing decisions of large-scale firms in Russia, Brazil and China. After that, we illustrate the model for testing the pecking order and trade-off theories of financing, and, finally, we introduce and interpret the results of the empirical analysis of the companies in BRIC.

SAMPLES AND RESEARCH METHODS

The Research Model

Our research model consists of three stages. The first stage implies the analysis of key capital structure determinants and their verification in the samples of Russian, Brazilian and Chinese large-scale companies. We apply different types of measurers for capital structure based on book values as well as market values of equity to compute financial leverage ratios. We run cross-section regressions for each type of dependent variable measurer and year and then proceed to panel data analysis. The panels are examined by pooled, fixed effects and random effects regressions and the applicable tests to find the most powerful models in order to identify key determinants for capital structure within national samples.

At the second stage we build separate models to test *pecking order* and *trade-off* theories within each national sample for Russian, Brazilian and Chinese firms. These fundamental corporate finance concepts are examined as stand-alone competing frameworks explaining capital structure decisions in all samples. Finally, at the third stage of research we apply the simultaneous tests for both theories (pecking order versus trade-off) for each national sample to identify the comparative explanatory power of each concept. We do not combine the samples according to the results of Chow tests.

The Variables for Capital Structure Analysis

From the formal point of view most researches of capital structure determinants in emerging markets are represented by linear regressions that differ by the set of dependent variables and type of data (cross section or panel). The most typical model could be represented as follows:

$$(1) \quad L = \eta + \eta_1 Tax + \eta_2 \tan gibility + \eta_3 prof + \eta_4 size + \eta_5 risk + \sum \eta_j X_j + \nu$$

Where *Tax* refers to tax benefits, *Tangibility* – assets structure, *Prof* – company’s profitability, *Size* – company’s size, *Risk* –business risk, and $\sum \eta_j X_j$ means that there could be additional factors that should be included into the regression.

As a rule, the dependent variable is set as book value ratio (debt divided by total assets) or market value ratio (divided by the sum of total liabilities and market value of equity). Sometimes total debt is broken down into short term and long term components and analyzed separately ([Pandey, 2001], [Braduri, 2002]). This variant is quite topical for Russia where financing the investments by short-term debt could be regarded as a real alternative of long-term financing. Thus we use different measurers for dependent variable which are summarized in the table 1.

Table 1. Dependent variable measurers for capital structure determinants analysis.

Symbol	Ratio	Components
<i>STDR</i>	Short term debt ratio	Interest bearing current liabilities divided by the sum of total debt and book

Symbol	Ratio	Components
		value of equity
<i>LTDR</i>	Long term debt ratio	Long term interest bearing liabilities divided by the sum of total debt and book value of equity
<i>TDR</i>	Total debt ratio	Short term and long term interest bearing liabilities divided by the sum of total debt and book value of equity
<i>MSTDR</i>	Market value short term debt ratio	Interest bearing current liabilities divided by the sum of total debt and market value of equity
<i>MLTDR</i>	Market value long term debt ratio	Long term interest bearing liabilities divided by the sum of total debt and market value of equity
<i>MTDR</i>	Market value total debt ratio	Short term and long term interest bearing liabilities divided by the sum of total debt and market value of equity
<i>STDRA</i>	Book value short term debt ratio	Current liabilities divided by book value of assets
<i>LTDR</i>	Book value long term debt ratio	Long term liabilities divided by book value of assets
<i>TDRA</i>	Book value total debt ratio	Total liabilities divided by total assets

We used current values of the above mentioned ratios to measure the dependent variable at the first stage of the research to analyze the key determinants of capital structure. We also used the *changes* in the above mentioned ratios comparing their current values to the previous year at the second stage of the model to test the trade-off and pecking order theories. Therefore the measurers *NSTDR*, *NTDR*, *NMTDR*, *NLTDRA*, *NTDRA* stand for the changes in the level of the ratios for the year *t* and *t-1*.

The independent variables in the model

Independent variables description needs special attention and they are summarized in the table 2.

Table 2. Independent variables for capital structure determinants analysis.

Symbol	Description
<i>NDT</i>	Non debt tax shield (Depreciation & amortization expense/Total Assets)
<i>Tax</i>	Taxes accrued as a proportion of earnings before taxation
<i>Tangibility</i>	Fixed Assets/ Total Assets
<i>Prof</i>	EBIT/ Total Assets
<i>Lprof</i>	Lagged Prof (<i>Prof</i> for the year <i>t-1</i>)
<i>Prof2</i>	Operating margin (Operating income/ sales)
<i>Lprof2</i>	Lagged <i>Prof2</i> (<i>Prof2</i> for the year <i>t-1</i>)
<i>Lnsales</i>	The first proxy for the size computed as natural logarithm of sales.
<i>Lnassets</i>	The alternative proxy for the size computed as natural logarithm of total assets
<i>Div</i>	Dividend payout ratio (Dividends / net income)
<i>Growth</i>	The proxy for growth computed as capital expenditure to total assets
<i>Lgrowth</i>	Lagged variable for growth computed as capital expenditure to total assets for the year <i>t-1</i>
<i>MTB</i>	Market value of equity to book value of equity
<i>Public</i>	Dummy for the legal status of the company equal to 1 if the company is public and to 0 in the opposite case

The **tangibility** factor stands for the quality of company's assets and is usually described by a number of proxies. Some scholars assume *market-to-book ratio* (*MTB*) to be a good proxy because it considers market expectations about investment opportunities of the company [Wiwattanakantang, 1999]. Some authors [Braduri, 2002] apply *property-plant-equipment to total assets* ratio: the higher the variable the higher are the opportunities to borrow and therefore PPE could be considered as collateral. In our study we apply the ratio of fixed assets to total assets to measure the *tangibility*.

Profitability is important factor for financing policies but there is no common vision of this variable. Pecking order theory followers suppose that more profitable companies should rely on their internal funds and will have less debt in their capital structure in case of high profitability of the firm. Trade-off theory assumes that a more profitable firm has more chances to acquire additional debt and, consequently, to increase its financial leverage. We use two different profitability ratios based on assets and sales. We also consider important to apply lagged profitability variables to understand the impact of this factor for financing choices of the firms in the sample. Previous profitability level could be a significant factor when a bank decides whether to issue a loan.

The trade-off theory suggests that the increase in debt financing should be based on the debt tax shields due to the deduction of interest expense when calculating profit before taxes. But there are also other tax shields like

depreciation and amortization expense that should lead to lower debt ratios. To capture the impact of **tax shields** we use several variables: *Tax* stands for debt tax shield which reflects possible positive influence of debt financing. *NDT* captures non debt tax shield which may offset positive impact of financial leverage, and this variable is calculated as depreciation and amortization expense divided by total assets.

While adding **size** variable into regressions it is essential to keep in mind its ambiguous character. On the one hand, the larger the company the more chances it has to get a loan other things being equal. Agency theory argues for the same influence over the debt capacity of the firm, but explains it by the lower level of information asymmetry in large companies that should lead to more confidential relationship between managers and outside investors and, thus, to a higher debt ratio. However, there exists another opinion [[Wiwattanakantang, 1999](#)] demonstrating that it is more profitable for large companies with low level of information asymmetry to issue equity and reduce debt. Following research traditions in different empirical finance papers we apply two distinct measurers for company's **size** in our study: natural logarithm of total sales (*Ln sales*) and of total assets (*Ln assets*).

One could also find different proxies for company growth rate. These could be calculated as $(1+R)$ where *R* is found from the regression of natural logarithm of Sales on time during 4 years [[Pandey, 2001](#)]. The alternative approach is to compute the ratio of capital expenditure to total assets [[Bhaduri, 2002](#)]. We apply the latter approach and also consider the effect of lagged growth rate variable.

To measure **information asymmetry** the age of the company is used in some papers [[Bhaduri, 2002](#)]. In this case it is assumed that an older company has a higher level of information transparency. The alternative measurer for this type of variable is *dividend payout ratio* that is usually used to test signal theory according to which this variable has a negative impact over the financial leverage. In our study the variable dividend payout (*Div*) is introduced to approximate the signal for the expected cash flows of the company. We also use capital market variable in the format of market- to- book ratio (*MTB*) to capture the expectations.

The possible range of qualitative independent variables differs in the literature when it concerns emerging markets.

The data

For the purpose of this study we collected the data for large-scale Russian, Brazilian and Chinese companies using several criteria to construct the samples. The test of the capital structure theories was conducted on the basis of the sample of the Russian, Brazilian and Chinese companies' data for the time period from 2001 to 2006. The data was collected from Bloomberg database and the companies' official web-sites. We consider the companies with minimum sales at \$200 mln. Russian sample is based on the companies with IAS reports. As concerns Brazilian and Chinese companies it was realized that the sample based on IAS criteria would be too narrow even in Bloomberg database. Therefore we were to use audited data for the companies from Brazil and China derived from their national accounting standards. In all national samples the companies from financial sector were excluded. Thus, we built three panels of data for the period of 2001-2006: 74 Russian companies with IAS reports, 84 Brazilian companies, 246 Chinese companies. The sample includes companies from 8 industries (transport, agriculture, manufacturing, metallurgy, consumer goods and retail trade, power industry, oil and gas, communication).

Capital Structure Determinants: The Model

The first stage of research consists of several steps to find key independent variables of capital structure. First of all, the cross-section regression (equation 2) was tested with the data of the national samples:

$$(2) \quad L = \alpha + \beta_1 NDT + \beta_2 \tan gibility + \beta_3 prof + \beta_4 \ln sales + \beta_5 div + \beta_6 growth + \beta_7 public + \varepsilon$$

This model was checked for every dependent variable based on the book value of equity for each year and for the whole panel as well, using different measurers for dependent variable. Different proxies for tax shields, size, profitability and growth were tested in separate regressions and the model with the best characteristics was chosen. The panel analysis consisted of three models: pooled, fixed effect and random effect regressions. A series of tests (pooled versus fixed effect by F-test, Breusch-Pagan and Hausman) was used to choose the most appropriate model. The analysis of market value dependent variables was following the same scheme except some alterations: the *Public* variable was dropped and the *MTB* variable was added:

$$(3) \quad L = \phi + \gamma_1 NDT + \gamma_2 \tan gibility + \gamma_3 prof + \gamma_4 \ln sales + \gamma_5 div + \gamma_6 growth + \gamma_7 MTB + u$$

The Model for Testing the Pecking Order and Trade-off Theories

The second step of the analysis was devoted directly to the Pecking Order and Trade-off Theories tests considered as stand alone explanation of financing choices. If the company sticks to the Pecking Order Theory, all the new debt should be explained by the internal company's financing deficit. We build up a model that checks whether the process of choosing capital structure followed the *pecking order theory*. In this respect we used the following model based on previous research for developed countries [Shyam-Sunder et al., 1999]:

$$(4) \quad NL = \alpha + \beta def + \varepsilon,$$

where: NL stands for changes in the level of debt; Def is described by the internal company's financing deficit, calculated as dividends paid plus investing cash flow with the deduction of operating cash flow.

When the def variable is negative it is considered as zero for it is more likely that the negative value of the internal deficit signifies the increased investment opportunities and the absence of need in additional external financing.

Thus in order to find out whether the firms stick to pecking order theory the following hypotheses should be tested:

Hypothesis 1:

H0: *The companies follow the pecking order theory of capital structure. Consequently, two conditions should be fulfilled simultaneously: $\alpha=0$, $\beta=1$. In case the H0 is true the whole amount of new debt would be provoked by the internal companies' deficit.*

H1: *(otherwise) the companies do not follow the pecking order theory of capital structure.*

On the contrary, if the company follows the Trade-off Theory it persistently moves towards the target level of debt. Thus, the new debt (net change in debt, NL) should be explained by deviation from the target level of the capital structure. Given that, a new variable responsible for the deviation from the target level is essential for testing the theory for our samples. In our analysis the variable was labeled DL , where L stands for different types of measures for dependent variables. Thus we used the model below:

$$(5) \quad NL = \alpha + \beta DL + \varepsilon$$

The hypothesis tested could be described as follows:

Hypothesis 2:

H0: *Companies build their capital structure according to the trade-off theory. In the formal language it means that $\beta>0$ and $\beta<1$. While the positive sign illustrates the company's attempts to reach the target, the unit boundary signifies the existence of recapitalization costs.*

H1: *(otherwise) the companies do not follow the trade-off theory of capital structure.*

The target level of debt (variables DL) is calculated on the basis of the significant coefficients that were obtained within the first stage of analysis by linear regressions on the debt levels.

The final stage consisted in modeling joint regressions aimed to reveal the contribution of each theory in the capital structure choice of the Russian, Brazilian and Chinese companies. This idea could formally be introduced in the following way:

$$(6) \quad NL = \alpha + \beta def + \gamma DL + \varepsilon$$

Checking the coefficients' significance helps to estimate the contribution of each theory to final results. As a result of the analysis we were able to make integrated conclusions of the most appropriate capital structure theory for Russian, Brazilian and Chinese large companies.

The results: Capital Structure Determinants

The results for capital structure determinants in the Russian sample are shown in the table 3. The results of panel regressions for Brazilian and Chinese samples are shown in the tables 4-5 and are based on the most appropriate specifications. The latter were found by the tests (F-test for pooled against fixed effects regressions, Breusch-Pagan test for pooled versus random effects regressions, Hausman test for fixed against random effects regressions). The omitted data in some boxes is due to the insignificant results (at 10% level by F-test). The symbol «+» captures the most powerful specifications.

Table 3. The results of panel regression for Russian sample for the period of 2002-2006.

	STDR	LTDR	TDR	SRDRA	LRDRA	TDRA	MSTDR	MLTDR	MTDR
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	STDR	LTDR	TDR	SRDRA	LRDRA	TDRA	MSTDR	MLTDR	MTDR
ndt	,005**		-0,0647	0,0192	1,023**	1,0636***	,7189***		,7218***
tax		-,002***						-0,0013	
tangibility	-,19***	0,0933	-0,1591	-,2014***	-0,0544	-,2711***	-,0854*	-0,0630	-,1842**
prof			-,1668**			-,2104**		-,1389*	-,3707***
Lprof	-0,0001								
prof2				,0339*					
Lprof2		-0,0238			0,0083		-0,0546		
lnsales		0,0310				0,0168		0,0059	
lnassets	-,02***		0,0101	-,0398***	,0408***		-,0126**		
div	-0,0001	-0,0001	-0,0002	0,0000	-0,0005	,3034*	-0,0001	-0,0003	-0,0004
growth	-,016**	0,1111	,1888*	0,1647	0,1531	0,3719		,1907*	
Lgrowth							,0060**		0,0045
MTB							-,0292***	-,0200***	-,0464***
Public	-0,0173	-,0575**	-,0375*	-0,0455	-0,0732	-,0736***			
Const	,3695**	-0,0605	,2481***	,6786***	-,1533**	,6297***	,2639**	,1439***	,4253***
N observations	307	307	306	312	317	311	226	227	231
N groups	73	73	73	74	74	74	69	70	69
Fixed		+			+				
Random	+		+	+		+	+	+	+
R-sq: within		0,1342			0,7129				
Wald chi2	59,01		12,64	64,26		487,24	488,33	28,9	266,67
Prob > chi2	0,0000		0,0055	0,0000		0,0000	0,0000	0,0000	0,0000

Table 4. The results of panel regression for Brazilian sample for the period of 2002-2006.

	STDR	LTDR	TDR	SRDRA	LRDRA	TDRA	MSTDR	MLTDR	MTDR
ndt	1,55***		-0,0699	,8070***	-,2863*		1,2645***		
tax		-,001*				,0004		,0003	,0012
tangibility	0,103**	-,1839	-0,0509	-0,0537	,0167	-,0634	,3382***	-,1859	,2567***
prof					-,1723***			-,5527***	
prof2		,0051							
Lprof2	-,0204		-,1209***	,0262		-,0509*	,02656		-,2697
lnsales	-,01***		-,0741***			-,0474***	-,1594***		
lnassets		-,0418		-,0532***	,0016			-,0320	-,0758***
div	,0005	,0007	,0006	,00072*	-0,0003	,0002	,0021***	-,0339*	-0,0001
growth	-,69***	,3650	-,3122***	-,0163	,2097	-,1895***			
Lgrowth							-,0529	,7602***	,4397***
MTB	,0000	,00***	,0002***	-,0001***	,0001***	,00003***	-,0001**	-,0731***	-,1791***
Const	0,72***	,29***	,9769***	,6014***	,2376***	,8017***	1,1952***	,6256***	1,0132***
N observations	376	382	314	313	414	314	313	312	312
N groups	83	84	72	72	74	72	72	72	72
Fixed	+	+	+	+	+	+	+	+	+
R-sq: within	0,4329	0,1527	0,4293	0,2025	0,1130	0,2927	0,3936	0,3987	0,6246

Table 5. The results of panel regression for Chinese sample for the period of 2002-2006.

	STDR	LTDR	TDR	SRDRA	LRDRA	TDRA	MSTDR	MLTDR	MTDR
ndt	-1,553***	-,61***	,1951	-,0405			,2348		,7465**
tax					-,0001	,0001		,0001	
tangibility	,0911	,0850***	,1041	,0335**	,0733***	,0068	,1068***	,0965***	,1423***
prof	-,6920***	,0378	-,589***				-,3473***	-,0009	-,244***
prof2				,0003	-,0007***	-,0004***			
lnsales	,0549***			,0256***		,0270***	,0584***		
lnassets		,0389***	,3234***		,0223***			,0792***	,1904***
div	-,0026***	-,0014*	-,0014	,0009	-,0013**	-,0003	,0012	-,0012	,0009
growth	-,0998***	,0749**	-,0036	-,1089***	,0732***	-,0246	-,2142***	,0553**	,1415***
MTB	,0369	,0004	,0882***	-,0011	-,0002	-,0051***	-,0255***	-,0007	-,0252***
Const	-,1723***	-,27***	-,2,32***	,1303***	-,1620***	,1514***	-,1923***	-,5948***	-,1,22***

	STDR	LTDR	TDR	SRDRA	LRDRA	TDRA	MSTDR	MLTDR	MTDR
N observations	1449	1003	1458	1472	1008	1454	1453	1454	1450
N groups	246	246	246	246	246	246	246	246	246
Fixed		+	+	+		+	+	+	+
Random	+				+				
R-sq: within		0.1480	0.1849	0.1214		0.1655	0.3574	0.2621	0.5267
Wald chi2	92.44				229.60				
Prob > chi2	0.0000				0.0000				

For the Russian companies the higher the *profitability*, the lower is financial leverage in all specifications of the model. The *growth* rate is positively related to the debt ratios. The *tax shields* show the predictable positive relation to non debt shields and reverse relation to debt shield. It was revealed that the higher the *percentage of fixed assets* in total assets the lower is the debt level of firms within Russian sample. The positive effect of companies' *size* based on natural logarithm of sales was confirmed while no interpretable results were obtained for its second proxy (natural logarithm of total assets). *Dividends* have a slightly negative effect on debt ratio. Comparative analysis of capital structure determinants shows that *profitability* influences the debt- to- equity choices in the same way in all national samples. We also realize that the *tax shield* has identical impact over the financing choices of Russian and Brazilian companies. It is not true for the *tangibility* and *size* variables: their influence on Brazilian companies is quite opposite to the results derived for Russian sample. The determinants for Chinese companies look very similar to the results for the case of Brazil. From the above-mentioned results it follows that we cannot merge the samples to carry out the next stages of the research. This assumption was proved by Chow test which was applied to the specifications with the most significant dependent variables (*TDR*, *TDRA*, *MTDR*) and with the independent variables which behaved similar in all samples (*NDT*, *prof*, *div*, *growth*, *MTB*).

The Results: the Trade-Off and Pecking Order Hypotheses

The results of pecking order and trade-off theories testing revealed that for Russian sample internal financing deficit is a significant factor of modeling capital structure but not the only one - the parameter is in charge of 8-41% of the new debt. It should be also mentioned that the arguments supporting the pecking order logic of financing choices are stronger with the dependent variables based on market value of equity: we observe higher coefficient of determination and internal financing deficit explains the major portion of new debt while the free term is insignificant (as predicted by the theory) or the significance is low. Testing the trade-off theory did not provide any reasons to the rejection of the theory either. According to our analysis, all regressions exhibit 1% significant coefficient responsible for the deviation from the target debt level as well as the existence of recapitalization costs (the coefficients do not achieve the unit level).

Capital structure choice doesn't follow the logic of the pecking order theory for Brazilian sample. The majority of the companies from this sample do not have the deficit for the period of study. And therefore the coefficients for *Def* are not significant. We cannot also rely on trade-off theory of financing in explaining the arguments for choosing capital structure of firms within Brazilian sample according to the regression's results.

As for Chinese sample it was found out that large-scale companies most likely follow trade-off logic of financing. When it concerns the pecking order theory the explanatory power of regressions is too low.

To summarize the results it should be stated that the analysis could not reject either the pecking order or trade-off theory for Russian sample, but rejected the pecking order hypothesis for Brazilian and Chinese samples. Thus the results of empirical tests once again proved the uniqueness of each country in case of capital structure choice.

SUMMARY

The study has revealed that also the tendencies in the dynamics of capital structure variables are similar in the analyzed samples of companies; the absolute values of these variables differ greatly. We found the similarities and differences in the capital structure determinants between national samples. Although such factors as tax shields and profitability show rather similar influence on debt-to-equity choice of the companies, most of the determinants vary from country to country. The inverse negative relationship of debt variables on the profitability was revealed for all national samples whereas assets structure and size show different influence on the debt variables. Similarly tax benefits demonstrate almost identical influence of the capital structure choice when dividend payout and growth contribute in different ways to the financing process. When comparing

Russian large-scale firms to Brazilian sample the tangibility of assets and the firm size have reverse impact over the capital structure. Diverse results are obtained while comparing determinants for Russian and Chinese samples. However the influence of the determinants of capital structure in Chinese firms is almost the same as in Brazilian sample.

Capital structure choice is the crucial component of financing strategy of the firm which influences the value of the company significantly. Nevertheless the study shows that management of companies included into the samples follow different capital structure policies. We can conclude that managers of large-scale Chinese and Brazilian companies make their capital structure decisions using quite similar pattern of key determinants. But for Russian sample it was found that managers followed more distinctive logic. The tests of trade-off and pecking order theories were conducted to pick up these differences of financing policies and find out the motives which underlied their financing decisions. On the basis of the results of the empirical tests we did not reject either the trade-off or pecking order theory for Russian sample, but we rejected the latter for the samples for Brazil and China.

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RELIABILITY AS A DETERMINANT OF SERVICE QUALITY IN THE SOUTH AFRICAN PUBLIC HEALTH CARE SYSTEM

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ABSTRACT

Although programme evaluation is recognized as an essential organizational practice in public health; it is not applied practiced consistently in developed countries. A thorough understanding of what determines the levels of health care satisfaction will lead to the improvement in quality of health care in South Africa. In this study in-patients' and out-patients' expectations, perceptions of and satisfaction with the reliability-related health care service provided by public health care in South-Africa is measured by using the SERVQUAL technique. The major findings were that patients demand excellent reliability service levels but none of these were met, resulting in dissatisfaction. A total of 448 randomly selected patients were chosen in a public hospital in South Africa. Personal interviews were conducted by means of a structured questionnaire. Overall patients were least satisfied with the availability of medical doctors followed by the availability of prescribed medicine. The findings of this study could be used to guide public hospitals to render health care programmes more patient-centred and to increase their efficiency in a context of scarce resources

INTRODUCTION

Recognition of the poor quality of health care delivery in developing countries (World Bank, 2004) has led to new efforts to measure and monitor health care service quality. In developing African countries, health care is a necessity or 'basic need' involving 'physiological cure' rather than 'care' or the ability to pay, whereas in developed countries health care is a luxury. In these former countries health insurance coverage is either not available or extremely expensive. In 2001 per-capita health expenditure in Sub-Saharan Africa was \$29 as opposed to the \$4887 in the USA. The health budget was 6% of the GDP in Sub-Saharan Africa, but almost 14% in the USA (Murthy & Okunade, 2008). There are inequalities in health spending and service-levels in the public sector compared to those in the private health care sector in South-Africa where the health budget is approximately 9% of GNP. However 60% of this is spent on private health. Only 18% of South Africans belong to medical aid schemes, yet the private health care system employs two thirds of the physicians (Solomon & Benatar, 2004;81) and 85% of the pharmacists (Woolard, 2002:8). Those without health insurance are dependent on public health care services.

The delivery of quality health care services and the integration of thereof in health care policies is a concern shared by health organisations worldwide (James, 2005:2). Lindelow and Wagstaff (2003) confirm that the quality of health services directly influences health outcomes, health-related behavior and patient satisfaction. In the past decade in particular, patient satisfaction has become an important performance indicator and outcome of health care (Sohail, 2003; Zineldin, 2006; Akter, Upal & Hani, 2008). Research into health care satisfaction is vital to ensure high-quality care and patient satisfaction as well as optimized use of scarce resources. As this is still limited in South-Africa (Wouters, Heunis, van Rensburg & Meulemans, 2008:210), determining the factors associated with patients' satisfaction is critical for public health care providers.

SERVICE MARKETING IN PUBLIC HEALTH CARE

It is important to appreciate the distinctive aspects of services applicable to health care services, as well as the resulting management implications. There are various definitions of what constitutes a service, but contemporary definitions agree that a service in itself delivers no tangible output, although it may facilitate the production of tangible products (Palmer, 2008:4). Armstrong and Kotler (2003:444) define a service as any act or performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Services are also described as “deeds, performances or efforts that can not be physically possessed” (Lamb, Hair, McDaniel, Boshoff & Terblanche, 2004:438). Services have unique features that differentiate them from goods namely: intangibility, inseparability, heterogeneity and perishability (Parasuraman, Zeithaml & Berry, 1985; Palmer 2008:17). The intangibility of services makes it difficult for consumers to evaluate quality, therefore they rely on personal information sources, physical evidence and price rather on delivery of core services. Service organisations in turn react to this by focusing on physical evidence and service quality (Palmer, 2008:11). Although in various service quality studies tangibility has been found to be relatively unimportant, this is not the case in the hospital environment (Boshoff & Gray, 2004:33). Intangibility is the sum of the characteristic of service from which all others flow, these will be explained with specific reference to health care services.

Heterogeneity refers to the high potential of variability in service delivery. The same service may differ considerably in quality depending on what is offered, who is offering it, to whom it is offered, when it is offered and how well it is performed (Vandamme & Leunis, 1992:31). The main reason for potential of variability is probably the high level of human involvement in service production that is difficult, if not impossible to standardise. The variability of services is even more evident in the health care sector which offers highly judgmental, customized and labour-intensive services and treatments (Vandamme & Leunis, 1992:31) to patients who is also highly involved in the service process (Palmer, 2008). Several studies on health care equity found inequalities in the provision of health care services and quality, depending on income, ethnicity, culture and socio-economic demographics (Woolard, 2002).

Inseparability implies that the use and production of services takes place simultaneously due to comprehensive interaction between the service provider and the customers. Medical personnel will be more assertive than reactive when providing health care service because health care is highly judgmental and individual (Vandamme & Leunis, 1992:31). Palmer (2008:11) notes that the patient’s participation and interaction with the service providers such as medical doctors and nurses is just as important as the outcome of the health care service.

The perishability of services implies that services cannot be stored, warehoused or inventoried, but have to be produced on demand. For service providers this means they have to manage carefully and balance fluctuations in demand with the capacity of the service provider (Vandamme & Leunis, 1992:32). This presents a challenge in South Africa where the demand for public health care is huge, while most of the resources are in private health. HIV/AIDS is another huge issue in South Africa with one of the highest per capita HIV prevalence and infection rates. This places a burden on especially public health care, with 40 % of adult deaths in 2001 due to AIDS-related diseases (Woolard, 2002:8).

SERVICE QUALITY IN PUBLIC HEALTH CARE

Quality within health care service delivery refers to services that meet set standards, implying excellence, and satisfy the needs of both consumers and health care practitioners in a way that enrich both parties health care experiences (Arries & Newman, 2008). Zineldin (2006: 61) advocates that quality health care should be regarded as the right of all patients therefore it ought to be the responsibility of all the staff within health care organisations. Internationally, health care quality is a still a concern as reflected by the various studies published recently (Sohail, 2003; Zineldin, 2006; Akter, Upal & Hani, 2008). The most popular model of service quality is SERVQUAL, a set of 22 structured and paired questions designed to assess customers’ expectations of service provision and the customers’ perceptions of what was actually delivered. This instrument is structured in five dimensions, namely: Tangibles, Reliability, Responsiveness, Assurance, Empathy: (Parasuraman, et al., 1988:35-43). SERVQUAL is widely used by academics and practitioners to measure service quality as well as numerous studies on service quality in the health care sector (Akter, Upal & Hani, 2008; Sohail, 2003:201).

Zineldin, (2006: 61) explored how patients in Egypt and Jordan evaluated the quality of health care. He commented that health quality models applied in the West are not necessarily applicable in developing countries. This study identified the health attributes found to be appropriate for hospitals in Egypt and Jordan. Two existing models, namely the technical/functional and SERVQUAL quality models were adopted to develop a new five-quality (5Q) model for health care. This model included technical, functional infrastructure, interaction and atmosphere qualities and services. In this study patients' level of satisfaction with the quality of service delivered at a number of public and private hospitals in Egypt and Jordan was measured. Akter, Upal and Hani (2008) assessed the service quality and satisfaction in suburban public hospitals in Bangladesh. They adopted and applied SERVQUAL to measure the difference between patients' expectations and perception of delivered service on the following dimensions of service quality: responsiveness, assurance, communication, discipline (adherence to rules and regulations) and baksheesh (additional compensation). It was found that the majority of suburban public hospitals did not meet the patients' expectations on all these dimensions resulting in dissatisfaction.

Two of the recent studies on service quality in the health care sector in South-Africa include those by Wouters, Heunis, van Rensburg and Meulemans (2008) and Arries and Newman (2008). Wouters et al. (2008) evaluated patients' satisfaction with the antiretroviral services at primary health care facilities in South Africa in a longitudinal study. In this study, high levels of patient satisfaction were found despite the limited human resources available. Arries and Newman (2008) conducted qualitative research to explore outpatients' experiences of the quality of services delivered at a public hospital in Gauteng. It was found that outpatients reported positive experiences with the medical staff, specifically the doctors, while they encountered negative experiences due to the absence of service orientation especially from the nursing staff, unethical situations, and frustrating interpersonal relationship difficulties. The study on which this paper is based is not qualitative like the one by Arries and Newman. Quantitative methodology was applied by interviewing in-patients as well as out-patients at another training hospital in Gauteng. The questionnaire used in this study also differentiates clearly between services provided by doctors, nurses as well as non-medical staff, in order to evaluate the exact performance of each group as experienced by the patients. SERVQUAL was used in the study to measure in- and out-patients' expectations, perceived performance and levels of satisfaction with the reliability provided by the large public hospital in Gauteng.

HYPOTHESIS

Three primary hypotheses are tested namely:

Hypothesis 1: Ho₁: In-patients and out-patients have the same level of expectations with regard to hospital service reliability variables.

If the Ho hypothesis is accepted, it can be assumed that equality exists amongst in- patients and out-patients and that all patients expect the same level of treatment regarding reliability. On the other hand, if the Ho hypothesis is rejected it is assumed that inequality exists amongst in- patients and out-patients in terms of their expectations.

Hypothesis 2: Ho₂: No significant differences exist between in-patients and out-patients with regard to the perceived performance of the hospital in terms of reliability.

Hypotheses 3: Ho₃: No significant differences exist between in-patients and out-patients' level of satisfaction with regard to the hospital's service reliability construct.

If the Ho hypothesis is accepted, it implies that the expectations of patients are met, leading to a feeling of satisfaction. On the other hand, if the Ho hypothesis is rejected, then it is assumed that patients expectations are not met which may lead to a feeling of dissatisfaction. The null hypothesis is tested at a 0.05 significance level.

PURPOSE AND OBJECTIVES OF THE RESEARCH

The purpose of this paper is to examine reliability as a determinant of service quality in a government-controlled hospital in South Africa.

The objectives of this study are twofold namely:

- To determine if equality exists between in-patients and out-patients on service reliability provided to patients in a government-controlled hospital in South Africa (perceived performance).
- To determine whether the expectations of in-patients and out-patients of hospital staff response to their needs in terms of the reliability-related variables, are met (satisfaction).

In-patients refer to patients admitted to hospital and out-patients refer to patients who receive medical consultation and/or treatment without being admitted. The service- reliability construct investigation includes: Availability of prescribed medicine, Availability of nurses, Availability of doctors, Proper information on condition and treatment to patients, Proper medical treatment Competence of medical staff (General trust in medical staff), Dependability of medical staff.

RESEARCH METHODOLOGY

The research methodology that was followed for the investigation is explained. The data analysis reveals the levels of importance, perceived performance and consequently satisfaction of one dimension of service quality dimensions for in-patients and out-patients of the hospital namely, reliability.

The SPSS version 16.0 statistical package was utilised to analyse the data. For this analysis the Kolmogorov-Smirnov Test was employed based on the assumption that, if the significant values exceeded 0.5, normality could not be assumed and the researchers would have to employ non-parametric analysis techniques. As normality could not be assumed after applying the Kolmogorov-Smirnov Test the researchers employed the Kruskal Wallis test to test the null hypothesis and the alternative hypothesis.

The sample framework, measuring instrument and data collection and analysis

A service satisfaction survey was conducted in 2007 among patients treated at a provincial hospital in Gauteng, South Africa. This study is a follow up on five other studies that were carried out at the same hospital but in a different setting. The attitudes of the patients were tested regarding pre-identified service-quality aspects related to health care. A total of 448 patients (205 in-patients and 242 out-patients) were interviewed. Although an attempt was made to select the patients at random it was not always possible due the fact that patients that were not able and/or willing to complete the questionnaires. In such cases substitutes were selected to overcome the problem of no-responses.

The expectations and perceptions of in-patients and out-patients with regard to the hospital's reliability-related services is reported in this paper. The two dimensions represented a mirror-image of each other. A five -point Likert type scale was used to measure the levels of perceived performance of the hospitals, as well as the expectation levels of the patients. Respondents were asked to indicate their evaluation on a scale in which 1 = Very important (Excellent) and 5 = Not important at all (Not good at all.)

A total of 7 items were used to measure the reliability-related service variables offered by the hospital. An item analysis was carried out to test the validity and the reliability of the questionnaire while an overall Cronbach coefficient Alpha of 0.91254 and 0.9163 was used to measure expectations and performance respectively. Data were captured by a trained assistant and analysed using the SPSS version 16 statistical package. Data were analysed classifying after grouping the list of 53 pre-identified service related variables into five service related groupings. Only the reliability related service dimension was analysed for the purpose of this paper.

FINDINGS

The patients reported fairly high expectations on all the reliability related service variables (table 1). This signals clearly that all patients demand excellent reliability service related levels. The two most important issues (in terms of their expectations) for patients in general were: Availability of doctors and proper medical treatment in that order. In terms of the perceived performance of the hospital services, the availability of nurses and proper medical treatment were rated first and secondly respectively, implying that satisfaction was met in terms of proper medical treatment using the rank a as yardstick. However, if the mean is used as an indication, satisfaction was not met as the means of expectations were lower than the perceived performance.

Table 1: Test for differences with regard to expectations on the reliability construct

Reliability:	N	In-patients		Out-patients		Total patients		Sig
		Mean	Std	Mean	Std	Mean	Std	
Availability of prescribed medicine V 28	448	1.65 2	1.04	1.51 3	1	1.59 3	1.02	0.69
Availability of nurses V 29	448	1.66 3	0.97	1.6 5	1.01	1.62 4	1.00	0.193
Availability of doctors V 30	448	1.56 1	0.93	1.34 1	0.76	1.45 1	0.86	0.004
Proper information on condition and treatment to patients V 31	448	1.69 5	1.11	1.59 4	0.94	1.64 5	1.04	0.238
Proper medical treatment V32	448	1.66 3	1.08	1.47 2	0.91	1.57 2	1.02	0.033
Competence of medical staff V33	448	1.80 6	1.09	1.83 6	1.17	1.82 6	1.13	0.927
Dependability on medical staff V 34	448	1.93 7	1.04	1.83 6	1.1	1.88 7	1.07	0.075

Significant on 0.95 level

Std = standard deviation

In contrast with the responsiveness service construct, in-patients' expectations of three of the reliability service construct elements were significantly lower when compared to those of out-patients. The overall lowest variable in the reliability category was dependability of medical staff. Although no significant differences were measured between in-patients and outpatients, in-patients rated it as less important than out-patients.

A non-parametric test procedure was used to compare the patients' expectations of the reliability-service variables with their perceived performance of the hospital, as experienced by the sample as a whole. The test computes the differences between the mean values of two variables for each case and tests whether the average differs significantly from 0. This test could be used, as the observations for each variable pair were made under the same conditions. The aim was to determine whether performance on reliability-service offerings matched the expectations of patients or not.

Significant differences exist between expectations and perceived performance for both in-patients and out-patients on all reliability related service variables. This is an indication that expectations have not been met. Overall the smallest deviation between expectations and perceived performance occurred in terms of availability of nurses where out-patients were less satisfied with this variable when compared to in-patients. This variable was rated fourth in terms of patients' expectations and ended up first in terms of patients' perceived performance of the service provided by the hospital. Overall the second smallest deviation between expectations and perceived performance is the competence of the medical staff. Again in-patients were less satisfied with this service. The variable in this category that was perceived as most unsatisfactory was the availability of doctors. Out-patients indicated the highest level of dissatisfaction with regard to this variable. This variable was rated the most important variable in terms of expectations.

Table 2: Test for significant differences with regard to the perceived performance on the reliability construct

Reliability:	N	In-patients		Out-patients		Total patients		Sig
		Mean	Std	Mean	Std	Mean	Std	
Availability of prescribed medicine V 81	448	2.13	1.24	2.527	1.56	2.286	1.41	0.009
Availability of nurses V 82	448	1.961	1.08	2.161	1.27	2.051	1.18	0.171
Availability of doctors V 83	448	2.155	1.24	2.182	1.29	2.163	1.88	0.334
Proper information on condition and treatment to patients V 84	448	2.26	1.21	2.344	1.31	2.265	1.26	0.306
Proper medical treatment V 85	448	2.032	1.05	2.263	1.41	2.142	1.24	0.412
Competence of medical staff (General trust in medical staff)	448	2.144	1.07	2.385	1.41	2.254	1.25	0.309
Dependability on medical staff V 87	448	2.247	1.11	2.466	1.38	2.347	1.25	0.234

Significant on 0.95level

Std = standard deviation

Table 3: Test for significant differences between expectations and perceived performance of reliability

Reliability:	In-patients				Out-patients				Total patients		
	Em	Pm	Em - Pm	Sig	Em	Pm	Em-Pm	Sig	Em	Pm	Em-Pm
Availability of prescribed medicine V 28 – 81	1.65	2.1	-0.455	0.0001	1.51	2.52	-1.017	0.0001	1.59	2.28	-0.696
Availability of nurses V 29 – 82	1.66	1.96	-0.301	0.0001	1.6	2.16	-0.563	0.0001	1.62	2.05	-0.431
Availability of doctors V 30 – 83	1.56	2.15	-0.597	0.0001	1.34	2.18	-0.846	0.0001	1.45	2.16	-0.717
Proper information on condition and treatment to Vpatients	1.69	2.2	-0.516	0.0001	1.59	2.34	-0.755	0.0001	1.64	2.26	-0.625
Proper medical treatment V 32 – 85	1.66	2.03	-0.374	0.0001	1.47	2.26	-0.451	0.0001	1.57	2.14	-0.574
Competence of medical staff (General trust in medical staff)	1.8	2.14	-0.343	0.0001	1.83	2.38	-0.552	0.0001	1.82	2.26	-0.442
Dependability of medical staff V 34 – 87	1.93	2.24	-0.312	0.0001	1.83	2.46	-0.634	0.0001	1.88	2.34	-0.463

Em = Expectations mean

Pm = Perceived performance mean

Significant on 0.95 level

CONCLUSIONS AND MANAGEMENT IMPLICATIONS

According to numerous newspaper reports, service delivery in public hospitals is under suspicion, consequently the purpose of this paper is to examine reliability as a determinant of service quality in a government-controlled hospital in South Africa. The results of the investigation hold important implications for future planning and development in the South African health care industry and more specifically, public hospitals. Service managers should take cognisance of the most important service quality issues identified in this investigation. In terms of their expectations availability of doctors and the availability of medical treatment for patients were identified as the two most important variables of service reliability. The availability of nurses and proper medical treatment were rated first and second in terms of perceived performance by the hospitals. However measurements confirmed that satisfaction was never met. Therefore, it is important to communicate these findings to the respective individuals or groups are take responsible for satisfying patients' needs, in particular public hospitals. These tested variables should be broken down into individual components in order to arrive at a better understanding of what is expected by the patients in the reliability related category.

The importance of these findings is certainly that they contribute towards a constructive paradigm shift that espouses the benefits of an improved perception of service delivery that is not necessarily limited to the public health sector. Based on the findings of this study it can be recommended that the public health sector should consist of investment in, firstly, an analysis of patients' perceptions of the performance of a hospital on an ongoing and formalised basis and secondly, of proper staff and management training sessions in order to address issues of dissatisfaction that result from the survey. With regard to specific outcomes, service managers should be aware of the various gaps in performance in the service reliability dimension, such as the availability of doctors and nurses.

In conclusion, the findings of this study clearly identify important positive and negative perceptions regarding health-care services provided by the hospital under examination and substantiate the conclusion that it is imperative the the hospital management takes the necessary measures to improve the perceived performance of the hospital. A similar approach could be considered and implemented to satisfy the needs of in-patients and out-patients overall as no significant differences between the two groups exist.

As the aim of the survey was to identify broad categories of service related constructs, it is suggested that in areas of noticeable weak performance areas, steps should be taken to explore more individual aspects that could be considered under the particular heading of reliability, and to subject these to an extensive investigation.

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ACADEMIC EXPECTATIONS OF SOUTH AFRICAN AND SELECTED ASIAN UNIVERSITY STUDENTS

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ABSTRACT

Tertiary institutions across the globe are facing new challenges brought about by globalisation, internationalisation and government policy transformations in higher education. Attracting quality students in a highly competitive education environment is crucial as poor retention ratios is a reason for concern and government funding is consequently being influenced adversely. In striving to maintain a respectable and viable market share, sound marketing principles should be applied as universities compete for quality students in order to service them for the full duration of studies. This paper examines and compares academic related criteria used by South-African, Singaporean and Malaysian students when choosing or evaluating a tertiary institution. All three countries are emerging countries where education not only is recognised as a crucial driving force but where the accessibility of education is politically important. Five hundred and sixty five students were selected at random and personally interviewed. The main findings are amongst others that the most important attributes for South Africans is reasonable class fees of the institution while the Malaysian sample prefer a wide range of degree. The Singaporean sample rated the approachableness of the academic staff as priority. Significant differences with regard to these outcomes are measured among all three sample groups.

INTRODUCTION

Developing countries experience huge challenges in mobilising and equipping their human resources with knowledge to exploit the advantages of globalisation. The information age has provided the developing world with a unique opportunity to play catch-up in a world where knowledge is the only endearing asset of any society (Michael, 2004). In the case of South Africa, Badat (2003) states that the transition that occurs in a context of globalisation and economic growth is increasingly dependent on knowledge and information, globalisation and integration into the global economy.

Meeting the demands of globalisation has impinged on the tertiary sector of education in that government policies for quality assurance have held these institutions up to greater scrutiny and accountability (Kistan, 1999). The higher education sector, partly funded by government is expected to be accountable and to fulfil the changing needs of society, though the debates around quality and standards in government funded higher education are motivated by political accountability.

Mutula (2001) states that the decrease in subsidies for higher education institutions affects the quality of teaching and research and has led to overcrowding in many universities, deteriorating physical facilities and a lack of resources for text books, educational materials, laboratory consumables and maintenance. The perceived quality has also had an effect on the choice of institution by eligible candidates. The purpose of this paper is thus to identify the most important academic related service quality variables when selecting a university in South-Africa and then to compare the outcome with Malaysian and Singaporean students who are facing similar

challenges as emerging economies. A secondary objective is to determine whether there are significant differences among South-African, Malaysian and Singaporean students when deciding on an educational service provider.

The paper starts with a discussion of some global comparative issues that provides some background of the three different countries related to the education environment and the challenges that are facing these countries from an educational environment.

GLOBAL COMPARATIVE ENVIRONMENTS

Government, Education and development

There is an overall agreement that education in general and tertiary education in particular plays a crucial role in the ongoing development of any nation. Despite historically having inherited a poorly educated workforce upon independence, the Singapore government acknowledged and committed to the potential and development of human resources as main foundation of the economy. This translated to an investment in education and vocational training that has consistently been expanded since the 1960s (Sanderson, 2002). Traditionally the Singapore government has had a high level of involvement in education driven by the strong conviction that education enhances productivity of the labour force. Over time the focus has shifted to tertiary education with recognition that an educated and skilled workforce is imperative to meet human resource need, enforce sound moral values and align Singapore in the face of rapid progress and change (Ministry of Information and the Arts, 1998).

In the context of a unique environment like South Africa over the last decade Michael (2004) argues that the difficult task of nation-building a new democratic state with a fledgling market economy is largely dependent on the effectiveness of its educational system as the driving force for societal transformation, manpower development and effective participation in a global market. Kargbo (2002) acknowledges that like in other developing countries, the African university is a major element in development, at the apex of the educational system as place for the pursuit and dissemination of knowledge and playing a pivotal role in the onward struggle for national development. The South-African government has taken a more structured approach due to the legacies of an inherited system of education and should also be seen in the context of its broader aim of educational equality (Luescher & Symes, 2005).

Malaysia has recently embarked on the initiative to become a regional centre for education excellence, more particularly international education in an attempt to establish Malaysia as an educational hub with a world-class education system (EIU, 2006). Domestically this is being supported by the introduction of English as second language and the establishment of the National Accreditation Board governing the quality and standard of higher education across the board. Likewise, Singapore both by necessity as a small, open economy and by design from an outcomes driven government has emerged as a unique hub of international education which is likely to challenge the traditional western models that have been dominant over the past decades (Sanderson, 2002).

Location specific factors

The Singaporean Ministry of Education (2007) reports that the return on tertiary education is higher compared to non-tertiary education. This provides a further drive to meet the shift of the Singaporean economy to higher value-added and knowledge activities. The emergence of Singapore as an education hub takes place against the backdrop of being conscious to develop a system that is flexible enough to cater for different students. In view of this, the Singaporean education sector is anticipating the establishment of up to ten specialised institutions by 2010 (Li, 2006).

According to Saint (1992) the principle issues of higher education in Africa are quality, relevance, finances, equity and governance. In this context the demand for education in Africa can best be achieved through a differentiated system of education. In an education context South Africa is an attractive destination for students from neighbouring countries. In addition there are numerous British and Australian universities that have

established a presence of sorts to tap into the South African tertiary education demand, including a plethora of study abroad activities (iiepassport, n.d.)

Malaysia particularly and successfully targets the Middle East in its efforts to establish itself as an educational hub. Apart from the obvious religious overlap between the country and the region Malaysia attracts students on the back of internationally recognised study programmes and twinning arrangements with Western universities and affordable study and living costs (Azam Shuib, 2007). This translates in an opportunity for Middle Eastern students to enrol in a Western university while living in a religious and customs friendly environment.

Academic issues including reputation

Academic quality is often addressed by means of accreditation, course reviews and teaching and administration assessment. A more effective assessment of quality requires the identification of elements of service quality as interpreted by students themselves (Gardner, 1998). From an efficiency perspective Cloete and Bunting (2000) indicate that institutions with an above average percentage of highly qualified academic staff are generally more efficient universities. A study by Ben Ami (2005) determined that almost a third of South African students across ten institutions indicate that academic expectations are not met, thus confirming a gap between expectations and experience. This study also confirmed the importance of highly qualified and skilled academic staff to deliver programs.

Research by Tait, Van Eeden and Tait (2002) indicates that presentation of lectures is significantly correlated to the value perception of university studies and the learning process, emphasising the crucial role of lecturing staff for learners. By signaling product quality and subsequently establishing a superior reputation service institutions may enable charging premium prices and attract better applicants (Fombrun & Shanley, 1990). Yoon, Guffey and Kijewski (1993:215) point out that a company's reputation has long been recognized as a critical factor in successfully marketing a service. They come to the conclusion that a typical model of customer buying intention holds that a firm's reputation interacts with both information about an offering as well as other elements of the marketing mix.

Measuring service quality in the tertiary education sector

Services have several unique qualities relative to physical goods: they are more intangible and heterogeneous and consumption and production occurs simultaneously (Grönroos 1990; Parasuraman et al., 1985) consequently, the measurement of service quality including tertiary education service quality has to be based on perceived quality rather than objective quality. Service quality is a concept that has aroused considerable interest and debate in the research literature because of the difficulties in both defining it and measuring it with no overall consensus emerging on either (Parasuraman et al., 1985). A popular model of service quality is SERVQUAL, a set of 22 structured and paired questions designed to assess customers' expectations of service provision and the customers' perceptions of what was actually delivered. This instrument is focused along five dimensions namely: Tangibles, Reliability, Responsiveness, Assurance and Empathy (Parasuraman et al., 1988). This study will not include a detailed discussion of scale reliability and validity of SERVQUAL for the sake of brevity, but readers can refer to Parasuraman et al. (1985, 1988, 1994). The SERVQUAL has been criticised for its conceptualisation, generalisability and dimensionality (Cronin & Taylor, 1992; Buttle, 1996.) Several studies of service quality in a variety of services, have failed to recover the five dimensions of service quality (Buttle, 1996). The findings on the factors of Higher Education service quality are diverse (Ford, Joseph & Joseph, 1999; Oldfield & Baron, 2000; De Jager & du Plooy, 2008).

PROBLEM STATEMENT

Higher education is facing increasingly more challenges on the global arena. As institutions of higher education compete for human and financial capital it is equally important to understand and address the demands of students and industry. This is even more so as universities increasingly develop an international presence and seek to attract international students. Overall the problem is a lack of information to enable institutions of higher education to identify and adhere to students academic needs in order to attract them from the global market.

OBJECTIVE OF THE STUDY

The primary objective of the study is to identify the most important academic related service quality variables when selecting a university in South-Africa and then to compare the outcome with Malaysian and Singaporean students who are facing similar challenges as emerging economies. A secondary objective is to determine whether there are significant differences among South-African, Malaysian and Singaporean students when deciding on an educational service provider.

RESEARCH METHODOLOGY

Conceptualising the purpose of the investigation

In order to achieve the primary objective of the research, the service quality variables related to higher education were grouped into academic issues when choosing an institution of higher education.

The following secondary objectives were formulated:

- To evaluate the expressed levels of importance of South-African, Singaporean and Malaysian students with regard to these selected higher education variables;
- To determine the existence of significant differences amongst the South-African, Singaporean and Malaysian students with regard to their expressed levels of importance with these variables related to higher education.

Research hypotheses

With regards to the objectives the researchers formulated the following hypotheses:

- Ho: There exist no significant differences with regard to the importance of the service variables related to higher education amongst the South-African, Singaporean and the Malaysian samples.
- Ha: There exist significant differences with regard to the importance of the higher education related service variables amongst the South-African, Singaporean and Malaysian students.

The sample framework

A sample of 565 students at the management faculties at two universities in South-Africa and two Universities in Asia, one in Singapore and one in Malaysia were chosen at random. Two hundred and twenty two of the respondents were students from two large South-African Universities while one hundred and fifty eight of the respondents were students from a university in Malaysia and one hundred and eighty five students from a university in Singapore. The sample comprised of 45.9.3% male and 54.1% female students. The attitudes of the two student samples were tested regarding the importance of pre-identified service quality issues related to academic affairs in higher education when selecting a specific tertiary institution. The list of variables was based on extensive literature research and the findings of focus groups consisting of students and lecturers.

The measuring instrument and reliability measures

For the purpose of this paper only the variables related to marketing and image and academic issues are included in the study. This was done after a structured questionnaire was developed to measure the overall preferences of students when deciding on a specific institution of higher education. The questionnaire addressed the following issues.

- (1) Section A: Biographical information of the students including their location

- (2) Section B: Seventeen service quality variables to determine the level of importance on internationalisation aspects of a higher educational institution. This section included:
- Image and marketing and
 - Academic issues.

Section A utilised nominal scales whilst a five-point Likert-type scale was used for Section B to measure the levels of importance with regards to these higher education related variables at two institutions of higher education in South-Africa, Singapore and Malaysia. The scales were categorised as 1=very important, 2=important, 3=not important nor unimportant, 4=not important and 5=not important at all. The inputs for section B was gathered through an intensive literature study on the topic as well as focus group discussions with students enrolled at institutions of higher education.

Data collection and analysis

The data was gathered and captured by trained field workers over a period of twelve months between the second semester of 2006 and the second semester of 2007. The SPSS version 16.0 statistical package was utilised to analyse the data. For this analysis the Kolmogorov-Smirnov Test was employed based on the assumption that if the significant values exceeded 0.5, normality could not be assumed and the researchers had to rely on employing non-parametric analysis techniques. As normality could not be assumed after applying the Kolmogorov-Smirnov Test the researchers employed the Kruskal Wallis test to test the null hypothesis and the alternative hypothesis that there exists no significant difference between the levels of importance among the two groups and there exists significant differences among the groups (South-African, Singaporean & Malaysian students).

An item analysis was carried out to test the reliability of the questionnaire and an overall Cronbach's alpha of a 0,89, 0.89 and 0.92 were obtained for South Africa, Singapore and Malaysia respectively.

FINDINGS OF THE STUDY

Table 1 indicates some major findings related to the demographic composition of the three sample groups.

Table 1: Respondent profile

Selected demographics	Singapore N=185		Malaysia N=158		South Africa N=222	
	M	F	M	F	M	F
Gender	42%	58%	55%	45%	42%	58%
Level	1 st Yr	3 rd Yr	1 st Yr	3 rd Yr	1 st	3 rd
	26%	25%	43 %	23 %	36 %	51 %
21-22 yrs old	94%		52 %		33 %	
Better job prospects	59%		47 %		55 %	
Influenced by friends	52%		57 %		52 %	
Parents pay fees	32%		94 %		59 %	
Living with parents	33%		63 %		55 %	

The means of the categories are located between very important and not important nor unimportant, with the majority of the ratings generally clustered around important. For the purpose of the discussion the South African sample will be discussed first followed by the Malaysian and the Singaporean sample.

In the academic category (table 2), reasonable class fees, is rated as most important variable by the South African sample, rated second by the Malaysian sample and eighth by the Singaporean sample. Significant differences exist among the three sample groups with South Africans rated it significantly more important compared to the Malaysian sample. It was noticeable that the Singaporean sample rated it relatively unimportant.

A wide range of degrees/majors offered by institution is rated by the South African sample as second most important variable in the academic category, rated most important by the Malaysian sample and third by the Singaporean sample. Significant differences among the three sample groups exist with the South African sample rated it significantly more important compared to the other two samples.

Table 2: Level of importance of academic issues

Item	Item wording	Singapore		Malaysia		South Africa		Result of Hypotheses
		Mean	SD	Mean	SD	Mean	SD	
V99	Small classes for better learning	2.05 4	1.98	1.87 2	0.87	2.04 8	1.07	p-value = 0.310 Conclusions: Ho accepted
V100	Reasonable class fees	2.75 8	1.92	1.87 2	0.93	1.66 1	0.98	p-value = 0.013 Conclusions: Ho rejected
V101	Admission requirements	2.05 5	1.86	2.16 7	0.88	1.74 3	1.06	p-value = 0.0001 Conclusions: Ho rejected
v104	Comprehensive educational program	1.88 2	1.88	1.99 6	0.79	1.90 7	0.86	p-value = 0.151 Conclusions: Ho accepted
v105	Spacious well equipped classes	2.18 6	1.81	1.94 5	0.87	1.86 6	0.99	p-value = 0.017 Conclusions: Ho rejected
v110	Academic staff approachable/informed	1.16 1	0.80	1.93 4	0.90	1.81 4	1.08	p-value = 0.025 Conclusions: Ho rejected
v113	Offer wide range of degrees/majors	2.01 3	0.15	1.77 1	0.87	1.68 2	0.88	p-value = 0.006 Conclusions: Ho rejected
v115	Provide variety of internship/practicum programs	2.55 7	0.18	2.21 8	0.99	1.85 5	1.01	p-value = 0.0001 Conclusions: Ho rejected

Admission requirements were rated third most important by the South African sample, seventh by the Malaysian sample and fifth by the Singaporean sample. Significant differences exist among the two groups with South Africans rated it significantly more important compared to the other two samples.

The least important variable rated by the South African sample is small classes for better learning. This was however rated in second position by the Malaysian sample and fourth by the Singaporean sample. Significant differences among the two samples exist with Malaysian students rated it significantly more important compared to the other two samples.

CONCLUSION AND RECOMMENDATIONS

Reasonable class fees, a wide range of degrees or majors offered and reasonable admission requirements are rated as the three most important issues in the **academic category** by the South African sample. Significant differences among the three groups for all these variables are measured with South Africans generally regarding it significantly more important followed by the Malaysian and the Singaporean samples.

Reasonable class fees are rated relatively high in terms of importance by both the South African and Malaysian sample groups. The reason may be that the universities are hosting a relatively large proportion of students that are financially dependant. In order to benefit from the ability of promising students (students that can achieve as much as possible in the shortest time period) they can be motivated by financial incentives. This can take various

forms like reduction in fees based on achievement. The South African higher education system benefits from this arrangement in the sense that government subsidy is earned based on the pass rate of students. Promising students should thus be encouraged to perform well. In addition annual increases in class fees should be justified, as unjustified class fee increases often result in protests. On the contrary the Singaporean sample rated reasonable class fees as relatively unimportant (in last position).

A demand for a wide variety of study areas (rated amongst top three by all sample groups) were expected in order to make provision for employment in a diversified labour market. Marketing communication strategies should include the availability of a wide array of career opportunities in order to attract and to retain students. This should be supported with a promise to offer courses for students in order to obtain a competitive position in the labour market while universities should also take a firm point of view regarding reasonable admission requirement and communicate it as such. Government restrictions in this regard should also be addressed.

The overall least important variable in this category rated by the South African sample is Small classes for better learning and is ranked in eighth position by them. On the contrary it was also rated in second most important position by the Malaysian sample and fourth by the Singaporean sample. An explanation for this is perhaps that South African students (specifically previous disadvantaged groups) are well aware of the fact that the backlog in education as a result of previous political imbalances has to be addressed which consequently may require larger classes. Big classes are however seldom desirable and the multiple offering of classes in order to ensure smaller classes should be considered. This issue should however be further investigated and communicated to stakeholders while care should be taken that the quality of education is not lowered. The authorities of both the Malaysian and Singaporean higher education authorities should be notified about the outcome of these findings and should be advised to act accordingly.

To conclude, management should be in touch with the needs of their respective clients of which students are most important. In order to achieve this, attention should be given to building and maintaining a reputable institution as well as applying deliberate attempts to ensure reasonable class fees. Following on the abovementioned is that institutions of higher education should ensure that they develop and apply appropriate service recovery strategies in case of service delivery failures regarding academic or marketing related issues. Limitations of the study: Only selected universities were included in this initial phase. An attempt will be made to include more institutions.

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PRICE TRANSMISSION BETWEEN WORLD FOOD, AGRICULTURAL RAW MATERIAL, AND OIL PRICES

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ABSTRACT

This paper examines the price transmission between world food, crude oil and agricultural raw material spot markets for the period January 1980 to April 2008. We investigate the inter-temporal link between the spot prices of oil and food commodities as well as agricultural raw material spot markets. The results show that the changes in one of the aforementioned market returns do not have any significant effect on another. Although spot prices provide useful summary, they need to be supplemented by individual commodity analysis.

INTRODUCTION

The recent upward trend in world food prices is an increased concern for all countries but especially for underdeveloped ones. There is also an increased interest in what might be the leading world food prices. One conjecture is that rising oil prices might have driven the food prices up. The explanation however, may not be that simple, because there might be feedback mechanisms that result in food prices leading the oil prices. One such mechanism may exist due to the use of some food items in energy generation. Increased demand for energy may have been driving the oil prices as well as the food prices. For example, in Agricultural Trade Policy Analysis it is stated that from 2005 to 2007 biodiesel production increased by 5.5 million tones (2008). Additionally, Collins (2008) put forth that 60 % of the increase in the maize prices from 2006 to 2008 may be caused from the increase in maize used in ethanol. One can conjecture that the increased demand for bio- energy results in an increase in food prices and there might be a switch to alternatives like the good old oil. If this conjecture holds, then one expects to see world food prices leading the oil prices. There are studies that examine the price transmissions between different food prices and derivatives. Yet another group of studies explore transmissions between different oil prices and derivatives. But to the extent of our knowledge, there are no studies that examine the dynamic link between world oil and food prices. This paper aims to shed light on the temporal relationship between world oil prices and food prices. Although from an investor's point of view the two global markets may be directly related, from a production point of view prices of the agricultural raw materials may be playing an intermediary role in transmitting shocks in one market to the other one. The results of this study have important implications for both global investors and policy makers who need to follow the price shocks closely. The remaining of the paper evolves as follows. Next section discusses the relevant literature. Third section introduces the data and discusses methodological issues. Fourth section presents the empirical findings and the last section concludes.

PRICE TRANSMISSIONS

There is a huge amount of literature on information transmission between various markets. For the sake of brevity, we concentrate on the studies related to the food prices and oil prices. Structural changes in the food market and can be associated to biodiesel production. In a study, the relation between the increased demands and food prices are examined. Since commodities can be used in the production of biodiesel, demand in those

commodities are increased as a results of increased energy use. This is reflected in increased prices of those commodities over time. They find that increased demand for maize used in ethanol production and the increased demand for rapeseed used in biodiesel production are responsible for rising prices. (Soaring Food Prices: Facts, Perspectives, Impacts and Actions Required, 2008). Also the USDA's chief Economist asserts that much of the increase in farm prices of maize and soybeans is due to the biofuels production (Glauber, May1, 2008).

In Agricultural Trade Policy Analysis (2008) it is stated that there is such an increased production in biodiesel and biofuel that they portend an alternative to gasoline. Hence, there seems to be an apparent change in energy demand and supply structures which forces the food market to respond as well. The price increases are not only limited to commodities used in bio-fuel production. A large price increase in all agricultural commodities is observed. Between February 2007 and February 2008, wheat prices increased by 113% and by 93% in the US and the EU, respectively. Soybean prices increased by 83%, whereas the increase in Thai rice is 52%, in US maize 24%, and for dairy products 30% over the February 2007-February 2008 period. In May 2008 wheat prices dropped by 40% in the EU. Other commodities like metals have experienced the largest increase followed by energy prices. Food and agricultural materials go behind energy prices respectively. (Agricultural trade policy analysis, 2008). There is a group of paper studying changes in food prices, as well. Christian and Rashad (2008) examine the increased food prices between 1950 and 2005. The study of three institutes BLS (Bureau Labor Statistics), ACCRA (American Chamber of Commerce Researchers Association), and USDA (United States Department of Agriculture) are taken as benchmark. Correlations between food prices taken from those institutes mentioned above are calculated to support the statement of increasing food prices. They also note a surprising decrease in farm value of retail prices.

Baffes (2007) examines the price transmission between crude oil prices and 35 other commodity prices between 1960 and 2005. 10% increase in the price of crude oil results in 1.6% increase in non-energy commodity price indices. Aforementioned study states that transmission of crude oil to agricultural commodities is 0.17. Pass-through to beverage is 0.26 whilst transmission to food is 0.18 and for cereals it is 0.18. It is worth noting that all the values in consideration are significant at a 5% level. Also it is found that the ADF and PP statistics of price indices are significant at either 1 % or 5% level. One of the price indices taken into consideration is metal prices. Effects of transportation on price indices are investigated. During the evaluation of the results, importance of the magnitude of the prices should not be left out of account. At this point, the most sensitive issue is the tremendously high prices of metals compared to those of agricultural commodities. Since the metal prices are very high and effect of transportation cost on metal prices is less compared to others, the rise in the transportation costs does not necessarily affect the prices of the metal. Provided that the crude oil prices continue to remain high for a certain amount of time, authorities state that the price booms will be higher than the booms experienced before, especially for food commodities, fertilizers and precious metals. Ewing and Thompson (2007) put forth a possible explanation for the increase in consumer prices which is raising crude oil prices. But it is worth noting that they also point out that with the increase in the industrial production; there is an avowed rise in oil prices. Even if the oil prices rise tremendously, demand for commodities or for oil will be relatively small. That is, increasing oil price does not have any influence on commodity and oil demands. On the other hand, a small increase on demand will bring about an excessive rise in price. World oil demand is increasing with the rapid growth in world economy. In a sense that world crude oil demand is elastic regarding world income and it is highly inelastic with respect to oil prices. It is also asserted that the oil prices are highly volatile which makes it more sensitive to the changes. (Askari & Krichene, 2008)

As world food markets are open to investors and speculators, just like the oil markets, the prices in both commodity markets may be governed by similar dynamics. Food, oil and energy prices have been studied extensively in the literature. There are many studies modeling spillovers between different food commodities. And also various papers concerning crude oil prices. However, to the extent of our knowledge there aren't many studies that explicitly examine the temporal link between world food and oil prices. So, this paper is concerned with the spillover effects between agricultural raw material spot prices, food spot prices and oil spot prices. In the next section we introduce the data and data sources.

DATA CHARACTERISTICS

Agricultural raw material spot prices (ARMI), food spot prices (FPI) and oil spot prices (OPI) are the variables taken into consideration in this paper. The data covers the period January-1980 to April-2008. All variables are transformed into their natural logarithms for cointegration analysis and then their first differences are taken to represent returns for further analysis:

DLARMI differenced natural log of agricultural raw material spot prices

DLFPI	differenced natural log of food spot prices
DLOPI	differenced natural log of oil spot prices

ARMI measures the price changes for timber, cotton, wool, rubber and hides price indices. FPI measures the price changes for fruits, vegetables, meat, poultry, fish, grocery food and non-alcoholic beverages. OPI measures the price changes for crude oil. The three price indexes are sourced from International Monetary Fund (IMF). Line graphs of spot market indicate non-stationary trend in the data. Also it can be stated that there is high volatility in oil spot market by going through the graphic. It is worth mentioning that descriptive statistics given in Table 1 shore up the information obtained from the plot. That is, standard deviation of OPI is far more than FPI and ARMI. In addition, OPI has the highest coefficient of variation while FPI has the lowest of all. That is to say, the most volatile variable is the oil prices followed by agricultural raw material prices and food prices respectively. According to performed descriptive statistics, kurtosis exceeds 3 pointing out the presence of fat tails which can also be seen in OPI and FPI. Additionally, negative skewness is the harbinger of extreme left tail. Besides, Jarque-Bera test statistics are significant implying a deviation from normality. To understand the dynamics of the model, variables are exposed to various tests. In employing those tests, stationarity is of great importance for robust regression results. The next section discusses the stationarity properties of the series in concern. Then we discuss cointegration.

UNIT ROOT TESTS

In order to have robust estimation results, identification of the stationarity of the data has an utmost importance. Stationarity properties of the variables are determined by various unit root tests. Since some unit root tests can give contradictory results, a variety of tests are conducted to check reliability. To continue with the cointegration and VEC analyses based on Johansen (1991, 1995) and Johansen and Juselius (1990) procedure, all series must be integrated of the same order.

For the robustness of the investigation, six different unit root tests are conducted as mentioned before. Aforementioned tests are augmented Dickey-Fuller (1979)(ADF), Elliot-Lothman-Stock (1996) Dickey-Fuller GLS detrended (DF-GLS), Phillips-Perron (1988) (PP), Kwiatkowski-Phillips-Schmidt-Shin (1992) (KPSS), Point Optimal (ERS-PO), and Ng and Perron's (2001) MZ_{α} (NP). The null hypothesis of the all unit root tests, apart from KPSS, is that the series in concern has a unit root against an alternative of stationarity. On the other hand stationarity of the variable is the null of KPSS. The unit root tests are conducted for levels and first differences, respectively. According to unit root test results, we can safely conclude that all the variables are integrated of order 1, even though there are slight differences between the results of different tests. Subjecting variables into aforementioned unit root tests is the first step of analyzing long-run relationship between variables in consideration. The second step is to conduct Johansen and Juselius' (1990) multivariate cointegration procedure. And in the next section details of the procedure is provided.

COINTEGRATION TESTS

Since their introduction, cointegration tests have a wide usage in econometrics. In this section it is Johansen's cointegration test (1991) which is used to determine the absence or presence of cointegrating relationship among variables. Although there are many other tests like Engle and Granger (1987), Engle and Yoo (1987) 3-step method, Johansen's cointegration test (1991) has superiority of considering all variables as endogenous and its capability of testing more than one cointegrating relationship. x_t and y_t are said to be cointegrated if there exists a parameter α such that; $u_t = y_t - \alpha x_t$ (1)

Linear combination of I (1) variables will be I (0) provided that the variables are cointegrated. Assuming x_t and y_t are integrated processes, if there exists a linear combination which is integrated of a lower order, both variables are cointegrated. To be clearer, if the variables of a dynamic linear model are cointegrated, disturbances will be stationary. It is worth noting that, only linear combinations or linear transformation of a number cointegrating vectors will be stationary. So, it is necessary to determine the stationarity of the disturbances and in the previous section verified it is by unit root tests. Johansen cointegration test starts with constructing a vector autoregressive (VAR) model with k lags under the consideration that variables are I(1);

$$y_t = \beta_1 y_{t-1} + \beta_2 y_{t-2} + \dots + \beta_k y_{t-k} + u_t \quad (2)$$

Then we should turn it into a vector error correction model (VECM):

$$\Delta y_t = \pi y_{t-k} + \Gamma_1 \Delta y_{t-1} + \Gamma_2 \Delta y_{t-2} + \dots + \Gamma_{k-1} \Delta y_{t-(k-1)} + u_t \quad (3)$$

$$\text{Where } \pi = (\sum_{i=1}^k \beta_i) - I_g \quad (4)$$

$$\text{and } \Gamma_i = (\sum_{j=1}^i \beta_j) - I_g \quad (5)$$

g is the number of variables in VAR model, Γ is the coefficient matrix and π is the long-run coefficient matrix. It is worth mentioning that the rank of a matrix (π) is equal to the number of its characteristic roots (eigenvalue) that are different from zero. And cointegration can be tested by examining the rank of a π matrix via its eigenvalues. That is if $\pi=0$, all variables are non-stationary and there are no cointegrating vectors and for $\pi=1$, there is one cointegrating vector. If $\pi>1$, there is more than 1 cointegrating vectors. Another important aspect is that Johansen model is sensitive to the lag length of VECM. Akaike, Schwarz and Hannan-Quinn information criterions are used to determine the optimum lag length of 2. We select the model by minimizing the criteria. Johansen approach has two test statistics for cointegration:

$$\lambda_{\text{trace}}(r) = -T \sum_{i=r+1}^g \ln(1 - \hat{\lambda}_i) \quad (6)$$

$$\lambda_{\text{max}}(r, r+1) = -T \ln(1 - \hat{\lambda}_{r+1}) \quad (7)$$

r is the number of cointegrating vectors, g is the number of variables under consideration, $\hat{\lambda}_i$ is the estimated eigen value ($\hat{\lambda}_i, i=1, \dots, g$). λ_{trace} has a null hypothesis of number of cointegrating vectors being less than or equal to r while alternative hypothesis is that there are more than r cointegrating vectors. Additionally, λ_{max} has a null of r cointegrating vectors against $r+1$ cointegrating vectors. For both tests if the test statistics is more than the critical value, we reject the null hypothesis. Testing is conducted as a sequence and under the null, $r=0, 1, \dots, g-1$. When $r=0$, failing to reject H_0 will complete the test. But if this is not the case meaning when $H_0: r=0$ is not rejected, the test continues until the null is no longer rejected. All in all according to the Johansen's cointegration test (1991), only linear combinations or linear transformation of a number cointegrating vectors will be stationary. Generally cointegration is expected in spot and futures market, ratio of relative prices and an exchange rate, equity prices and dividends. Absence of a cointegrating relationship spots nonexistence of long-run relationship. The results of the cointegration tests are reported in Table 1. Both trace statistics and maximum eigenvalue statistics state that null hypothesis is not rejected meaning that there is no cointegrating vector between series. That is to say, there is no cointegration and no long-term equilibrium between spot prices.

Table 1 Cointegration test results

λ_{trace}				λ_{max}			
H_0	H_1	statistics	5 %	H_0	H_1	statistics	5 %
$r=0$	$r \geq 1$	19.01994	29.79707	$r=0$	$r=1$	13.07418	21.13162
$r \leq 1$	$r \geq 2$	5.945755	15.49471	$r \leq 1$	$r=2$	5.563225	14.26460
$r \leq 2$	$r \geq 3$	0.382530	3.841466	$r \leq 2$	$r=3$	0.382530	3.841466

As presented in Table1 there are no cointegrating vectors.

On account of the absence of cointegration, we can continue with a VAR model in first differences (returns). So, we develop a VAR model with the first differenced natural log of spot prices of food and oil commodities in addition to agricultural raw material prices. In the standard form, VAR (1) model is written as follows:

$$\begin{pmatrix} y_{1t} \\ y_{2t} \\ y_{3t} \end{pmatrix} = \begin{pmatrix} \beta_{10} \\ \beta_{20} \\ \beta_{30} \end{pmatrix} + \begin{pmatrix} \alpha_{11} & \gamma_{11} \\ \alpha_{21} & \gamma_{21} \\ \alpha_{31} & \gamma_{31} \end{pmatrix} \begin{pmatrix} y_{1t-1} \\ y_{2t-1} \\ y_{3t-1} \end{pmatrix} + \begin{pmatrix} u_{1t} \\ u_{2t} \\ u_{3t} \end{pmatrix} \quad (11)$$

In our model VAR system is as follows:

$$\begin{pmatrix} DLFPI \\ DLARMI \\ DLOPI \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix} + \begin{pmatrix} 0.2881 & 0.0006 & -0.0029 \\ 2.2273 & 0.2102 & -0.01736 \\ 0.0422 & 0.0002 & 0.2640 \end{pmatrix} \begin{pmatrix} DLFPI_{t-1} \\ DLARMI_{t-1} \\ DLOPI_{t-1} \end{pmatrix} + \begin{pmatrix} 0.0007 \\ 0.1053 \\ 0.0025 \end{pmatrix} \quad (12)$$

According to Akaike, Schwarz, and Hannan-Quinn information criteria the optimum lag is found to be 1 for the VAR in returns. The necessary and sufficient condition for stability is that all characteristic roots lie outside the unit circle. Then π is of full rank and all variables are stationary and the system satisfies the stability

condition. Jarque-Bera test results indicate non-normality in residuals. Additionally, there is not enough evidence to reject the null of no autocorrelation and null of no serial correlation in residuals. Furthermore, presence of homoscedasticity is rejected according to residual heteroscedasticity tests. We checked the main regression assumptions and could not detect any severe violations of the common assumptions.

GENERALIZED IMPULSE RESPONSES AND GENERALIZED VARIANCE DECOMPOSITIONS

Cointegrating relationship amongst variables in the dynamic model is checked in the previous section. After conducting various analyses, absence of long-term relationship is proved. In order to assess how a shock to a variable influences another endogenous variable and how long the effects will last, we use generalized impulse response and generalized variance decomposition methods. A shock to a variable not only affects the variable itself but may also have a significant effect on the other endogenous variables in the dynamic model. From generalized impulse response, responsiveness of the dependent variables in the VAR to the shocks to each of the variable is traced out over time. That is, impulse response takes into account one shock to one of the disturbances on current and expected values of endogenous variables. For instance, considering equations 1-3 defined in the preceding section, it is obvious that a change in u_{1t} will immediately change the value of y_{1t} . But it will also change the future values of y_{1t} , y_{2t} , and y_{3t} as lagged y_{1t} appears in all three equations. For stationary VARs, impulse responses should die out in time in to extend that unit shock is applied to each variable from each equation and responses are evaluated. If the system is stable, the shock will die out

Fig. 5. Generalized impulse responses of DLOPI to innovations

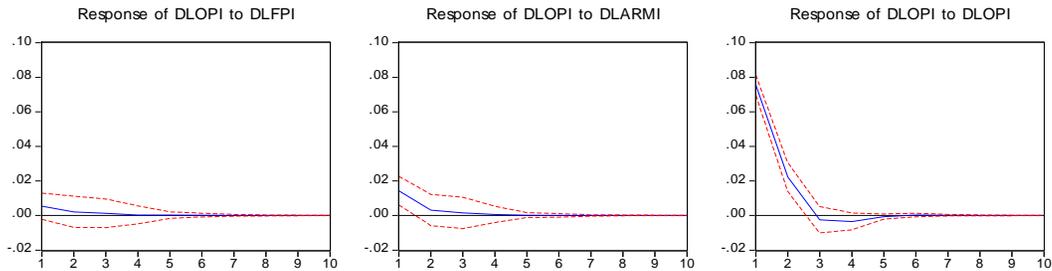


Fig. 6. Generalize impulse responses of DLARMI to innovations

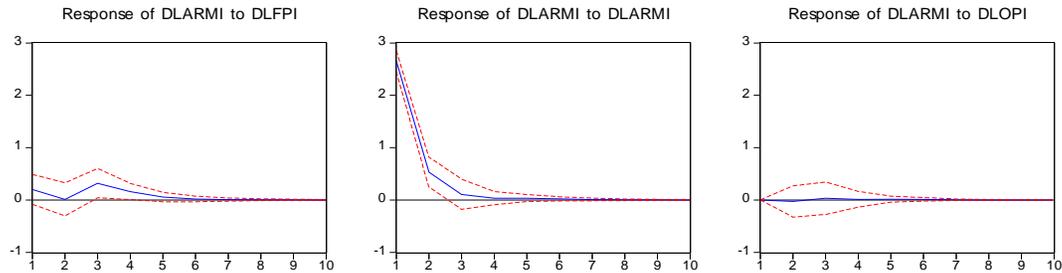
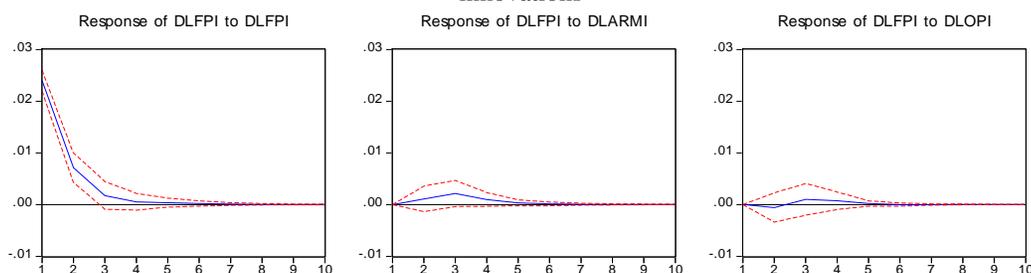


Fig.7. Generalized impulse responses of DLFPI to innovations



Generalized impulse response functions are given in Fig.5-7 Horizontal axes indicate the number of days after shock and vertical axes represent the standardized responses to shocks to each variable. Of all the response estimation methods, Monte Carlo is chosen to provide the confidence bands. The returns in spot food and agricultural raw material markets do not seem to respond at all to a shock in the oil returns. Graphs above indicate that all of the self shocks create positive initial impacts; however, responses die out within three days. One curious finding is the positive initial impact of a shock in agricultural raw material returns on oil returns. This may be showing the increased role of bio-fuels as an alternative to oil or at least the market for agricultural raw materials as an alternative investment area to crude oil markets. While impulse responses allow for the effect of a shock to one of the endogenous variables, variance decomposition decomposes variation in an endogenous variable and gives the ratio of the movements that are resulted from shocks to themselves. A shock to the variable certainly affects itself but it will also have an influence on others. Variance decomposition identifies the magnitude of the s-step-ahead forecast error variance of a given variable is explained by innovations to each explanatory variable. That is, variance decomposition gives information about the relative importance of each random variable in affecting the variables in the VAR.

In short, variance decomposition interprets the relations between variables described by VAR models. If both current and lagged shocks do not influence the current value then the presence of a contemporaneous effect rather than a lagged effect is a point at issue. At this point it is worth mentioning that variance decompositions are unique. What is more is that Koop et al. (1996) and Pesaran and Shin (1998) developed the generalized impulse response analysis which are not sensitive to the ordering of variables; hence, not subject to the Lutkepohl critique. However, in computing impulse responses and variance decompositions, the ordering of the variables becomes an important issue when the residuals are highly correlated. When they are uncorrelated, then the ordering does not make any difference. Highly correlated residuals from an estimated equation signify the importance of variable ordering. In case of uncorrelated residuals, the order of the variables will make little difference. The variance decompositions confirm the generalized impulse response results in that, none of the return series has a relatively significant role in explaining the forecast error variance of the others.

Listed variance decompositions are performed for up to 10 days ahead, by which the percentages stabilize. At day 1, variations in DLFPI are only explained by innovations from DLFPI. A variation in DLFPI is explained by itself (99.47%) and DLARMI (0.53 %) in 10 days ahead. In the short-run, innovations from DLARMI do not have any influence on DLOPI but variations are explained by innovations from DLOPI (99.64 %) and DLFPI (0.36 %). At 10-day horizon, variations are explained by DLFPI (0.43 %) and DLOPI (99.57 %). In the short-run, DLARMI explains 96.04% of the variations in DLARMI while DLFPI accounts for the 0.78% of the variations and DLOPI explains 3.18% of the variations in DLARMI. At 10-day horizon DLFPI (0.90%), DLOPI (3.14%) and DLARMI(95.96 %) explain the variation in DLARMI. It is worth noting that 8, 9 and 10 day-ahead decompositions are same for all variables in a sense that they also represent the long-run horizons.

When Cholesky ordering of variance decomposition is changed into DLARMI, DLOPI, DLFPI, changes in the results cannot be left of account although new ordering does not make any change on impulse responses. Results of the latter variance decomposition are as follows. 99% of the variations in DLFPI are explained by innovations from DLFPI and 10 days later, 98.16 % of the variance is explained by self shocks. 1.84 % of the variable's variance is explained by innovations in DLARMI (1.66%) and DLOPI (0.18%). In the short-run, variations in DLARMI explain all of the innovations in DLARMI. Within 6 days the values reach

steady-state and 99.95 % of the innovations in DLARMI explicate the variations in the variable. The other 0.05 % is expounded by DLFPI. Innovations in DLOPI are expounded by DLOPI (99.64%) and DLARMI (0.36%). It is worth mentioning that in the former variance decomposition procedure, innovations in DLARMI do not have any influence on the variable. However in the latter innovations in DLFPI is the one which do not affect the variations in the variable. At 10-day horizon, variations are explicated by innovations in DLFPI (0.02%), DLARMI (3.31%), and DLOPI (96.67%).

Hence it can be concluded that the effect of self innovations have lessened when Cholesky ordering changed into DLARMI, DLOPI, DLFPI. Also, the effect of DLOPI is only increased in DLFPI. What's more is that magnitude of DLARMI innovations used for explicating variations in DLFPI and DLOPI increased. Furthermore percentage of innovations in DLOPI explaining the variations in DLARMI and DLFPI tumbles. (All unpublished tables are available upon request)

SUMMARY AND CONCLUSIONS

Agricultural raw material and food spot prices affect production and consumption capacities of a country. Consequently the governmental activities are influenced by the situation because government takes action against volatile spot market prices for consumer and producer welfare. In this way, it stabilizes the market and success of the economic policies depends on the achievement of those stabilization or intervention programs. The information we get has an importance in price determination processes. Additionally, extend of information like the relation between markets has significance. According to several scholars, it is observed that prices in the spot food markets behave as if they are subject to speculative behavior. The dynamics of the spot market prices make these markets attractive for investors and speculators. If food spot markets are seen as alternative investment areas, then it is natural to expect that food prices are influenced by the same factors with financial assets. Since there is no relationship between the three market returns, investors can use them jointly in their portfolios to reduce risk.

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MODELLING FOR ANALYZING THE ROYALTY FOR A BUILD, OPERATION AND TRANSFER PROJECT

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ABSTRACT

This paper develops a royalty negotiation model based on the operating revenue of Build, Operate and Transfer (BOT) projects for both the government and the private sector using the bi-level programming approach. A number of factors were incorporated into this algorithm including the concession rate, the time value discount rate, the learning rate and the number of negotiations. In addition, this paper involved conducting a case study of the Taipei Port Container Logistic BOT Project using LINGO and MATLAB programming. The results show that the two parties involved completed royalty negotiation at the sixth negotiation. The objective function value for lower level programming was 1.0675 and the government finance recovery rate for higher level programming was 11.656. The findings show that the government can receive the royalty, which is calculated by using 0.00386% of the operating quantity of this BOT project, from the concessionaire. Therefore, the royalty negotiation model based on the operating quantity developed herein; could be employed to explain the negotiation behavior.

INTRODUCTION

This paper develops a royalty negotiation model using the bi-level programming (BLP) approach and derives an algorithm for determining the royalty fee for a Build, Operate and Transfer (BOT) project from a game theory perspective. The BOT is an approach the private sector utilizes to obtain a granted concession for completing a specific project independently. However, the ownership of the project must be returned to the public sector once it is completed (Kang et al., 2005). This has been widely employed to implement infrastructure projects in many developed and developing countries. For example, the 80 km elevated toll expressway in metropolitan Bangkok in Thailand; the 300 MW coal-fired projects in the Philippines; and the 5400 km BOT road building project of Mexico (Walker and Smith, 1996). In addition, in Taiwan, many infrastructure projects, including the High Speed Rail Project (HSRBOT) and Taipei Port Container Logistic BOT Project have also been carried out using the BOT approach.

The host government uses the royalty from the concessionaire to cover his investment in the BOT project. It is obvious that the royalty or franchise is a revenue sharing scheme between the host utility and private sectors. Tiong and Alum (1997) pointed out that the royalty amount should be included in the BOT agreement through negotiations by both parties. For instance, the franchise fee in the Dulles Greenway BOT project in Virginia for public alternative is about US\$4.3 million, and the royalty amount for the M2 Motorway BOT project in Australia for the host utility was about AU\$7 million (Walker and Smith, 1996). In 1998, the lump sum royalty levied for the 101 Skyscraper BOT Project in Taiwan was NT\$ 30 billion which was calculated according to the fixed royalty method. The royalty, which includes 10% of the pre tax amount of annual operational benefit for the High Speed Rail BOT Project of concessionaire, is paid to the government (Public Construction Commission, 2001).

Previously, many researchers have conducted risk evaluation, risk management and financing viability in BOT projects for allocating risk (Kang et al., 2005; Shen and Wu, 2005; Chen et al., 2002). In recent years, some studies have adopted the game theory or BLP approaches to determine the price, the operating quantity level, or to identify the concession period of a BOT project. For example, Yang and Meng (2000) explored the toll scheme of highway networks using BLP under the highway of the BOT mechanism. Xing and Wu (2001) used BLP to construct the Stackelberg Game Model for determining the price and production quantity of a power

utility in a BOT project. Shen et al. (2007) used the Bargaining Game Theory to identify the concession period of a BOT project. The authors proposed a BOT concession model to identify a specific concession period which takes into account the bargaining behavior of the two parties engaged in a BOT contract.

As seen, the price, the determination of operational quantity, or the identification of the concession period should be written in the franchise contract through the negotiations between both parties under the BOT mechanism. However, those factors, including the concession rate, the time value discount rate, and the learning rate, have not been incorporated into their models. Conversely, during the negotiation process, those factors will actually affect the determination of price, production quantity or the identification of the concession period of a BOT project.

As for royalty formulas, some studies constructed them using mathematical programming, simulation, or for the case of BOT projects, financial engineering models. For instance, Chiou, and Lan (2006) constructed a royalty model using fuzzy programming for analyzing different types of royalty formulas which were pre tax profit based, total revenue based, and patronage based under uncertain demand. Moreover, Kang, et al., (2003, 2007) constructed royalty models for a BOT project using mathematical programming and financial cash flow from the viewpoint of the government and the private sectors, respectively. The contributions of Kang, et al., (2003, 2007) for the determination of royalty amounts for BOT projects are from the perspective of the government and private sectors respectively. Furthermore, their study describes the royalty at the lower boundary and the upper boundary for the two parties. However, those studies lack the exploration of the royalty negotiation issue for private and public sectors. Although, Kang, et al., (2003, 2007), as well as Chiou, and Lan (2006) have proposed many different royalty models. Nevertheless, it is worth analyzing royalty negotiations for both parties because few studies have explored this issue in sufficient depth.

The purpose of this paper is to construct the royalty negotiation model and to investigate royalty negotiation for a BOT project. The remainder of the paper is structured as follows: Section 2 describes the assumptions of the developed model. Section 3 constructs a royalty negotiation model and a solution algorithm. Section 4 presents a numerical example. Finally, a discussion of findings is presented and conclusions are drawn.

ASSUMPTIONS IN MODEL DEVELOPMENT

The following assumptions for developing the model were made:

- (1). This study assumes that the lump-sum royalty, operational revenue-based royalty, and operational output-based royalty methods can be adopted by both parties to determine the royalty amount for a BOT project. The relationships among the three above-mentioned methods are independent. In addition, two parties, the government and the private investor, establish contractual relations with in a BOT contract through appropriate negotiations conducted with rational behavior. Assuming rational behavior means that both parties will calculate and adequately compare all the possible outcomes for protecting their own interests and profit making objectives.
- (2). The two parties are both entitled to the same full and frank disclosure of relevant information in regards to the BOT project concerned. Furthermore, parties should endeavor to ensure they communicate to each other clearly and effectively. Moreover, in order to develop the royalty negotiation model for the operational output-based case, this study assumes that the concession period of a BOT project is made up of both the construction period ($t = 0 \sim n$) and the operation period ($t = n + 1 \sim N$). We also assume that the government has no affiliated business income, no joint-development income, no subsidies given to the private sector, and the salvage value of the fixed asset of the BOT project is not considered. After the concession period expires, the facilities of the BOT project should be returned to the government unconditionally. Moreover, we assume that the government investment is totally capitalized by debt and the planning cost of government is not considered. And we assume that the royalty is not tax-deductible. The capital cost of BOT project is evaluated by the Weighted Average Cost of Capital (WACC) method.

METHODOLOGY

Concept of financing BOT project

The concept of financing projects proposed by Kang, et al., (2003) was utilized to describe the annual royalty relationship between the government investment and private investment. The concept is shown in Figure 1. Similarly, we use the concept of Figure 1 to illustrate the relationships among royalty, government investment and private investment for the operational revenue-based royalty.

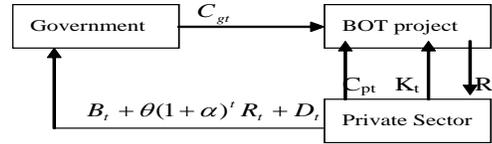


Figure 1 Concept of annual royalty of BOT project, the operational revenue-based case

Figure 1 indicates that the fund resource for both construction and operation in a BOT project comes from the concessionaire and the government (Kang, et al., 2004). The construction cost of the project comprises C_{gt} and C_{pt} ; where C_{gt} and C_{pt} represent the government investment cost and the private investment cost at time t during the construction period, respectively; and K_t is the nominal operation cost at time t during the operation period. Figure 1 represents that the term $B_t + \theta(1+\alpha)^t R_t + D_t$ is the sum of land use rent, royalty, and tax; where B_t is the land use rent at time t , R_t is the operational revenue at time t , and D_t is the tax at time t . The $\theta(1+\alpha)^t R_t$ term is royalty amount, it varied by R_t , t and θ ; where θ is the proportion of the operational revenue of BOT project at time t . Thus, the $B_t + \theta(1+\alpha)^t R_t + D_t$ term indicate the concessionaire should pay the land-used rent, royalty and tax to the government, the royalty varied on the operational revenue of BOT projects.

The Model

As shown in Figure 1, a causal relationship exists between royalty, government investment, private sector investment, and the government finance recovery ratio in cash flow for BOT projects. The government finance recovery ratio for the operating quantity of a BOT project which the royalty is calculated was defined as (Kang, Feng and Huang, 2007)

$$\Pi_{g,R}(k) = \frac{1}{C_g} [r_g + \theta_u(k) \times f_{g,R}] = \frac{1}{C(1-P_C)} [r_g + \theta_u(k) \times f_{g,R}] \quad (1)$$

Where $r_g = \sum_{t=0}^N \frac{B_t + D_t}{(1+i)^t}$; $f_g = \sum_{t=h}^N \frac{(1+\alpha)^{t-h} R_t}{(1+i)^t}$, is a discount factor of royalty for the project; $P_C = \frac{C_p}{C} = \frac{C_p}{C_g + C_p}$; h

is the first year for royalty-collection; P_C is the rate of the concessionaire's investment cost; C is the sum of the present value of construction costs which is discounted to the first year of the construction period; C_g is the sum of the present value of construction costs financed by government investment, and the cost is discounted to the first year of the construction period; C_p is the sum of the present value of construction costs financed by private investment, and the cost is discounted to the first year of the construction period; and i is the interest rate of government bonds. Eq. (1) represents the government finance recovery ratio $\Pi_{g,R}(k)$ at the k^{th} negotiation. There exists a positive relationship between $\Pi_{g,R}(k)$ and $(r_g + \theta_u(k) \times f_g)$. That is, the more in royalty, tax, and land use rent for the host utilities, the higher the $\Pi_{g,R}(k)$ is. Thus, $\Pi_{g,R}(k)$ goes up when variables of r_g , $\theta_u(k)$, and f_g increase. Conversely, $\Pi_{g,R}(k)$ decreases as P_C increases or variables of r_g , $\theta_u(k)$, and f_g decrease. Furthermore, let $\Pi_{p,R}(k)$ be the profit index of the concessionaire. $\Pi_{p,R}(k) = \frac{N_I - \theta_l(k) \times f_p}{P_C \times C}$; where

$N_I = \sum_{t=n+1}^N \frac{R_t - C_t - B_t - D_t}{(1+d)^t}$, N_I is the total revenue of the BOT project, which includes operation revenue and non

operational revenue; $f_p = \sum_{t=h}^N \frac{(1+\alpha)^{t-h} R_t}{(1+d)^t}$, d is the risk adjusted discount ratio after tax of the concessionaire,

where $d > i$; It can be estimated by the WACC with corporate tax as $d = d_B \times (1 - T_c) \times \left(\frac{B}{S + B} \right) + d_S \times \left(\frac{S}{S + B} \right)$;

where d_B is the cost of long-term debt of the BOT project for the private firm; d_S is the cost of equity of the BOT project for the private firm; B is the market value of the debt of the BOT project for the private firm; T_c is the marginal tax ratio of the BOT project; and S is the market value of the equity of the BOT project for the private firm. The numerator of $\Pi_{p,R}(k)$ is the net operating income minus its royalty at the k^{th} negotiation, and the denominator of $\Pi_{p,R}(k)$ is the investment cost of the concessionaire. $\Pi_{p,R}(k)$ is the profitability of the private sector at the k^{th} negotiation. It indicates that the concessionaire pursues its maximum financial profit at the k^{th} negotiation if the private sector is a rational decision maker. According to Wen and Hsu (1991), the authors have pointed that the BLP is a stackelberg game associated with leader and follower conception. This model can illustrate a sequential decision for two players who pursue their own maximized aims that subject to another decision-making strategy. The government can be regarded as the higher-level problem of the BLP because the royalty was first announced by government in BOT tender document. Then, the private sector will negotiate with the government regarding the royalty. Hence, the private sector can be regarded as lower-level problem of the BLP.

The bi-level problem was formulated as:

$$[\text{Higher level problem}]: \quad \underset{\{\theta_u(k)\}}{\text{Max}} \quad \Pi_{g,R}(k) = \frac{1}{C_g} [r_g + \theta_u(k) \times f_{g,R}] = \frac{1}{C(1 - P_C)} [r_g + \theta_u(k) \times f_{g,R}] \quad (2)$$

$$\text{St. } \theta_u(k) \times f_{g,R} + C \times \Pi_{G_0} \times P_C \geq C \times \Pi_{G_0} - r_g; \theta_u(k) \leq (N_I - P_C \times C) / f_{p,R}; \theta_u(k) \geq V_\ell(k); \theta_u(k) \leq W_u(k)$$

$$[\text{Lower-level problem}] : \quad \underset{\{\theta_\ell(k)\}}{\text{Max}} \quad \Pi_{p,R}(k) = \frac{N_I - \theta_\ell(k) \times f_{p,R}}{P_C \times C} \quad (3)$$

$$\text{s.t.} \quad \theta_\ell(k) \times f_{g,R} + C \times \Pi_{G_0} \times P_C \geq C \times \Pi_{G_0} - r_g; \theta_\ell(k) \leq (N_I - P_C \times C) / f_{p,R}; \theta_\ell(k) \geq V_\ell(k); \theta_\ell(k) \leq W_u(k);$$

$$f_g = \sum_{t=h}^N \frac{(1 + \alpha)^{t-h} R_t}{(1 + i)^t}; f_p = \sum_{t=h}^N \frac{(1 + \alpha)^{t-h} R_t}{(1 + d)^t}.$$

Where $V_\ell(k)$ is the lower bounded value of the feasible solution at the k^{th} negotiation for the lower level problem; $W_u(k)$ is the upper bounded value of the feasible solution at the k^{th} negotiation for the higher level problem; $\theta_\ell(k)$ and $\theta_u(k)$ are decision variables of the BLP problem. In model (2), the objective function of the higher level problem illustrates that the host government maximizes his financial recovery rate for joining a BOT project. Furthermore, it shows that the higher the royalty amount collected by the government is, the higher the $\Pi_{g,R}(k)$ index is. These are the constraints of the higher level problem in model (2). They shows that the host utility should collect the above minimum royalty level from the concessionaire in order to meet the minimum financial recovery rate Π_{G_0} . Moreover, let Π_{G_0} be a constant value. Model (2) describes that the royalty has been delivered by the private sector to the host utility which has upper bounded values for avoiding the deficit in operation. $((N_I - P_C \times C) / f_p) \geq 0$ is held, because $\theta_u(k)$ is a non negative value. $\theta_u(k) \geq V_\ell(k)$, $\theta_u(k) \leq W_u(k)$ $\theta_\ell(k) \geq V_\ell(k)$, and $\theta_\ell(k) \leq W_u(k)$ are the upper and lower bounded solutions for the higher level problem, respectively. The objective function of the lower level problem illustrates that the private sector hopes to reduce the royalty to be paid, and to maximize its profit for each negotiation.

Algorithm for BLP

Many algorithms for the BLP problem including the vertex enumeration or the Kuhn-Tucker transformation approach have been proposed for finding the optimal solution (Wen and Hsu, 1991; Liu and Stephen, 1994). The vertex enumeration approach involves the simplex algorithm for finding the feasible solution for the higher level problem of the BLP problem, whilst the Kuhn-Tucker transformation approach converts the objective function of the lower level problem into constraints of the higher level problem. However, to find the comprisal solution for royalty, the heuristic algorithm was developed. The steps of the heuristic algorithm are shown as follows:

Step 0: Let $k = 0$ and $k = k + 1$; Step 1: Find the feasible solution for the higher level problem; Step 2: Find the feasible solution for the lower level problem; Step 3: Converge the test for these feasible solutions for the BLP problem. If all of the solutions converge, then it is the comprisal solution; otherwise, go to Step 4. Step 4: Set initial concession rates for the two parties, and let $k \neq 0$. Substitute concession rates into Eqs. (6) and (7), and find $V_\ell(k+1)$ and $W_u(k+1)$. Step 5: Find the concession rates at the next negotiation, $\theta_u(k+1)$, $\theta_\ell(k+1)$ and find $\theta_\ell(k+1)$ and $\theta_u(k+1)$. Step 6: Repeat Step 0 to Step 5. The solution of the BLP problem will be obtained if the solution from convergence testing holds, if not, there is no solution, and thus stop the algorithm. In this Step (3), we set the convergence test based on the differences in the royalty amount the government and that the private sector are willing to pay being smaller than the level of error tolerated. The condition is defined as:

$$\left| \frac{\theta_u(k) - \theta_\ell(k)}{\theta_\ell(k)} \right| \leq \delta \text{ and } \left| \frac{\theta_u(k) - \theta_\ell(k)}{\theta_u(k)} \right| \leq \delta \quad (4)$$

Where δ is the error tolerated; and $\delta = 0.01$. If the solutions of BLP satisfy the convergence test condition, then the royalty negotiation was ceased.

Although Chen and Chang (2000), Xing and Wu (2001) utilized the bi-level programming model for determining the price (or toll) and capacity using different algorithms under the BOT scheme, they do not explore the effect of learning effect, concession rate and time value discount of players changes. Nevertheless, these factors which are regarded as factors of bargaining cost, addressed by Cross (1965), are very important impact factors for the bargaining process. Thus, these factors of a bargaining cost have incorporated into the BOT bargaining model studies (Shen, et al., 2007).

Following the concept of Lin and Chaing, (2005), values of the concession rate for two parties were shown in Eqs. (6) and (7), respectively (Corss, 1965; Lin and Chaing, 2005).

$$r_u(k) = \frac{(buvr_\ell(k-1) + (ab(1 - \frac{v}{2})(1 + \frac{u}{2}) - uv)r_u(k-1))}{(ab(1 + \frac{u}{2})(1 + \frac{v}{2}) - uv)}; r_\ell(k) = \frac{(auvr_u(k-1) + (ab(1 - \frac{u}{2})(1 + \frac{v}{2}) - uv)r_\ell(k-1))}{(ab(1 + \frac{u}{2})(1 + \frac{v}{2}) - uv)} \quad (5)$$

Where $r_u(k)$ and $r_\ell(k)$ are concession rates at the k^{th} negotiation for higher level and lower level programming problems, respectively; similarly, $r_u(k-1)$ and $r_\ell(k-1)$ are the concession rates at the $(k-1)^{\text{th}}$ negotiation.

Variables of a and b are the time value discounts of the higher level and lower level programming problems, respectively. Let a and b be constant values. Let μ and ν be the learning rates for higher level and lower level programming problems, respectively. Assume μ and ν are constant. Eq. (5) were proposed by Lin and Chaing, 2005) which is based on the assumptions by Cross (1965). For illustration, this study uses Eq. (5) to find the reaction of concession rate for two parties. As noted, Eq. (5) should be reexamined and modified them for the future study. Eq.(5) demonstrates that the concession rate at the k^{th} negotiation for the higher level programming problems were affected by $r_\ell(k-1)$, $r_u(k-1)$, u , v , a , and b . Similarly, $r_\ell(k)$ in equation (5) it was affected by $r_\ell(k-1)$, $r_u(k-1)$, u , v , a , and b . This implies that the royalty negotiation between the host utility or concessionaire was reflected by the concession rate of both parties. Then, eqs (5) were substituted into (6) to (7) and $W_u(k+1)$ and $V_\ell(k+1)$ of higher level and the lower level programming were modified, respectively.

$$W_u(k+1) = W_u(k) - W_u(k) \times r_u(k); V_\ell(k+1) = V_\ell(k) + V_\ell(k) \times r_u(k) \quad (6)$$

$$W_u(k+1) = W_u(k) - W_u(k) \times r_\ell(k); V_\ell(k+1) = V_\ell(k) + V_\ell(k) \times r_\ell(k) \quad (7)$$

Where $W_u(k)$ and $V_\ell(k)$ are the upper and lower bounded value at the k^{th} negotiation for higher level and the lower level programming, respectively. $W_u(k+1)$ and $V_\ell(k+1)$ are the upper and lower bounded value at the $(k+1)^{\text{th}}$ negotiation, respectively.

CASE STUDY

Taipei Port Container Logistic BOT Project

A case study using the financial data from the Container Terminal in Taipei Port BOT Project was conducted to illustrate the application of the proposed model. According to the Terms of Reference

(TOR) of Concessions of the Container Terminal in Taipei Port issued by the Keelung Harbor Bureau in 2000, some of the key points of this project are described as follows:

- (a) The scope of this BOT project includes seven wharves in the container terminal.
- (b) The duration of the concession period of this project is 50 years. The construction period would be from 2001 to 2010. According to the TOR of this BOT project, the concessionaire will construct seven wharves, among which wharves 6 and 7 (W6 and W7) would be completed first at the end of 2004 and commence operation in the beginning of 2005. W6 to W9 and the container yard would be completed at the end of 2007. All the other wharves, W10 to W12, would be completed by the end of 2010 and commence operation in 2011.
- (c) The annual container handling volume of W6 and W7 from 2005 to 2006 is assumed to be 500,000 TEUs. By 2008, the assumed annual container handling volume for four wharves would be 1,000,000 TEUs. From 2011 until 2050, the end of the concession period, the seven wharves would maintain 1,750,000 TEUs.
- (d) The basic corporate income tax rate is 25%; however, according to the AFPPIP, the concessionaire could have corporate income tax exemption for up to 5 years. Therefore, it was assumed that the tax exemption period would be between 2005 and 2009.
- (e) The interest rate of government bonds was assumed to be 8%. The inflation rate was assumed to be 3.5%.

The construction period is from 2001 to 2004 ($n=3$), and the operating period is from 2005 to 2050 during which royalty collection begins in 2011; hence $h=10$. According to the TOR of this BOT project, the private sector investment rate of the total investment is 94% and the government investment rate of the total investment is 6%. On the other hand, the government investment items such as construction of access roads, land acquisition, and basic utility infrastructures are assumed to account for 10% of the total cost of this project, which is approximately NT\$ 653 million, $L=653$; where L is the sum of the present value of the part of construction cost which the government agrees to pay. Moreover, it was assumed that the discount rate is 10%, $d=10\%$, and the annual cash flow occurs at the end of each year.

As for the concession rate, although Cross (1965) proposed the concession rate formula, however, in application of bargaining model, he assumed the concession rate of the player I and player II are given. Following concept of Cross(1965, pp. 92-93), Chaing and Lin (2005) have also assumed the concession rate values of government and private sectors are constant. For illustration, we followed the concept of Cross (1965) and assumed the initial concession rate of government and private firms are 20% and 17%, respectively because the concession rate of the government and private firm cannot be inquired using questionnaire or other investigated methodologies during the negotiation period. Furthermore, we also assumed the time value discount and the learning rate are the same in two parties. That is $a = b = 0.2$ and $\mu = \nu = 0.1$ (Cross, 1965; Lin and Chaing, 2005).

Results of Model Application

The financial data of this BOT project were substituted into the BLP problem and the algorithm was implemented; both LINGO and MATLAB programming were used, which involve the heuristic algorithm, to simulate the bargaining process for royalty negotiation for both parties. The initial solution of higher level programming is $\theta_u(k=0)=0.032$ whilst that of the lower level programming is $\theta_l(k=0)=0.006$. The $\theta_u(k=0)=0.032$ value illustrates that the government first wants to receive the royalty from 3.2% of the operation revenue during the period from the concessionaire according to the announced TOR of this project. However, $\theta_l(k=0)=0.006$, which shows that the private firm pays only the 0.06% of the operating revenue to the government. The convergence test is not held because $\left| \frac{0.032 * f_g - 0.006 * f_p}{0.006 * f_p} \right| > 0.01$ and $\left| \frac{0.032 * f_g - 0.006 * f_p}{0.032 * f_g} \right| > 0.01$.

Then, substitute the assumed concession rates of $r_u(k=0)=20\%$ and $r_l(k=0)=17\%$, time value discount rates of $a=0.2$ and $b=0.2$, and learning rates of $\mu=0.1$ and $\nu=0.1$ into equations (5) to modify the concession rate the next negotiation for two parties. Steps 0 to 5 of the algorithm were repeated. Results are shown in Table 1. As reported in Table 1, the solutions are $\theta_u(k=5)=0.012$ and $\theta_l(k=5)=0.012$ for higher level programming and lower level programming, respectively. As shown, the convergence test solution for the BLP problem was held. Thus, it reflects that the royalty negotiation for the two parties were finished at $k=5$. The optimal solutions $\theta_u(k)=0.012$ and $\theta_l(k)=0.012$ for higher level programming and lower level programming for the model II are obtained, respectively. As a consequence, results reveal that the government can charge the royalty which is

calculated by 0.012% of the operational revenue of this BOT project from the concessionaire. In addition, the objective function values, $\Pi_{G,R}(k=5)=11.832$ and $\Pi_{P,R}(k=5)=1.062$, for the two parties can also found, respectively. It demonstrates that the government can get the finance recovery ratio 11.832 times of its investment cost and the concessionaire has an operational benefit of 1.062 based on the royalty negotiation. It reveals that the decrease in the concession rates of the two parties contribute to successful royalty negotiations.

Table 1 Result of simulated royalty negotiation

No. of negotiations	$r_u(k)$	$r_\ell(k)$	$\theta_u(k)$	$\theta_\ell(k)$	$\Pi_{G,R}(k)$	$\Pi_{P,R}(k)$
$k=0$	0.200	0.170	0.032	0.006	13.252	1.082
$k=1$	0.185	0.161	0.025	0.007	12.790	1.078
$k=2$	0.172	0.152	0.021	0.008	12.447	1.075
$k=3$	0.160	0.143	0.017	0.009	12.187	1.071
$k=4$	0.148	0.135	0.014	0.011	11.988	1.067
$k=5$	0.138	0.127	0.012	0.012	11.832	1.062
第一章	第二章	第三章	第四章	第五章	第六章	第七章

CONCLUSION AND SUGGESTIONS

Whilst few studies have explored royalty negotiations for BOT projects, some works have proposed numerous royalty formulas to evaluate royalty amounts or franchise fees for a BOT project. Despite this, the royalty negotiation process is one of the many critical negotiation items of a concession contract. This study not only developed a royalty negotiation model for BOT projects, but also developed the heuristic algorithm for the BLP problem for the government and the private sector. In addition, the factors incorporated into the heuristic algorithm for the BLP problem include the concession rate, learning rate, and the time value discount rate for both parties. This paper also presented a case study with data from the Taipei Port Container Logistic BOT Project.

The results of this study, using the LINGO package and MATLAB programming, show that the two parties involved finish the concession negotiation at the sixth negotiation, at the same time, the profit index of concessionaire is 1.062, and the government finance recovery rate is 11.832. The government can receive the royalty which is calculated by the 1.2% of the operating revenue of this BOT project from the concessionaire. It reveals that the government can receive the government finance recovery ratio at 11.832 times of his investment cost and the concessionaire has operation benefit based on the royalty negotiation process for BOT project. In addition, variables of the concession rate, learning rate, and time value discount rate of the two parties also affect the algorithm of the BLP problem. It shows that the royalty negotiation model developed herein could be employed to explain behavior during negotiations.

Below are some of the issues found in this study which can be further explored in future studies: (1) some assumptions of this model can be substituted to modify the proposed model. In addition, the concession rate, learning rate, and time value discount rate of this model can be reexamined. (2) The royalty negotiation issue for the two parties, the multiple issues of the bargain model and multi level programming problem can be developed in future research in order to explore multiple parties and multiple negotiation issues for BOT projects. (3) The mixed royalty negotiation model, including fixed and flexible royalty model, can be investigated in future research.

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CAUSAL LINKS BETWEEN TRADE AND ECONOMIC GROWTH EVIDENCE FROM TURKEY AND EU COUNTRIES

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ABSTRACT

Openness and economic growth is discussed by heavy concentration on the deterministic relationship running from trade flows to economic growth. While traditional motive of export promotion based growth strategies is heavily discussed, it is the modern growth theories that define possible alternative mechanisms. Technology transfer, place of innovation and spillovers are at the center of the debate. However it is the more contemporary studies that also underline the possible reverse relationship. Originating from such a discussion the study aims to search for the causal relationship by working on a new European Union candidate country, Turkey. Results point out that short term dynamics illustrates a two way relationship.

INTRODUCTION

Trade openness and economic growth is one of the major debates of the modern growth theories. While trade liberalization and policy implications stand at the center of the debate, the contemporary consequences of the trade liberalization also gain importance. With increasing liberalization in the globe, discussions regarding the significance of export and import flows for countries attract more importance. While in the traditional sense export promotion is attributed as a vital mechanism for economic growth, other potentials coming from import volumes is also underlined. However the interconnection between trade flows and economic growth from a causal perspective is not evaluated in details.

While Heckscher-Ohlin type of understanding regarding the comparative advantage of nations is a fact of the international trade, modern growth theories remark the complementary effects of export and import volumes. Other than the traditional abundance argument of previous models, recent studies underline that knowledge and technology transfer is an important part of the international trade process. In the scope of such an understanding comments of Rivera-Batiz, Romer (1991) and Grossman, Helpman (1994) are vital. Positive and inevitable impacts of openness and international trade volumes are endogenized within the economic growth theory. However while early evidence validates the positive effect of openness on economic growth, it is the rise of time series evidences that underline a possible reverse mechanism. Actually interaction of the economic growth and international trade discussion gives rise to the evolution of four major channels; (i) Export led Growth, (ii) Import led Growth, (iii) Growth led exports, (iv) Growth led imports.

Originating from such a discussion the major objective of the study is twofold. First of all the Euro area will be assessed based on the general relationship between economic growth and international trade, without making a causal understanding. Next Turkey as a candidate country to the union will be placed within the developed nations and transition countries of the region. Finally the study aims to make a quantitative assessment of the discussed relationship between economic growth and international trade flows. Vector autoregressive (VAR) type models will be constructed. While doing this, possible cointegrating behavior will also be assessed and based on the detection of cointegration an augmented type of vector error correction (VEC) models will be preferred. Result are expected to open up a discussion for a newly EU candidate country.

The paper will continue as follows; following section aims to define and discuss the possible mechanism that may prevail between economic growth and international trade flows. Moreover the general environment in the Euro area will be illustrated. Following the general understanding, VAR and VEC models will be introduced and model selection, testing criterions will be assessed. The paper will next illustrate the empirical findings and finally will end with a conclusion.

OPENNESS AND ECONOMIC GROWTH

Comparative advantage approach that stood at the hearth of traditional trade theories, facilities from the capital and labor abundances of nations. While major gains from trade can be attributed to the inevitable productivity gains at the national base, actual mechanisms needs a wider understanding. Although comparative advantage and specialization are both crucial elements to understand the possible gains from increasing integration, it is the contributions of modern growth models that try to connect trade and growth by introducing alternative mechanisms.

Rivera-Batiz, Romer (1991) and Grossman, Helpman (1994) underline the unavoidable positive impact of economic integration and increasing trade volumes as an integral part of the economic growth. The background is that trade stimulates not only the exchange of goods but also the exchange of ideas, thus knowledge. Within such an understanding export led and import led growth approaches gain importance. Export led growth approach underlines the efficient allocation of resources and increased technological advances coming from foreign market interaction and also competition (Balassa, 1978 and Helpman, Krugman, 1995). On the other hand import led growth theories emphasize that import acceleration may help the domestic production for obtaining the required foreign intermediate goods. Moreover in this understanding the role of technology is also vital. Actually imports stands as an important channel for technology and knowledge transfer. It is the R&D spillovers that stand at the center of the positive impact of imports within the endogenous growth models (Coe, Helpman, 1995). At the end, both export and import led views point out the positive side of increasing integration and trade for the economic growth concerns within the context of endogenous growth literature.

Similar to most of the economic growth theories, trade theories also suffer from the endogeneity problem. While the traditional discussion as introduced above underlines the positive role of trade stimulation for economic growth, other approaches also exist. One is in favor of a reverse mechanism, second is to underline the possible bi-directional relationship. Finally the absence of an interrelationship between trade and economic growth is also a possibility. The growth led trade case is discussed by Bhagwati (1988); economic growth that affects domestic productivity, technological advances and the general skill level of the labor force may alter the export potential of countries. Moreover increasing growth and general development level of economies can motivate the import potential and desire of the economy. Such cases will prepare the formation of a different channel that gives a specific role to economic growth to alter the exports and imports of the economies. In line with the expectations the remaining views in favor of bi-directional relationship and the absence of a significant link is an empirical matter of fact. Following the discussion, while Awokuse (2006) points out the positive role of trade on economic growth for a set of transition economies, Liu et al (1997) highlights the possibility of a reverse mechanism for China. Meanwhile Dritsaki et al. (2004) remarks the bi-directional relationship between export volume and economic growth for the case of Greece. Hussain et al. (2008) also constructs a similar question for the case of Pakistan from a different perspective and try to investigate the causal link between export stimulation and agricultural GDP; findings underline that while a long run bi-directional relationship exists between exports and agricultural GDP, short term dynamics are found to be unclear.

While origins of the study constructs an environment in which direction of a relationship can be constructed by using different models, identifying the general area of study seems to be an important factor in the process. Within the central idea of the study, Turkey as a candidate to EU can be placed inside the core and new members of the union. Figures one and two illustrate the relationship between export and import relative volumes with per capita income levels. There seems to be a clear cut between the advanced core countries of the union and the new members, transition economies of the region. In this setting one can approach to the figures from a matrix perspective and divide the picture in four major groups. Countries may be labeled as high per capita income with low or high trade volumes ones. Similarly countries can be defined as ones with low per

capita income with low of high trade volumes. In such a setting figures can be approached by dividing nations below and above the average per capita income levels of the Euro area. Such an illustration underlines the interesting place of Turkey within the region. While Turkey belongs to a block of countries with identical income levels, it seems to be lagging in terms of trade realizations. Note that Turkey belongs to a group of countries with per capita income level below the Euro average. Moreover when the average growth rate of imports and exports are computed for 1996-2006 period, figures indicate that countries that lie below the line realizes an average annual growth rate for exports and imports of 10.73% and 11.75% respectively. This indicates the trade potential of the countries and the significance of their investigation in such a setting. In the knowledge of the ongoing study few studies are done for this group of countries. As indicated above Awokuse (2006) work on three transition economies, new members of the EU. Results for Poland, Czech Republic and Bulgaria underline that country based studies validate that, different mechanisms can work together. While for Czech Republic, exports and imports are effective in explaining growth, for Bulgaria a two way relationship between exports and growth is reported. Finally for the case of Poland imports are found to be a vital part of economic growth. In this setting investigation of Turkey as an identical economy in terms of the localization in the constructed figures below seem to be vital and informative.

Figure 1: Exports and Growth in Euro Area

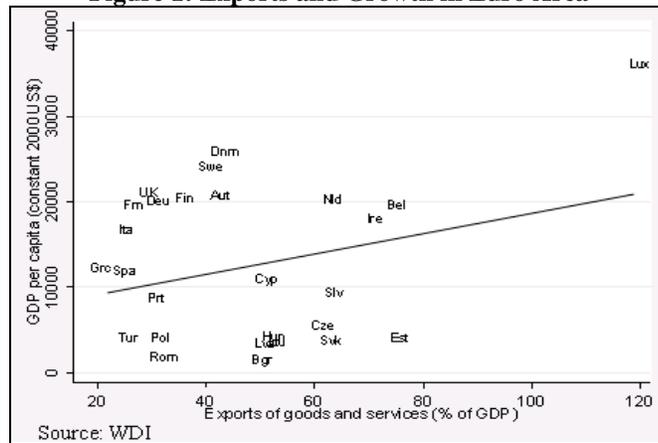
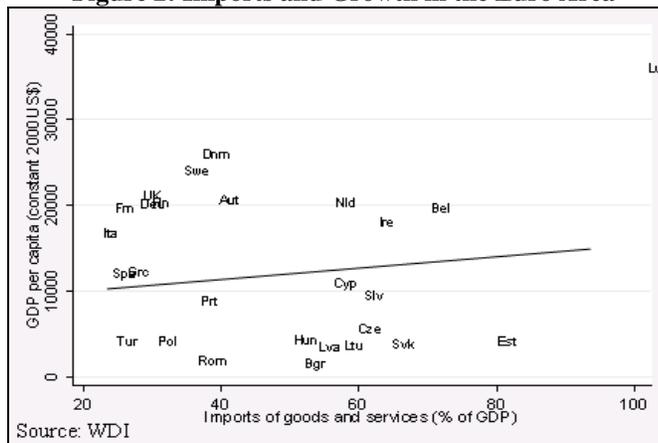


Figure 2: Imports and Growth in the Euro Area



Within such an environment before describing and implementing the multivariate models' investigation, the study also finds it necessary to give some introduction information regarding the foreign trade accounts of Turkey as well as the composition of the trade flows. While Turkey is observed to be a final good exporter, its composition of imports is different. Within this framework, decomposition of exports and imports should be investigated differently. When we observe the historical path of exports, results remark that industrial products has an average share of 84% for the post 1980 period, which represents the start of the liberalized era for Turkey. Moreover most recent statistics underline that EU has the highest share in the export targets of the country.

Figures underline that in 2008 60% of total exports are to the Euro area. More interesting is the path of the composition of import volumes. While final remark regarding the causal relationship between imports and growth seems to be an empirical matter of fact, import led growth models remark the significance of intermediate and investment goods in the import composition whereas, growth led import understanding underlines the consumption goods share in the overall environment. Table 1 illustrates the historical developments in the composition of import volumes of Turkey for the post 1980 period. Findings indicate that for the post 1980 liberalization era, while composition of exports change slightly, import decomposition seems to realize a relatively stable path.

Table 1: Composition of Foreign Trade in Turkey

% of imports	1983-1994	1995-2001	2002-2006
Intermediate Goods	18.73	21.65	16.81
Investment Goods	75.71	67.42	71.17
Consumption Goods	5.38	10.39	11.36
% of exports	1983-1994	1995-2001	2002-2006
Agriculture	19.86	8.12	4.39
Mining	2.66	1.47	1.11
Industry	77.37	89.80	93.84

Source: TURKSTAT

METHODOLOGY

To assess the causal relationship two sets of variables are used. Data set contains annual observations from 1950 to 2008 and obtained from Turkish Statistics Office (TURKSTAT). To account for economic growth Gross Domestic Product is used. On the other side of the relationship, international trade flows and openness is evaluated by using three major indicators; exports, imports and exports plus imports all as percentage of GDP are calculated. These three indicators are related with the economic growth indicator separately, one by one, to avoid some specification problems such as multicollinearity. The causal understanding between economic growth and openness will be evaluated via vector autoregressive (VAR) models for Turkey. Based on the cointegrating behavior of the variables, vector error correction type of augmented models will be constructed. Such an understanding may help one to distinguish the possible long run and short run dynamics of the relationship.

Initial point will be to apply the Augmented Dickey Fuller Tests -ADF- (Dickey, Fuller, 1979) to check for the stationarity of the variables under investigation. In case one deals with stationary I(0) variables, the VAR model can be estimated by using the system of equations one and two which illustrates a bi-variate (x and y) kth order VAR model.

$$(1) x_t = \eta_1 + \sum_{i=1}^k \omega_{1i} x_{t-i} + \sum_{i=1}^k \vartheta_{1i} y_{t-i} + u_{1t}$$

$$(2) y_t = \eta_2 + \sum_{i=1}^k \omega_{2i} y_{t-i} + \sum_{i=1}^k \vartheta_{2i} x_{t-i} + u_{2t}$$

While identification of a causal relationship is followed by the so called Granger Causality tests (1969), the study finds it vital to concentrate on the impulse responses of the variables. Actually it is a fact that the Granger causality test concentrates on the predictability of the variables in reality. Standard F-test will be implemented for equations one and two respectively. Tested hypothesis is the joint significance of the variables under concern. Rejection of the null hypothesis will help us to comment on the possible causal link. In such a case we will be rejecting the hypothesis of y (x) does not Granger Cause x (y) in equation one (two).

However, like it is the case in most of the financial and macro economic data sets, one will be dealing with non stationary variables most of the time. The standard procedure is to transform the variables into a new one that is observed to be stationary. By doing so the order of integration of the non stationary variables are

determined. Here the study finds it necessary to remark that such a transformation process most of the time cause one to loose some information contained in the actual levels of the data. This is the major remarks of Johansen (1988); non stationary variables should be checked for possible cointegrating relationship. If it is the case that one fails to detect any cointegration relationship, than estimation of the VAR model in the differences is an applicable process to follow, as illustrated in equations three and four.

$$(3) \Delta x_t = \eta_1 + \sum_{i=1}^k \omega_{1i} \Delta x_{t-i} + \sum_{i=1}^k \vartheta_{1i} \Delta y_{t-i} + u_{1t}$$

$$(4) \Delta y_t = \eta_2 + \sum_{i=1}^k \omega_{2i} \Delta y_{t-i} + \sum_{i=1}^k \vartheta_{2i} \Delta x_{t-i} + u_{2t}$$

While application of standard Granger type of test is valid under the specified equations, complementary applications can also be preferred. After understanding the Granger type of relationship, as discussed, the impulse response functions will be obtained. The response of the variables to one standard deviation innovation to the other variable will be constructed. The response is expected to die away in the medium run; what here more important is to understand the short term dynamics of the relationship.

On the contrary, detection of cointegration should be handled with cautious. It is no longer applicable and accurate to estimate a VAR model, instead an augmented VEC model should be preferred. Engle and Granger (1987) and Johansen (1988) underline that applying VECM solves the major problem of the VAR models. That is the lost information through out the transformation process of the non stationary variables. A linear combination of the two non stationary variables is injected into the VAR model, which enables the system of equations to work by using the variables in their non stationary forms. The fact is the stationary of the two cointegrated but non stationary variables. The so called error correction (EC) component which is illustrated in equations five and six contains the information regarding the long run relationship. By doing so while the major shortcoming of the VAR type of models using non stationary variables is solved, decomposition of the long run and short run dynamics is also sustained. While the EC component contains the long run relationship, a joint significance test to the lagged differences of the variables will asses the short run dynamics of the relationship, towards the long run equilibrium. As discussed by Johansen (1988) three major source of causality may prevail in the VEC models; one coming from the EC component, another coming from the lagged differences of the other variables and finally coming from the joint significance of the EC component and the lagged differences of the variables.

$$(5) \Delta x_t = \zeta_1 + \kappa_{11} EC_{t-1} + \sum_{i=1}^{p-1} \gamma_{1i} \Delta x_{1t-i} + \sum_{i=1}^{p-1} \nu_{1i} \Delta y_{1t-i} + \varepsilon_{1t}$$

$$(6) \Delta y_t = \zeta_2 + \kappa_{21} EC_{t-1} + \sum_{i=1}^{p-1} \gamma_{2i} \Delta x_{2t-i} + \sum_{i=1}^{p-1} \nu_{2i} \Delta y_{2t-i} + \varepsilon_{2t}$$

EMPRICAL FINDINGS

After capturing the general environment in Turkey, for the starting point all variables under concern are evaluated by using ADF test. Results reported in table 2 indicate that all variables are I (1) at 1% significance level. While estimation of VAR models in the traditional sense is one way to deal with the model, possible detection of cointegration is also checked.

Table 2: ADF Test Results

	GDP	Export/GDP	Import/GDP	Trade/GDP
y_t	3.43974	0.031	0.996	1.058
Δy_t	- 3.9466 ***	-8.483 ***	-5.974 ***	-5.895 ***

*** represents rejection of unit root at 1%

Table 3 summarizes Johansen cointegration test results. Each of the I (1) trade variables are related with GDP, which is also I(1). Johansen (1988) cointegration test is applied. The choice of lag number in the Johansen setting is vital and affects the results severely. Choice of accurate lag level is done by comparing Akaike Information Criteria (AIC) and Schwarz Information Criteria (SIC) that are obtained from the initial VAR models. For export case both criteria underline five as the relevant lag level, whereas for the other two variables the right lag level is found to be one. Results illustrated in table 2 indicate the absence of cointegration relationship between variables.

Table 3: Johansen Cointegration Test Results

<i>Max rank</i>	Trace Statistics for			5% Critical Values
	Export-GDP	Import-GDP	Trade-GDP	
0	11.2485 *	8.2028 *	10.6951*	15.41
1	1.0157	1.4765	3.3719	3.76

* represents the chosen cointegration relationship

Findings here prevent the study to implement the augmented advanced VEC type of models. This actually gives a technical difficulty as the introduced VAR type of models in the first differences of variables are heavily criticized due to their low ability to construct the causal relationship. However the discussed shortcoming will be tried to be solved by applying some other test such as impulse response observations.

Within this framework three separate VAR models are estimated in the first differenced transformed forms of the variables. Similar to the Johansen test, lag selection of the VAR models are done by following the AIC and SIC information criterions. Selected lag levels are parallel to the previous findings that use VAR models in the levels of the variables to determine the accurate lag length of the Johansen cointegration test.

Table 4: Granger Causality Test Results

	F-Test stats (P- values)
GDP \nrightarrow Exports	5.95076 (0.00035)
Exports \nrightarrow GDP	16.1066 (0.07985)
GDP \nrightarrow Imports	1.90829 (0.11507)
Imports \nrightarrow GDP	1.59927 (0.18314)
GDP \nrightarrow Trade	3.53386 (0.00991)
Trade \nrightarrow GDP	3.15010 (0.01751)

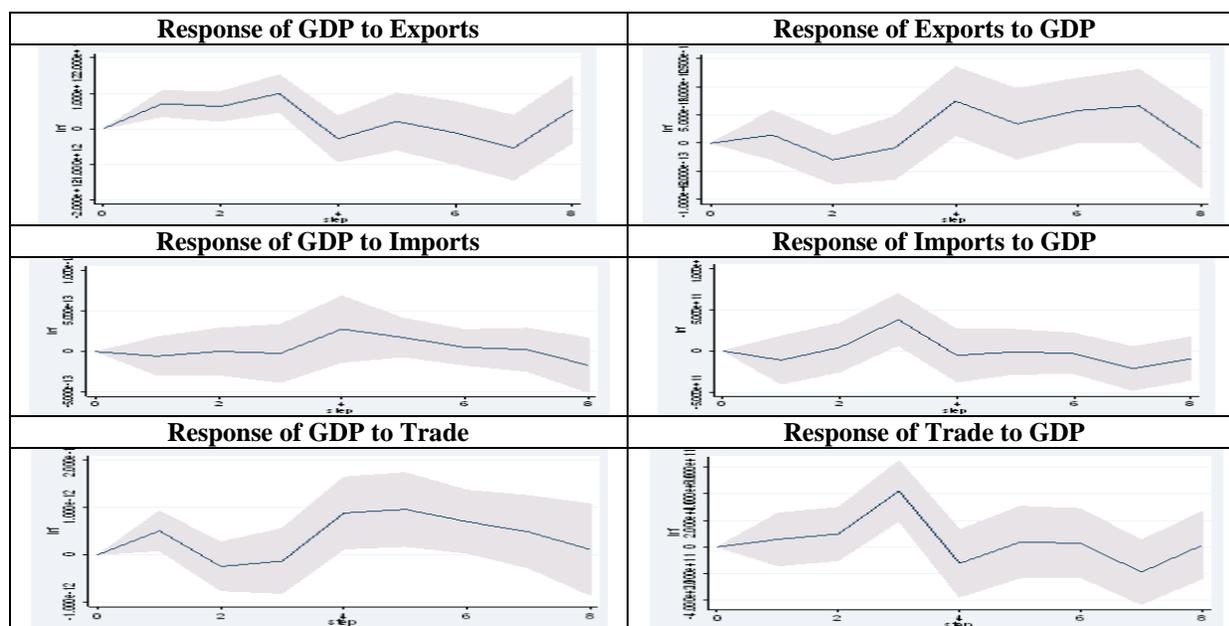
Table 4 represents the Granger type of causality results. As pointed out previously, Granger type of causality is actually a predictability test, however the study find the initial findings crucial in the sense that, they represents one of the two major tools to asses the causal relationship within the technical limitations of the ongoing study. Findings here underline that for the pair of imports and growth, detection of a significant relationship seems to be impossible. On the other hand for the remaining two cases, which relate exports and trade volumes separately with the GDP, there seems to be a two way causal relationship. Above all, to make a robustness check one may also concern about the impulse responses of the variables. Appendix gives a combination of the impulse response relationship between each of the models one by one. For exports, one can observe that there seems to be a three period and significant effect of GDP shock on export volumes whereas the reverse case seems to much more short living. Moreover the impact of the shock given to exports seems to be effecting economic growth with a lagged structure. For the case of imports, the results signal the absence of a significant impact running from imports to growth. However one may argue a very short lasting effect of economic growth on imports that seem to evolve in year three. Finally results regarding the trade volume and economic growth underline that, trade volumes response to economic growth is very short lived. However interestingly unlike the previous findings, trade volume as a measure of openness seems to effect economic growth for three periods and the effect is found to be significant.

CONCLUSION

While investigation of the effects of openness on economic growth is proved to be effective over various channels such as increasing transfer of goods and services to accelerate demand and supply based

linkages in production, it is the modern growth models to emphasize knowledge and technology transfer. Moreover other alternative motives can underline the possible impacts of growth on international trade flows. Within such an understanding investigation of Turkey as a candidate country to EU, is informative. Results indicate that relationship between trade and growth is contradictory. While for import volumes and growth no significant relationship can be detected, other measures of international trade underlines the possible two way causal relationship. Although findings are found to be vital and informative, the study can be augmented by decomposing the export and import volumes. Moreover for the country set that Turkey belongs to some more advanced panel cointegration type of causal models can be constructed.

APPENDIX



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STUDENT PERCEPTION OF SALES JOB ATTRIBUTES AND INTENTION TO SELECT SALES AS A CAREER

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ABSTRACT

Previous studies related to student selection of sales as a career indicate that student perception of sales, as a career is mostly negative. This may be possibly due to the negative sales job attributes. This study attempts to examine both negative and positive sales job attributes and their impact on student selection of sales as a career. In addition, this study attempts to build a model using the negative and positive sales job attributes in impacting student selection of sales as a career. The structural equation modeling shows that the sales job attributes related to personal development have positive impact on student selection of sales as a career.

INTRODUCTION

Firms look at newly minted college graduates to fill their immediate need for sales people along with their future need for sales managers. Research has shown that approximately 70 percent of those receiving degrees in marketing will choose sales as their initial career positions (Kutscher 1990; Weilbaker 2001; Michaels and Marshall 2002; Simon 2006). Professional selling is a career where significant growth is forecasted (U.S. Department of Labor, 2003). Given that a career in sales is often the shortest path to senior positions, why is there reluctance by many college seniors to consider a career in sales? Perhaps it stems from a misperception of what selling is all about. Why are we surprised, when sales and marketing are often promoted together as possible career options for college graduates? They both are, for all practical purposes, two parts of the same “pitch” to encourage potential customers to buy a firm’s products or services. However, the appeal of each function as a first job after graduation is very different.

Given the negative student perception of sales as a career, the goal of this study is to examine both the positive and negative underlying dimensions of sales job attributes and their impact on student intention to select sales as a career. In doing so, we attempt to build a model of sales job attributes and student intentions to go into sales as a career using structural equation modeling. Previous studies related to this subject have not utilized the cause and effect phenomenon and are somewhat descriptive. We attempt to fill this void by examining the direct and indirect impacts of factors related to sales job attributes on student selection of sales as a career.

LITERATURE REVIEW

The American Salesman (1958) surveyed more than 3,000 undergraduate students at 31 colleges and universities. Students were asked to name the first ten words that came to mind in connection with the word “salesman”. The ten most common replies were: travel, money, personality, sales, fast talker, commission, appearance, products, high pressure, and aggressive. These results led *Printer’s Ink* (1958) to conclude that the public’s poor image of salespeople keeps good talent out of selling careers. Several other studies conducted in the 1950’s and 1960’s also made it quite apparent that the selling profession was not held in high esteem (Ebey 1957; Mason 1965; Ditz 1967). However, studies conducted in the 1970’s, 1980’s and 1990’s found that college students in general were

becoming more positive toward a career in personal selling (Paul and Worthing 1970; Muehling and Weeks 1988). This was followed by a 1993 study (Swenson et al 1993), where it was suggested that students' preference for a career in sales changed; it had declined from 1980 to 1990! Then, in a 1997 survey conducted jointly by the University of Rhode Island and South Bank University in the United Kingdom, it was again reported that students had a low opinion of the sales profession (Cohen 1997). Still other research in the 1970's 1980's and 1990's suggested that students no longer viewed a sales career negatively (Bellenger, Bernhardt, and Wayman 1974; Dubinsky 1980; Dubinsky and O'Connor 1983; Cook and Hartman 1986; Amin, et-al. 1995). What are we to believe?

The nature of the sales job has changed significantly over the years, but has the word gotten out? Salespeople are professionals; highly trained, motivated, and customer-oriented, in keeping with the tenets of the marketing concept. In a study of over 300 members of *Pi Sigma Epsilon*, a national sales fraternity, Luthy (2006), underscored the importance of offering sales course work to business students to better prepare them for a career in sales. Other marketing educators have also proposed that accurate classroom information can correct these images (Stevenson and Paksoy 1983; Lagace and Longfellow 1989; Swenson et al. 1993).

In today's society, there is widespread suspicion about sellers, which appears to operate at a cultural level (Wright 1986; Friestad and Wright 1994). It has been demonstrated that customers' perceptions of sellers can take judgmental precedence over more objective real-time sales presentation data when sellers are unknown (Fiske and Pavelchak 1986; Stafford and Stafford 2003). In a 1962 study (1962a, 1962b, 1962c) it was reported that only one in every 17 male students had planned on a sales career. The study findings suggested that students viewed a career in selling as lacking in security, low in prestige, and poor in financial rewards. International studies (Honeycutt et al. 1999), also concluded that student bodies in two Pacific Rim countries, New Zealand and the Philippines, share similar views. In other international studies, both consumer product and industrial product selling ranked either last or nowhere out of 17 business occupations surveyed. The reason for all the negative sentiment may be embedded in the widely held perception that selling involves manipulating others and is not considered a reputable activity (Lysonski and Durvasula 1998; Spillan, Totten, and Ziemnowicz, 2007; Lee, Sandfield, and Dhaliwal, 2007).

Students place high utility on the job attributes of salary and autonomy. College students have described autonomy as being an important reason for considering a sales career (Kurtz 1972; Dubinsky, 1980; Castleberry 1990). DeVecchio and Honeycutt Jr. (2002), also found that students find industrial sales careers to be more appealing because of financial rewards, autonomy, and an ability to use their educational background. The position of sales representative possesses a set of unique features such as direct contact with the market, a high level of autonomy and the frontier role in a non-routine job that demands flexibility and innovative capacity, persistence and self-motivation (Oviedo-Garcia, 2007).

Low sales career opinions have also been attributed to a lack of student awareness about the profession (Dubinsky 1980; Swenson et al. 1993), along with unfavorable sentiments evolved from the stereotype of the salesperson portrayed in the mass media (Jolson 1972; Thompson 1972; Dubinsky 1981; Dubinsky and O'Connor 1983). Thompson suggested that stories, anecdotes, and novels tend to reinforce the "traveling salesperson" image (Thompson 1972).

METHODOLOGY

A questionnaire was developed using the previous studies related to student perception sales as a career. The variables used in the questionnaire came mainly from the studies of Bristow, Amxy, and Slack (2006), Churchill, Ford and Walker (1974), Dubinsky (1981), Muehling and Weeks (1988), and others as listed in Table 1. After a pretest, the wording of some the questions were revised and a few new questions relating to income and student intentions to select sales as a career were added. In addition, instead of using a five-point scale as in the previous studies, a seven-point scale ranging from very strongly agree to very strongly disagree were utilized.

The questionnaire was distributed during regular class sessions at a university in New England, U.S.A. Respondents were told that the survey was intended to measure their perception of sales as a career. Respondents were assured anonymity and participation was voluntary; no one refused to participate in the survey. Total

sample size was 216 consisting of 57% males and 43 females with average age of 22. Ninety-one percent of the students were seniors, 33% majoring in marketing, 19% in finance, 18% in accounting, 17% in management, and 7% in management information systems, and 6% in general business or other majors.

Table 1: Sales Job Attributes and Intention to Select Sales as a Career

SALES JOB ATTRIBUTES	SOURCE
A sales job offers career growth opportunities	Bristow, Amyx, and Slack (2006)
A sales job is personally satisfying	Bristow, Amyx, and Slack (2006)
A sales job is valuable	Churchill, Ford, and Walker 1974
A sales job is creative	Churchill, Ford, and Walker (1974); Dubinsky (1981)
A sales job is a fun	Bristow, Amyx, and Slack (2006)
A sales job is a high status job	Muehling and Weeks (1988); Dubinsky (1981)
A sales job provides freedom to use your own judgment	Churchill, Ford, and Walker 1974
A sales job provides substantial income	Honeycutt et al. (1999)
A sales job offers no intellectual challenges	Muehling and Weeks (1988); Dubinsky (1981)
A sales job is not a job for a person with talent	Muehling and Weeks (1988)
A sales job requires little intelligence	Muehling and Weeks (1988)
A sales job is dull, routine, monotonous	Muehling and Weeks (1988); Churchill, Ford, and Walker 1974; Childers et al. (1980); Dubinsky (1981)
A sales job offers very few chances for advancement	Muehling and Weeks (1988);
Selling is a job – not a career	Muehling and Weeks (1988)
There is very little security in sales job	Muehling and Weeks (1988); Dubinsky (1981)
A sales job is non-stop activity	Muehling and Weeks (1988)
A sales job is challenging	Bristow, Amyx, and Slack (2006); Churchill, Ford, and Walker 1974; Childers et al. (1980); Dubinsky (1981)
INTENTION TO SELECT SALES AS A CAREER	
Going into selling would be a complete waste of a college education	Muehling and Weeks (1988)
I am very interested in pursuing a professional sales-related career after obtaining my degree	Bristow, Amyx, and Slack (2006); Luthy (2007)
At some time during my career, I will probably hold a position in professional sales	Bristow, Amyx, and Slack (2006)
Obtaining a position in sales is a priority for me after graduation	Luthy (2007)
Obtaining a sales support position would interest me	New variable

RESEARCH QUESTIONS

The goal of this research is to examine the impact of student perceptions of sales job attributes on selection of sales as a career. Negative job attributes are likely to impact students not to select sales as a career. In order to verify the positive and negative attributes as perceived by students, we performed a factor analysis of the 17 sales job attributes, using principal component extraction and varimax rotation procedures. The results showed that there were three major factors explaining 50.73% of the variance. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy with a test of Bartlett's Test of Sphericity showed that the data comes from a multivariate normal population ($KMO = .856$; $c^2_{(120)} = 3,350$; $p = .000$). Table 2 contains the individual indicators and their related constructs. The first factor contains eight job attributes of *personal development*. The second factor contains seven attributes of sales job being *ordinary or mundane*. The third factor composed of two attributes sales job being *stressful*. An additional factor analysis of the four variables related to student intentions to go into sales career verified the single *intention* factor. With these findings, we propose the following causal relationships:

Hypothesis 1: Positive sales job attributes related to personal development impact student intentions to select sales as a career.

Hypothesis 2: Negative sales job attributes related to student perception of sales being an ordinary job negatively impact student selection of sales as a career.

Hypothesis 3: Negative sales job attributes related to student perception of sales being a stressful job negatively impact student selection of sales as a career.

Hypothesis 4: Negative sales job attributes related to student perception of sales being an ordinary job negatively impact student perception of positive attributes related to personal development.

Hypothesis 5: Negative sales job attributes related to student perception of sales being a stressful job negatively impact student perception of positive attributes related to personal development.

CONSTRUCTS	Variables and Descriptions	β	t-value	Sig.	λ	
PERSONAL DEVELOPMENT CR = 0.89 AVE = 0.50 R ² = 0.57	PD1: A sales job offers career growth opportunities	1.02	7.29	.001	.63	
	PD2: A sales job is personally satisfying	1.16	7.45	.001	.62	
	PD3: A sales job is valuable	1.07	8.19	.001	.70	
	PD4: A sales job is creative	1.14	8.00	.001	.68	
	PD5: A sales job is a fun	0.95	6.1	.001	.50	
	PD6: A sales job is a high status job	0.99	7.29	.001	.60	
	PD8: A sales job provides freedom to use your own judgment	1.03	6.88	.001	.56	
	PD7: A sales job provides substantial income	Fixed				.62
ORDINARY JOB CR = 0.85 AVE = 0.49	OJ1: A sales job offers no intellectual challenges	1.06	7.76	.001	.63	
	OJ2: A sales job is not a job for a person with talent	1.12	7.34	.001	.66	
	OJ3: A sales job requires little intelligence	1.22	8.29	.001	.72	
	OJ4: A sales job is dull, routine, monotonous	0.78	6.11	.001	.49	
	OJ5: Selling is a job – not a career	0.98	6.17	.001	.50	
	OJ6: A sales job offers very few chances for advancement	Fixed				.65
	OJ7: There is very little security in sales job	Deleted				
STRESS CR = 0.52 AVE = 0.36	S2: A sales job is non-stop activity	Fixed			.38	
	S1: A Sales job is challenging	1.73	3.33	.001	.64	
INTENTION CR = 0.96 AVE = 0.86 R ² = 0.34	I1: I am very interested in pursuing a professional sales-related career after obtaining my degree	1.03	19.17	.001	.92	
	I2: At some time during my career, I will probably hold a position in professional sales	0.94	14.20	.001	.78	
	I3: Obtaining a position in sales is a priority for me after graduation	1.00	19.68	.001	.93	
	I4: Obtaining a sales support position would interest me	Fixed				.87

Table 2: The Measures, Composite Reliability, Average Variance Extracted, and R-squares
CR= Composite Reliability; AVE = Average Variance Extracted

RESULTS

Model Assessment

In testing the causal relationships just described, we employed structural equation modeling (SEM) using the maximum likelihood approach in SPSS AMOS. The composite reliability coefficients (CR) and the average variances extracted (AVE) for the latent constructs were also calculated (Table 3). The CR coefficients for the constructs are based on standardized factor loadings and measurement errors and range from 0.52 to 0.96. All, but one of the CR values are well above the recommended minimum level of 0.60 (Bagozzi & Yi 1988). Similarly, the AVE's range from 0.36 to 0.86. One of the AVE's is 0.49 and another one is 0.36. Fornell & Larcker (1981) suggest 0.50 as the lower limit. While calculated AVE of 0.49 can be considered acceptable, the AVE of 0.36 is low. This is for the same construct that had a CR value of 0.52. The low AVE and CR values are likely to be due to this construct having only two indicator variables. Although it is desirable to have constructs with AVE's greater than or equal to 0.50, it is common for the AVE's to be below 0.50 even when the reliabilities are acceptable (Hatcher, 1994). For the *stress* construct, we performed additional analysis based on the work of Bagozzi, Yi & Phillips (1991). In all cases, the two-factor model ($c^2 = 276.89$; d.f. = 165) fits the data better than the constrained one-factor models (c^2 ranging from 317 to 431; d.f. = 566). An examination of the factor loadings also shows that all estimated loadings are statistically significant ($p < 0.01$). In addition, a test of discriminant validity showed that the square root of AVE for each construct is higher than the intercorrelations of all constructs (Table 3). Therefore, the scales meet the discriminant validity test as suggested by Fornell and Larcker (1981).

Table 3: Construct Reliability and Discriminant Validity Tests

Construct	CR	AVE	INTENTION	PERSONAL DEVELOPMENT	STRESS	ORDINARY JOB
INTENTION	.96	.86	.93			
PERSONAL DEVELOPMENT	.89	.50	.51	.71		
STRESS	.52	.36	.14	.37	.60	
ORDINARY JOB	.85	.49	-.30	-.53	-.30	.70

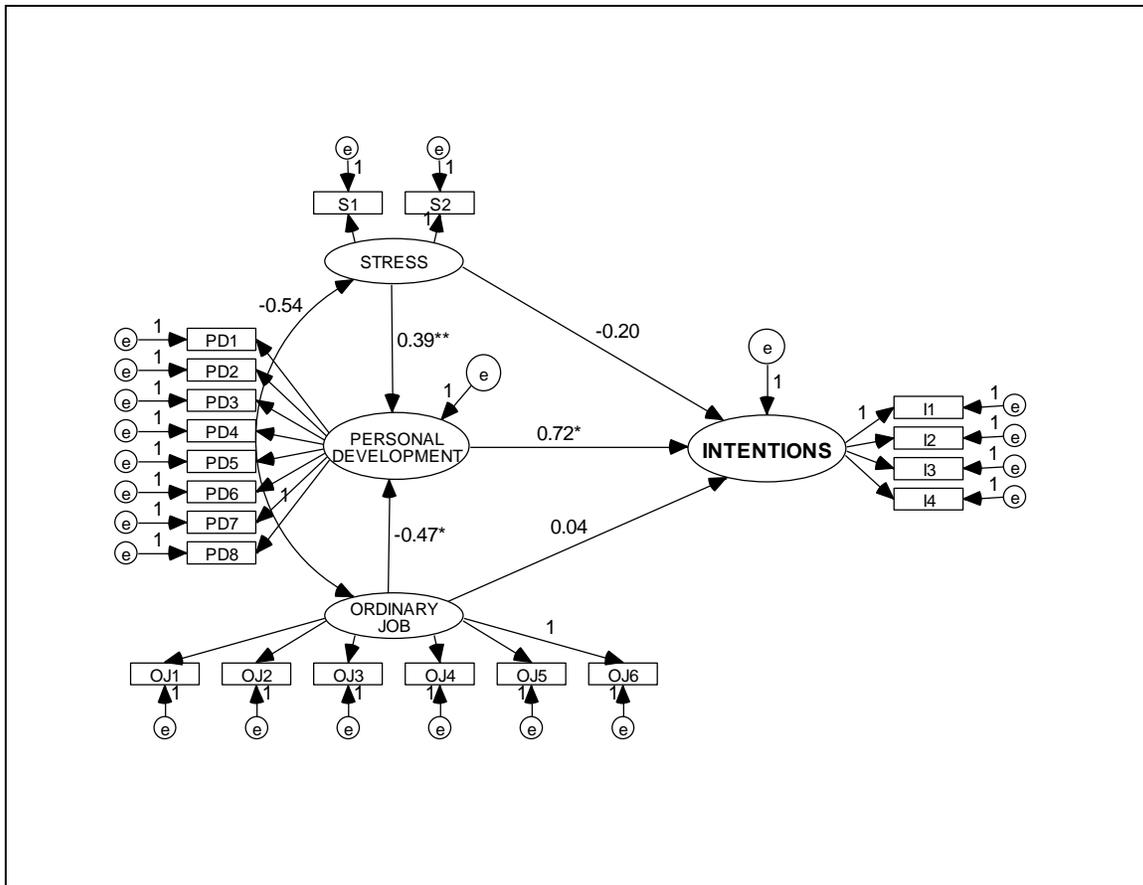
AVE = Average Variance Extracted; CR: Composite Reliability

*The square roots of AVE's are in bold on the diagonal.

The fit of the initial model was acceptable despite the high chi-square value ($c^2_{(183)} = 367.62$, $p < 0.01$; $c^2/d.f. = 1.90$; CFI = 0.91; IFI = 0.91; TLI = 0.90 and RMSEA = 0.065 Lo = 0.054 and Hi = 0.075). The analysis showed that the variable "There is very little security in sales job" which was part of the *ordinary* construct had a low standardized loading (0.36) and had a high-standardized residual covariance path with another indicator variable (3.51). Thus, this job attribute was removed from the SEM model in subsequent analysis.

The modification indices indicated that the model could be further improved by freeing correlations between error variances. Therefore, a correlation between the indicator error variances of "A Sales job is personally satisfying" and "A Sales job is fun" was freed. The presence of shared variances was expected because some indicator variables had been similarly worded and all attributes were measured on the same scale. Therefore, the analysis could produce redundant results. In such instances, Byrne (2001) suggests respecification of the model if there is theoretical evidence for specifying the correlations. The revised model had an acceptable model fit ($c^2_{(163)} = 276.89$, $p < 0.01$; $c^2/d.f. = 1.70$; CFI = 0.94; IFI = 0.94; TLI = 0.93 and RMSEA = 0.057 (Low = 0.045 and High = 0.068)). Although the c^2 for the model was significant indicating that the model does not represent the sample covariance matrix, the c^2 statistics is sensitive to sample size. Therefore, the other widely used model fit statistics were utilized and $c^2/d.f.$; CFI; IFI; TLI, and RMSEA all met the accepted criteria (see Hair et al. 2006). Figure 1 diagrammatically depicts the relationship among the constructs as specified in the hypotheses.

Figure 1
Model of Sales Job Attributes and Intention to Select Sales as a Career



*statistically Significant at $p < 0.01$; **Statistically Significant at $p < 0.05$

Note: The indicator variables are defined in Table 2.

Hypotheses Test Results

Hypothesis 1. The analysis of the data shows that the sales job attributes related to personal development positively impact student intention to select sales as a career. The standardized regression coefficient is considerably large ($\lambda = 0.72$; $p = .001$). As the student perception of positive sales job attributes related to personal development increases, so does the likelihood that the students will select sales as a career.

Hypothesis 2 and 3. The negative sales job constructs, “stress” and “ordinary job” have no direct impact on student intention to select sales as a career, but both constructs have significant indirect effects. The standardized indirect effect of *stress* construct on intention to select sales as a career is 0.28 ($0.39 \times 0.72 = 0.28$) and the indirect standardized effect of *ordinary job* construct is -0.34 ($-0.47 \times 0.72 = -0.34$) Bartol (1983) and Pedhazur (1982) indicate that an indirect effect higher than 0.05 can be considered meaningful. These indirect effects are indeed large enough to have impact on student intention to select or not to select sales as a career while the personal development factor acting as a mediator.

Hypothesis 4 and 5. The perception of sales job as being an ordinary job negatively impacts the personal development construct ($\lambda = -0.47$; $p = .001$). Interestingly, the stress construct has a positive impact on the personal development ($\lambda = 0.39$; $p = .025$). The fact that this construct had an indicator variable “A sales job is challenging” may explain the positive impact on personal development. Indeed, the variable “A sales job is challenging” is positively correlated with the personal development construct ($r = 0.36$; $p = 0.001$).

DISCUSSION AND CONCLUSIONS

As seen in the results section, positive sales job attributes related to *personal development* have direct positive impact on student *intention* to select sales as a career. The negative sales job attributes related to a sales job being *stressful* and the perception of a sales job as being just an *ordinary job* do not directly affect student intention to select sales as a career, but they both have indirect effects. Therefore, the personal development construct acts as a mediator in impacting student intention to sales as a career. This mediating impact is evidenced by the significant direct effect of the *stress* and *ordinary job* constructs on the *personal development* construct, and the indirect effects explained earlier.

In an attempt to gain a deeper understanding of the sales job attributes as perceived by the students in this study, we performed further analysis. A comparison of the three sales job attributes constructs shows that the stress construct has the highest average score. The mean difference between the *stress* construct and the other constructs are statistically significant using paired sample t-test. The *personal development* construct has the second highest mean score. The mean difference between this construct and the other constructs is again statistically significant.

It is also interesting to note that the student intention to select sales as a career has a mean score of 3.21, which corresponds to between neither agree nor disagree and disagree ratings. This indicates that majority of the students surveyed has no strong intention to select sales as a career. In fact only 17 percent of the students surveyed indicated that they would pursue a professional sales related career after graduation. However, 23 percent of the students would be interested in obtaining a sales support position. It appears that more students may prefer a sales support position as opposed to direct sales position. Overall, as expected, the analysis also showed that students majoring in marketing are more interested in obtaining sales jobs compared to other majors.

MANAGERIAL IMPLICATIONS

Based on the results of this study, it is clear that the personal development is the most important factor that influences student selection of sales as a career. Therefore, companies recruiting students for sales jobs need to emphasize the personal development attributes of sales jobs. Of course, they also need to attempt to change the negative attributes associated with sales jobs. For example, the negative attributes related to the construct of *ordinary job* and the perception that a sales job is *stressful* need to be changed. In addition, the importance of the sales as a career and not just a job needs to be emphasized.

LIMITATIONS AND FUTURE RESEARCH

This research only considered the sales job attributes. There are a variety of other factors that impact selection of sales as a career. In addition, the study is limited to a single university students majoring in business. It is possible that inclusion of other university students could yield different results. Thus, future research could include more sales job related concepts and more university students to represent the overall U.S. student population. Additionally, a comparison of the U.S. students to the students from other countries will add to the literature and improve our understanding of the differences among different cultures in sales career.

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SUB-NATIONAL FDI LOCATION CHOICE IN TRANSITIONAL ECONOMIES: THE ROLE OF FDI MOTIVE

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ABSTRACT

Multinational enterprises (MNEs) make difficult decisions when they select a location for their new investments. Developing and emerging economies are attracting increasing amount of investments every year. This study aims to analyze the location choice of MNEs in various sub-national regions of Russia. In foreign acquisitions MNEs favor also some other regions than Moscow and Saint-Petersburg. Although, the weight of two capitals in foreign acquisition inflow is considerable, also the regions apart from Moscow and Saint-Petersburg can offer the business potential to foreign companies.

INTRODUCTION

Multinational enterprises are continuously looking for new opportunities in developing economies. During 1990-2007, the inward foreign direct investment (FDI) stock in developing countries and transitional economies (TEs) has grown from 27 % to 31 % of world inward FDI stock. At the same time, the world inward FDI stock grew almost eightfold (UNCTAD, 2008). So far, Russia has received quite modest amount of FDI per capita, compared to other Central and East European countries. However, despite of recent global financial crisis and the restrictive law on foreign investment into strategic branches, Russia's economy still has a big growth potential for FDI. China, India, USA and Russian Federation are leading in survey of UNCTAD (2008) for the most attractive locations for FDI in next three years (2008–2010).

In this descriptive paper we focus on FDI location choice within nation in developing countries and transition economies (TEs), and particularly in Russia. FDI is distributed quite unevenly among regions of large emerging and transitional economies. Different sub-national regions are also in quite distinct stages of economical development (Golubchikov, 2007). There are studies on the impact of sub-national factors on FDI location choice in emerging economies, mainly China. However, there is too little research of this issue in the context of Russian Federation. Dunning and Lundan (2008) note that there are considerable similarities between interregional and inter-country specialization of production. However, one can assume that the sub-national location factors play decisive role in a choice of final geographical destination of FDI.

According to Dunning (1998) FDIs can be categorized by their motives. At the end of 1990s, market seeking MNEs accounted for about 60 % of FDI in the developing countries and transitional economies (Dunning and Lundan, 2008). Nowadays, the geographical distribution of FDI is less dependent on the determinants of resource-based or market-oriented investments and increasingly on efficiency seeking investments (Dunning and Lundan, 2008). In certain branches one specific motive could be dominating, for example market seeking motive is popular in retailing or resource seeking in mining sector.

Previous studies show that the bulk of FDIs made in Russia are concentrated in Moscow, Saint-Petersburg and regions around them. The dominance of two biggest cities in FDI statistics may be biased, e.g. because bulk of companies have their headquarters in Moscow. This article is concentrating on the regions apart from those two capitals. Here the data of 289 acquisitions in 60 Russian regions, including Moscow and Saint-Petersburg, was used. The acquisitions were made in Russia by foreign-owned companies during 2004-2006. The study focuses on twenty most popular regions among foreign investors apart from Moscow and Saint-Petersburg.

LITERATURE ON FDI LOCATION CHOICE

Location-specific advantages of the firm in Dunning's OLI paradigm were scarcely researched by international business scholars in 1970s and 1980s (Dunning, 1998; 2004). Only in 1990s the research on location of economic activity started to broaden, thanks to studies by Porter, Krugman, Enright and Storper, among others (Dunning, 2004). The main reason for the negligence towards location related research was a belief among international business scholars that the principles of location decisions are similar in home and host country, and they can be easily extended abroad (Dunning, 1998). However, already the early FDI studies have shown that the foreign subsidiaries of MNEs tend to be concentrated in different industrial sectors than do local companies. According to Dunning (1998), already in early literature the location preferences of foreign direct investors are seen dependent on the motives for the investment (resource-, market-, efficiency seeking; export-oriented, import-substituting), and on whenever it is a new or sequential one. However, location preferences are seen independent on the types of activities firms are in (Dunning, 1998). The interesting issue is whether these considerations are valid also in case of emerging markets and in sub-national choice of location for FDI.

Zhou et al. (2002) point out that the recent research has moved its focus from cross-national to sub-national location choice. The literature they mention is mainly concentrated on the USA or UK as a host country for FDI. Zhou et al. (2002) suggest that sub-national level allows for a more fine-grained analysis of regional differences, and therefore may offer more accurate evidence for the sensitivity of FDI decisions to locational determinants. Theories used in previous sub-national FDI location choice research include; economic geography theory including agglomeration effect (e.g. Du et al. 2008a;), OLI -paradigm (Wilska, 2002; Buckley and Ghauri, 2004), theory on competitive advantage (Wilska, 2002), internationalization process theory (Lorentz, 2008), supply chain management theory (Lorentz, 2008), and theory of MNC (Kang and Lee, 2007). To our best knowledge sub-national studies of FDI location in Russia are scarce. China is the most studied transitional economy in the field of sub-national FDI location choice. In sub-national studies and in studies with both national and sub-national level, the source countries were U.S., Finland, Japan, and Korea Republic. Most of the studies are focusing on manufacturing sector; service sector is studied only in few articles (e.g. Zhou et al., 2002). Dunning (1998; 2004) has listed some variables influencing the location on value added activities in 1970s, 1990s and at the beginning of 2000s. For example, in resource seeking they are natural resources, availability and quality of local partners, government restrictions and incentives (Dunning, 1998). In market seeking they are domestic and adjacent markets, availability and price of skilled labor, presence of quality suppliers, quality of national and local infrastructure (Dunning, 1998).

The main location factors of FDI identified in literature are the cost of production, GDP of region, potential size and growth of the market, and investment incentives. Woodward and Rolfe (1993) found that positive significant variables are per capita GNP, exchange rate devaluation, the length of income tax holidays, the size of free trade zones, political stability, and manufacturing concentration. The FDI decision has at least two steps: considering and choosing. The latter seems to be less aligned to traditional models of FDI choice (Buckley et al., 2007).

DIVISION OF FDI IN RUSSIA

The amount of foreign direct investment (FDI) made in Russia is quite low when compared to the transitional economies in Central and Eastern Europe. However, the FDI flows to Russia have grown remarkably between 2000 and 2006 (Rosstat, 2007). The amount of FDI has tripled during the period. In Russia several branches with potential of attracting resource seeking FDIs (e.g. mining sector) are named by the Federal law in 2008 as strategic for safety and defense of Russia (Rossiyskaya Gazeta, 2008). Nowadays, foreign investors in strategic branches of Russia in most cases have to get the governmental approval for deals concerning over 25 % of shares of Russian company (Rossiyskaya Gazeta, 2008).

The distribution of FDI between the 88 different regions within Russia is far from even. In 21st century 10 % of regions got at least 80 % of FDI inflows in Russia annually. On the district level the Central Federal District is a clear leader, accounting almost half of the FDI inflows in 2006 (see Table 1). The Central Federal District includes Moscow, which explains the high amount of FDIs to this district. Far Eastern Federal District was the second attractive FDI destination with 30 % of the total FDI flow in 2006. The Far Eastern District is attracting FDI with its oil and natural gas resources. The North-Western Federal District, including Saint-Petersburg, is on third place in attracting FDIs. The remaining share is distributed among other districts quite

evenly. It is worth mentioning that the yearly differences in FDI inflows to these regions are huge, and it is hard to give more detailed picture based on just Rosstat's statistics.

Table 1: Foreign direct investments in Russia, 2002-2006, % of total FDI

Region	Foreign Direct Investment, % of total FDI					USD, million
	2002	2003	2004	2005	2006	Total 2002-2006
Russian Federation	100,0	100,0	100,0	100,0	100,0	46 953
Central Federal District	55,6	49,4	42,9	27,4	48,0	19 754
<i>Moscow</i>	37,7	36,6	19,7	15,8	33,1	12 440
North-Western Federal District	8,3	6,6	4,0	6,4	11,0	3 510
<i>Saint- Petersburg</i>	2,1	1,0	1,2	1,9	4,7	1 159
Southern Federal District	5,3	3,8	1,4	3,2	2,8	1 408
Volga Federal District	4,9	3,5	4,5	2,1	3,4	1 595
Ural Federal District	6,7	4,0	10,0	5,8	1,5	2 457
Siberian Federal District	1,0	1,8	1,2	24,9	3,7	4 046
Far Eastern Federal District	18,1	30,9	36,1	30,2	29,4	14 183

Source: Rosstat, 2007.

The total amount of FDI has been growing through the period from 2002 to 2006 (Rosstat, 2007). However, the regional FDI inflows have been growing constantly through the same period only in Far Eastern Federal District. The changes between years are remarkable. For example in Siberian Federal District the FDI inflow from year 2004 to 2005 grew almost 30 times higher reaching almost 25 % of the FDI inflows to Russia that year. This phenomenal figure for year 2005 was possibly the consequence of large foreign acquisition deal in oil sector of Omsk region by Russian-owned foreign company from the Netherlands (Gazprom, 2005). The FDI to Siberia dropped to around 3,7 % of total FDI in 2006, which, however, was still higher figure than the received FDI in most of the previous years. It is very evident that grouping the Russian regions according to the FDI is difficult due to the remarkable changes in FDI inflow between years in different regions. However, it can be said that the division of FDI in Russia is very uneven.

RESEARCH QUESTIONS, DATA AND METHODOLOGY

The previous literature on distribution of foreign direct investments within an emerging country (mainly China) has motivated us to explore the FDI distribution also in Russian context. In order to go to the deeper analysis level of FDI location choice decision making on the company level, we first need to get the broader picture of the phenomena on the higher level. Our research concerns the distribution of foreign acquisitions within Russia, among activities and within time. Our research questions are:

- Which are the top 20 Russian regions (apart from Moscow and Saint-Petersburg) as foreign acquisition destinations by total acquisition size, by units acquired and by mean size of acquisition?
- Which were the main activities where foreign acquisitions were made?
- How the location of foreign acquisition into activities typical of market seeking, efficiency seeking and resource seeking is distributed among top 20 Russian regions?
- Which were the main source countries of foreign acquisition in top 20 regions with foreign acquisitions?

For research purpose the secondary sources were found more appropriate and more ready available than primary sources, although, not necessarily in convenient form. As the basis for data collection we used mainly Russian and Finnish business journals: Mergers&Acquisitions -journal (www.ma-journal.ru) and Talouselämä (www.talouselama.fi). The M&A journal includes acquisitions with sum of \$ 5 million or more, in which buyers get a (nearly) control share of companies. It also includes both domestic and foreign acquisitions, and the home country of acquirer was not always clear. This required additional search from other secondary sources, e.g. www-pages and reports of companies. In search for acquisitions made by direct investment enterprises we used the definition by IMF (IMF, 2003), by which at least 10 % ownership defines the foreign direct enterprise. Also other firms where at least 10 % is owned by such enterprises are regarded as foreign direct enterprises (IMF, 2003). Our database was homogenized by removing duplicates, and filtering with unavailable investment

amount. In case of the acquisition of company with activities in several regions, the location of headquarter was used in allocating investment regionally. We collected information on 294 acquisitions (Table 2.) made in 58 Russian regions during 2004-2006 (total: \$ 43,4 billion; min. \$ 5 million - max. \$ 13 091 million). The acquisitions in Moscow and Saint-Petersburg were included at the beginning for the sake of the whole picture. However, these two regions were later filtered out. Top 20 areas with the most of acquisitions by total size and by frequency were chosen among other areas. Next analysis was then conducted within top 20 areas with biggest total acquisition size. The data was analyzed in MS Excel.

Table 2: Data description

	2004	2005	2006	2004-2006
All foreign acquisitions, count	68	101	120	289
Foreign acquisitions (excl. Moscow & SPb), count	46	54	69	169

Results

The results show the distribution of the foreign acquisition among Russian regions apart from Moscow and Saint-Petersburg (see Appendix). The study found that in top 20 regions (excluding Moscow and Saint-Petersburg) with the biggest sum of acquisitions made, the acquisitions were made mainly in “oil & gas” and “mining & quarrying” sectors. Oil & gas sector had over 80 % of regional acquisitions in seven regions of top 20. The mining & quarrying sector absorbed over 90 % of regional acquisitions in four regions. The combined share of those two extracting industries in all acquisitions made in top 20 regions during 2004-2006 was 82 % in value. The oil & gas acquisitions are made in five different federal districts (Siberian, Volga, Ural, Southern, North-Western). This emphasizes the large resource base not constrained much by the location. The mining & quarrying was most popular industry for the acquisition in Central and Siberian districts. The acquisition motive for the extracting industry is basically resource seeking. In acquisitions the availability of the target company is important issue in choosing FDI location.

Sverdlovsk region, Moscow region and Rostov region of Ural, Central and South districts received 40 % of their foreign acquisitions into metallurgy sector. These are well populated regions. Republic of Tatarstan has good conditions for the food industry, partly because of developed agriculture sector. Over 40 % of acquisitions in the Tatarstan were made in Food sector, and 41 % in oil & gas sector. Moscow region, Samara region, Nizhny Novgorod region, Krasnodar territory and Rostov region had the most diversified portfolio of acquisitions made during 2004-2006. These are the areas with good potential for such sectors as communications, transportation and machine building.

DISCUSSION AND CONCLUSION

Limitations

Our data includes acquisitions in different stages such as “completed”, “agreement made/signed”, “in final stage”, “not completed”, “auction took place”, etc, and the status of the deal was not renewed later. Some of uncompleted acquisitions might be later not accepted by anti-monopoly committee, cancelled or renegotiated. In statistics the acquisition sums might be spread for several years, but in our database the year of announcement of deal is used to allocate sums of acquisitions yearly. Our database also includes several estimations of acquisition prices, but they are collected mainly from the one source. We used the IMF definition of foreign investment enterprise, which do not take into account the character of investment (direct, portfolio, or other) – only foreign ownership of at least 10 % matters. In addition, our database didn’t include greenfield investments. Partly due to mentioned reasons the total amount and sum of completed acquisitions in our database are not matching with the Rostat’s statistics. Our database also included acquisitions made in Russia by Russian-owned foreign companies, which have affected the data into extraction.

In Russian FDI statistics the geographic breakdown of direct investment data is done on immediate country basis (IMF, 2003). Our database is not fully comparable with Russian FDI statistics, because first, we have used wider definition of direct investment enterprise, and second, we took only acquisition mode of FDI into account.

In this paper we use data collected from multiple sources, and matched them together. However, it is often difficult to get any information on single acquisitions and therefore the data used is rather extensive. This paper focuses solely on foreign direct investments in Russia. Taking into account the uniqueness of Russian business sector with many limitations for foreign investments, it is difficult to say whether the results are comparable with other emerging economies.

The company can have multiple FDI motives even in one investment case. The explicit coding of motives into the model could be challenging. In some cases the outcomes of the research could have only limited use because of multiplicity of FDI motives one company could have at the same time. The study on the location factors on country's regional level is possibly not enough, because it would not take into account different needs of companies in different branches and sub-branches, or companies seeking for resources, markets, effectiveness or strategical assets

Further research implications

There are some questions which arise from this review. What the foreign company looks for in potential regions for FDI? Which are the FDI location factors making company to invest into specific region of the country? How the location factors appealing to companies from different branches differ when considering investment into host region within country? How the international consideration makes the issue different from domestic consideration? Why there is a need for IB –level explanation of the phenomenon of choosing investment location?

The location of FDI could be seen from the 1) viewpoint of MNE, or 2) viewpoint of host country or region. Combining of these two viewpoints into one framework could be useful in understanding the balance between sometimes conflicting aims of the host government and the foreign investors. The combination could help to find the balanced win-win situation. The FDI spillovers are closely related to the topic, but the opening the black box could be a matter of a future research. There is a link between motivation of FDI and the FDI spillovers, so partly the future FDI spillovers in the region could be anticipated by supporting the entry of foreign investments with specific motivations.

At spring 2008, Russia has accepted the law restricting foreign investments in strategic branches. The effect of this law on the FDIs could be interesting issue in the future research of FDI location factors on the industry level in Russia. The recent development of Russian financial environment (Rouble devaluation among others) could effect the future development of FDI activity in Russia. With the wider database which would also make it possible to make statistical analyses, it would be interesting to see are there some differences in frequency, size and timing of foreign acquisitions made in different fields of activities. The future research has to be based on the acquisitions and greenfield investments as well.

Managerial implications

The location choice between Russian sub-national regions is not easy for foreign managers. The dominance by value of certain regions, e.g. Moscow, St. Petersburg and Omsk, is clear. More risks but also more opportunities can be found in regions like Moscow region, Samara region, Nizhny Novgorod region, Krasnodar territory and Rostov region. Managers should also take into account for example wage rates and investment incentives that can be more favorable in more distant regions.

APPENDIX

Table A: Top 20 Russian regions with biggest amount of foreign acquisitions made during 2004-2006

Rank acq. sum	Region	Fed. District *	Acquis. sum, \$ million	Acq. count	Rank acq. count	Rank mean acq.	Home countries of main acquirers **	Main industry branches where acquisitions were made 2004-2006, (% of all acquisitions in region)
1	Omsk region	SIB	13 096	2	18	1	NLD	Oil & gas (99)
2	Republic of	VOL	3 883	4	10	3	CHN, CHE,	Oil & gas (92),

	Udmurtia						CYP, VGB	metallurgy (8)
3	Kursk region	CEN	1 650	1	20	2	CYP	Mining (100)
4	Kemerovo region	SIB	1 076	4	10	5	LUX, BHS, CYP	Mining (98), machine building (2)
5	Khanty-Mansiysky autonomous area - Yugra	URA	1 031	4	10	6	USA, CYP, HUN	Oil & gas (100)
6	Astrakhan region	SOU	972	3	15	4	USA, CHE	Oil & gas (100)
7	Sverdlovsk region	URA	969	9	4	12	BHS, CYP, KAZ, NLD	Metallurgy (90), Food (6)
8	Republic of Tatarstan	VOL	767	6	8	10	TUR, USA, CYP	Food (47), oil & gas (41), machine building (7)
9	Moscow region	CEN	756	13	1	16	CYP, EST, GBR, DEU	Metallurgy (40), machine building (18), transport (15), trade (13)
10	Orenburg region	VOL	621	4	10	8	CYP, HUN	Oil & gas (98)
11	Yamalo-Nenetsky Autonomous area	URA	592	6	8	13	GBR, CYP, CYM	Oil & gas (94), mining (16)
12	Republic of Komi	NW	552	7	7	15	USA, SWE, CAN	Oil & gas (98)
13	Belgorod region	CEN	510	2	18	7	CYP	Oil & gas (99)
14	Samara region	VOL	508	9	4	17	USA	Oil & gas (56), metallurgy (25)
15	Nizhny Novgorod region	VOL	463	11	2	19	LUX, DEU, VGB, SWE	Trade (29) pulp & paper (25), chemistry (23), IT (12)
16	Krasnodar Territory	SOU	426	9	3	18	CYP, NOR	Oil & gas (59), transport (26), agriculture (7), communications (5)
17	Republic of Sakha (Yakutia)	FAE	426	3	15	9	CYP, DEU	Mining (67), communications (33)
18	Altay Territory	SIB	382	3	15	11	CYP	Mining (98)
19	Krasnoyarsk Territory	SIB	330	4	10	14	CYP, AUT	Energy (83), trade (11)
20	Rostov region	SOU	252	8	6	20	USA, NOR, IM, CYP	Metallurgy (51), communications (18), , transport (14), trade (9), food (6)

* CEN = Central Federal District; NW = North-Western Federal District; SOU = Southern Federal District; VOL = Volga Federal District; URA = Ural Federal District; SIB = Siberian Federal District; FAE = Far Eastern Federal District.

** AUT = Austria; BHS = Bahamas; CHE =Switzerland; CHN = China; CYM = Cayman Islands; CYP = Cyprus; DEU = Germany; EST = Estonia; GBR = United Kingdom; HUN = Hungary; IM = Isle of Man; ISL = Island; KAZ = Kazakhstan; LUX = Luxembourg; NLD = Netherlands; NOR = Norway; SWE = Sweden; TUR = Turkey; USA = United States; VGB = Virgin Islands (British).

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THE ROLE OF KNOWLEDGE AND SKILL DEVELOPMENT IN ACCOUNTING EDUCATION AND PRACTICE: THE CASE OF TURKEY

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ABSTRACT

The present study investigated the stages that accountancy education in Turkey has passed through from past to present within the scope of the views of the educators and practitioners of accountancy and an attempt was made to make future projections. This study, which also explored the historical development of the accountancy profession in Turkey, intended especially to reveal the mutual expectations of educators and practitioners about accountancy education. The basic expectation of the business world from universities where accountancy education is offered is the training of personnel with a strong background that will meet their needs on a macro level. We are of the opinion that the results that emerged from the fieldwork that was conducted to measure the expectations of both groups are worthy of attention.

INTRODUCTION

Technological advances and globalization have led to important developments in education and applications of accountancy in the 21st century (Öncü, 1991). Those who offer accountancy education and the business world which puts this education into practice require, together with restructuring, an accountancy expert who guides them and is more effective in investment decisions. In this context, the efficiency of the accountant in providing information for management, state and international markets will increase. Besides, it is inevitable that information that will serve socio-economic functions be defined and an adequate educational structure be established for its implementation. Analyzing businesses on micro and macro levels and increasing administrative efficiency should be perceived as fundamental principles for today's businesses.

The expectation of the business world from accountancy education needs to be investigated in different categories. These are: banks, manufacturing businesses, insurance companies, tourism enterprises, businesses of foreign trade etc. Each of these sectors has technical details of accountancy specific to it. When the said sectors and their position in economy are taken into consideration, there is a need for a working system that releases adequate information to the market in good time as well as offering information to its users in a high quality manner and a qualified accountant who runs this system.

Both the educators and the business world, which will employ the groups that will receive education, need to cooperate to meet the expectations from accountancy education so much so that it will combine theory and practice (Sweeney et al., 2009). The undergraduate period, which is the first phase of education, will combine theory and practice from the freshmen year on. Indeed, such an application is observed in students who receive medical education. The fact that they begin to study humans directly after the Physics, Biology and Chemistry courses which they receive in the first year yields extremely beneficial results in terms of practice.

The students' quality of education can be raised by offering the accountancy courses incorporated in the curricula of faculties in a manner that combines theory and practice. Thus, the student who receives the accountancy education and the employers who employ them have better qualified workforce (Karasioğlu, 2001).

ACCOUNTANCY EDUCATION AND COOPERATION BETWEEN UNIVERSITY AND INDUSTRY

It was possible to pass from all the other professions to accountancy before the Professional Accountancy Law (No: 3568) was passed in Turkey on June 1st 1989. However, after the introduction of the law, restrictions were imposed and principles specific to the profession were established. The law divides practitioners of the profession into three: 1-Public accountant, 2-Certified public accountant, 3-Sworn-in certified public accountant. Public accountants were granted, by virtue of a regulation made in 2008, the right to become certified public accountants after passing an examination. Financial advisors are those who graduate from the Faculty of Economic and Administrative Sciences. Sworn-in Certified Financial Advisors, on the other hand, are those who serve as financial advisors for 10 years and succeed in the test to become Sworn-in Certified Financial Advisors (Public accountant). (Elmacı, 1996)

Community Colleges and Faculties that offer accountancy education in Turkey are intensifying their studies regarding what the profiles of the students they are educating should be like. (Paksoy et al., 2005). Such efforts by Faculties and Community Colleges are important steps in mobilizing their internal dynamics and taking into account the demands of the industry (Needles, 2008)

A study by Uçar et al. entitled “The Accountancy Education as Expected by the Business World from the University” is noteworthy in this regard. Although it is a local study, we believe that its findings are significant (Uçar et al., 1997). Some of the findings are as follows:

- Do you believe that students who are offered Accountancy Education at university receive adequate education? This question was responded negatively by 85 % of the respondents.
- Do the graduates who have completed their university education recognize the documents used in the profession? Almost 50 % of the respondents answered this question negatively.

The study above is an important data indicating the necessity of cooperation between the university and the industry. Dura’s definition of university-industry cooperation is: the whole of the education, research and development and all other activities that combine the existing resources of universities (knowledge, personnel and equipment etc.) and the existing resources of the industry (experience, personnel, financial assets etc.) through a method and a system that will benefit both parties and the society at large. (Dura, 1994, Yüksel, 1997). Dura listed the benefits of this cooperation as follows:

Table 1: Benefits of cooperation between the industry and university

Benefits to the industry	Benefits to the university
The personnel and equipment needs can be met by the university.	Practical skills of academicians who are not knowledgeable about the real sector will increase.
Wasting of resources will be reduced to a minimum.	Confronted with reality, academicians will provide students with better quality education.
Efficiency of the firms will increase.	Industrial projects will provide both the university and the academicians with extra income.
Quality of products will increase and costs will decrease.	The contacts that will take place will enable the parties to know each other better.
It will be ensured that the industry will work on the basis of more scientific methods and thus its competitive power will increase.	It will enable university academicians to fulfill their strengths and responsibilities in regard to practice.

It is evident that the improvement of cooperation between the university and the industry will contribute favorably to both sides. Nevertheless, the level of this cooperation is not at the desired level despite all the efforts spent in this regard. The reasons for this insufficient level of cooperation can be stated as follows (Çürük and Doğan, 2002):

- Universities can not meet the demands of the industry in a short time.

- Adequate communication opportunities can not be created to allow for the realization of potentials between the university and the industry.
- The university academicians can not meet the needs adequately due to their lack of experience in industry.
- The businesses have no policies regarding cooperation with the university.
- The businesses do not attach importance to in-service accountancy training.
- The universities can not properly appreciate the value and needs of the businesses and vice versa.
- Both the universities and the industries are reluctant to establish communication on the pretext that they are too busy.

Evidently, the need for increasing cooperation, communication and mutual understanding between those who offer accountancy education and the businesses that benefit from the data generated by this education is huge.

BACKGROUND TO THE STUDY

The background of the study involves revealing reflections of the above-mentioned university-industry cooperation in today's world. Our study dealt with two parties. One of the parties involves academicians who offer education at universities while the other party involves certified public accountants who are actively involved in the business. We dealt with the second group as the practice group in our study.

Research Questions and Methodology

The questionnaire that we administered to the parties during our study was taken from a study by Z. Jun Lin, Xiaoyan Xiong and Min Liu (Lin, Xiong and Liu, 2005). Two groups were investigated in this study, by which we attempted to present the situation in Turkey, namely certified public accountants and academicians. The survey form intends to reveal the perceptions of the participants in two basic groups regarding three different features. These are: knowledge, skill and pedagogy.

We tried to obtain responses from the parties to three basic questions. These are;

- Q1: What is the level of significance of the elements listed in the survey for educators and practitioners about knowledge, skill and pedagogy in the profession of accountancy?
- Q2: What is the level of the efficiency of the elements listed in the survey for educators and practitioners about knowledge, skill and pedagogy regarding their conveyance to students?
- Q3: Is there any substantial difference in the general views on the importance of the needed accountancy knowledge and skills as perceived by accountancy practitioners and educators?

Two sample independent t-tests were conducted in the study to see whether there was a statistically significant difference between the practitioners and the academicians. In the survey form, the first 19 lines of the subjects' column, the lines from 20 to 35 and the lines from 36 and 39 have been taken as efficiency measures of knowledge, skill and pedagogy, respectively. A website entitled www.alomalive.com which is frequently visited by practitioners and academicians was utilized to ensure large-scale participation in the survey. The general profiles of the participants are as follows: By gender: 162 female and 522 male, 540 certified public accountants, and 144 academicians.

FINDINGS

Since our study consisted of two groups, a t-test was applied. Table 2 deals with the components of Knowledge, Skill and Pedagogy for A-C grouping. According to this application, as is seen in Table 2, the top ten items for the practitioners in the knowledge group are as follows; Taxes, financial accountancy, auditing, ethics and social responsibilities, management accountancy, finance, business law, information systems, technology topics, and human resources management. It was observed that taxes were the top priority for academicians.

In Table 2 also presents the mean scores for the practitioner and faculty groups. Regarding the five most important knowledge subjects, practitioner and faculty respondents ranked “taxes” as the most important knowledge. “Ethics and social responsibilities” is recognized by faculty respondents as the third most important course but it has not given the same weight from practitioner respondents (statistically significant difference is found based on independent samples t-test). Another subject with significant between-group variance is “Global Business” as faculty respondents ranked it eight in importance, but practitioner respondents ranked as twelfth in importance. Furthermore, there are great variances in the importance ranking of other knowledge subjects, e.g., human resource management, e-commerce and macro and micro economics among the two groups of respondent. The two groups’ mean scores on the least important knowledge subjects varied substantially, although “marketing”, “statistics” and “assurance” were among the lowest as perceived by all two groups.

Regarding the needed skills, practitioners and faculty respondents are inharmonious in identifying the three most important skills. Practitioner respondents ranked “decision making” as the most important skills, although decision making was ranked as the third most important skill by the faculty respondents. Nonetheless practitioners and faculty respondents ranked “professional demeanor” as the second most important skills. Faculty respondents ranked “computing techniques” as the most important skills. However, the practitioner group gave more weight to “analytical thinking” skills over “computing techniques”. Relatively greater emphasis was given by faculty respondents to the skills of “foreign language” (the sixth most important skill as perceived) while practitioner respondents gave it eleventh in the importance ranking.

Table 2: Descriptive statistics and importance ranking of survey questions^a

	Overall	Rank	Practitioner	Rank	Faculty	Rank	t-value ^b	p-value
Panel 1 A Knowledge								
Taxes	4,81 (0,517)	1	4,82 (0,468)	1	4,74 (0,666)	1	1,371	0,172
Financial Accounting	4,68 (0,565)	2	4,69 (0,579)	2	4,64 (0,510)	2	1,048	0,295
Auditing	4,57 (0,698)	3	4,56 (0,709)	3	4,64 (0,654)	2	-1,244	0,214
Ethics and social responsibilities	4,38 (0,823)	4	4,35 (0,842)	4	4,51 (0,739)	3	-2,085	0,037**
Management Accounting	4,37 (0,78)	5	4,35 (0,795)	4	4,45 (0,718)	4	-1,438	0,151
Finance	4,26 (0,779)	6	4,24 (0,790)	5	4,34 (0,731)	5	-1,364	0,173
Business Law	4,24 (0,784)	7	4,23 (0,792)	6	4,28 (0,754)	6	-0,799	0,425
Information Systems	4,14 (0,912)	8	4,12 (0,908)	7	4,20 (0,928)	7	-0,969	0,333
Technology Topics	3,95 (1,013)	9	3,93 (0,949)	8	4,03 (1,226)	10	-0,955	0,341
Human Resources Management	3,93 (0,915)	10	3,86 (0,933)	9	4,16 (0,808)	9	-3,462	0,000***
E-Commerce	3,83 (0,995)	11	3,77 (0,979)	10	4,02 (1,034)	11	-2,626	0,008***
Business Strategies	3,80 (0,959)	12	3,74 (0,950)	11	4,00 (0,968)	12	-2,856	0,004***
Global Business	3,74 (0,951)	13	3,65 (0,960)	12	4,10 (0,825)	8	-5,683	0,000***
Macro Economics	3,68 (0,945)	14	3,60 (0,927)	13	3,98 (0,957)	13	-4,289	0,000***
Micro Economics	3,64	15	3,56	14	3,94	14	-4,346	0,000***

	(0,935)		(0,929)		(0,902)			
Retail and Sales	3,51 (1,058)	16	3,44 (1,015)	15	3,77 (1,175)	15	-3,096	0,002***
Marketing	3,46 (1,161)	17	3,41 (1,106)	16	3,65 (1,335)	16	-1,909	0,058*
Statistics	3,40 (0,980)	18	3,33 (0,973)	17	3,65 (0,971)	16	-3,426	0,001***
Assurance	3,28 (0,978)	19	3,20 (0,958)	18	3,59 (0,992)	17	-4,289	0,000***
Panel 1 B Skills								
Decision Making	4,58 (0,675)	1	4,58 (0,678)	1	4,58 (0,664)	3	-0,117	0,907
Professional Demeanor	4,53 (0,712)	2	4,51 (0,704)	2	4,62 (0,739)	2	-1,687	0,092*
Computing Techniques	4,45 (0,725)	3	4,40 (0,746)	4	4,63 (0,613)	1	-3,730	0,000***
Analytical Thinking	4,44 (0,790)	4	4,46 (0,799)	3	4,38 (0,757)	6	0,993	0,321
Written Communication	4,41 (0,759)	5	4,39 (0,757)	5	4,48 (0,766)	4	-1,216	0,224
Oral Communication	4,37 (0,822)	6	4,37 (0,801)	6	4,38 (0,901)	6	-0,163	0,871
Leadership	4,34 (0,740)	7	4,31 (0,768)	7	4,46 (0,613)	5	-2,420	0,016**
Team Work	4,25 (0,879)	8	4,26 (0,856)	8	4,22 (0,964)	7	0,461	0,645
Foreign Language	4,13 (0,953)	9	4,06 (0,949)	11	4,38 (0,930)	6	-3,542	0,000***
Entrepreneurship	4,13 (0,892)	9	4,11 (0,884)	10	4,20 (0,920)	8	-1,079	0,281
Resource Management	4,13 (0,958)	9	4,14 (0,871)	9	4,11 (1,235)	11	0,254	0,800
Negotiation	4,08 (0,848)	10	4,06 (0,866)	12	4,16 (0,772)	9	-1,311	0,190
Project Management	4,06 (0,869)	11	4,04 (0,863)	13	4,13 (0,892)	10	-1,079	0,281
Costumer Orientation	4,00 (1,208)	12	3,96 (1,231)	14	4,13 (1,111)	10	-1,510	0,132
Business Decision Management	3,98 (0,929)	13	3,92 (0,926)	15	4,20 (0,913)	8	-3,203	0,001***
Change Management	3,86 (0,993)	14	3,81 (0,975)	16	4,03 (1,041)	12	-2,410	0,016**
Panel 1 C Pedagogy								
Analysis of Information	4,43 (0,776)	1	4,38 (0,811)	1	4,61 (0,593)	1	-3,889	0,000***
Motivation	4,37 (0,892)	2	4,36 (0,833)	2	4,40 (1,085)	2	-0,437	0,662
Case Analysis	4,18 (0,963)	3	4,19 (0,919)	3	4,15 (1,115)	3	0,435	0,663
Role Playing	3,84 (0,950)	4	3,83 (0,955)	4	3,86 (0,936)	4	-0,332	0,740

^aThe mean scores are obtained based on a 5-point scale, as "1" represents "Not important" (for Panels 1A and 1B) or "Not effective" (for Panel 1C) and "5" represents "Very importance" (for Panels 1A and 1B) or "Very effective" (for Panel 1C). Numbers in brackets are the values of standard deviations. The ranking order is determined based on the mean scores.

^bt and p values are determined based on independent t-test for the two subgroups of respondents i.e. practioners and faculty. The significance levels are: *0.10 level; **0.05 level and ***0.01level.

An evaluation of part B of Table 3 is in answer to the third question. Regarding the third study question on whether there is a gap between the perceived importance (or effectiveness) of the needed knowledge and skills and their actual delivery through current accounting education programs, paired comparisons of the mean scores on each survey question were conducted with respect to the two dimensions of the respondents' views, i.e., their perception of the importance (effectiveness) and their assessment of whether the training of the related knowledge and skills is sufficiently and effectively provided in the present state of accounting education. Table 3 presents the descriptive statistics of the two-dimensional evaluations (e.g., Columns A and B, respectively).

Table 3: Comparison of importance perception and present status assessment scores^a

	Overall A	Overall B	Variance (A-B)	Practitioner A	Practitioner B	Faculty A	Faculty B
Panel 2 A: Knowledge							
Taxes	4,81***	4,54***	0,27	4,82** *	4,56** *	4,74***	4,50***
Financial Accounting	4,68***	4,50***	0,18	4,69** *	4,52** *	4,64***	4,42***
Auditing	4,57***	4,30***	0,27	4,56** *	4,32** *	4,64***	4,23***
Ethics and social responsibilities	4,38***	4,19***	0,19	4,35** *	4,13** *	4,51	4,38
Management Accounting	4,37	4,32	0,05	4,35** *	4,26** *	4,45	4,54
Finance	4,26***	4,17***	0,09	4,24	4,18	4,34	4,14
Business Law	4,24	4,20	0,04	4,23	4,17	4,28	4,31
Information Systems	4,14***	3,98***	0,16	4,12** *	4,00** *	4,20***	3,88***
Technology Topics	3,95	3,87	0,08	3,93	3,86	4,03	3,92
Human Resources Management	3,93	3,92	0,01	3,86	3,87	4,16	4,12
E-Commerce	3,83***	3,72***	0,11	3,77	3,69	4,02	3,85
Business Strategies	3,80	3,78	0,02	3,74	3,72	4,00	4,01
Global Business	3,74	3,77	-0,03	3,65	3,71	4,10	4,01
Macro Economics	3,68***	3,82***	-0,14	3,60** *	3,81** *	3,98	3,82
Micro Economics	3,64***	3,74***	-0,10	3,56** *	3,74** *	3,94***	3,74***
Retail and Sales	3,51***	3,61***	-0,10	3,44** *	3,61** *	3,77	3,60
Marketing	3,46***	3,60***	-0,14	3,41** *	3,58** *	3,65	3,69
Statistics	3,40***	3,58***	-0,18	3,33** *	3,54** *	3,65	3,73
Assurance	3,28	3,28	0,00	3,20	3,21	3,59	3,56
Panel 2 B Skills							
Decision Making	4,58***	4,25***	0,33	4,58** *	4,27** *	4,58***	4,14***
Professional Demeanor	4,53***	4,09***	0,44	4,51** *	4,09** *	4,62***	4,10***
Computing Techniques	4,45***	4,25***	0,20	4,40** *	4,21** *	4,63 ***	4,38***

Analytical Thinking	4,44***	4,24***	0,20	4,46** *	4,25** *	4,38	4,19
Written Communication	4,41***	4,21***	0,20	4,39** *	4,18** *	4,48	4,33
Oral Communication	4,37***	4,14***	0,23	4,37** *	4,16** *	4,38***	4,05***
Leadership	4,34***	4,06***	0,28	4,31** *	4,03** *	4,46***	4,15***
Team Work	4,25***	4,14***	0,11	4,26** *	4,14** *	4,22	4,15
Foreign Language	4,13	4,15	-0,02	4,06	4,12	4,38	4,26
Entrepreneurship	4,13***	3,93***	0,20	4,11** *	3,92** *	4,20	3,96
Resource Management	4,13***	3,91***	0,22	4,14** *	3,91** *	4,11	3,91
Negotiation	4,08***	3,83***	0,25	4,06** *	3,79** *	4,16	3,96
Project Management	4,06***	3,86***	0,20	4,04** *	3,85** *	4,13 ***	3,91***
Costumer Orientation	4,00	3,94	0,06	3,96	3,91	4,13	4,07
Business Decision Management	3,98***	3,81***	0,17	3,92** *	3,78** *	4,20***	3,90***
Change Management	3,86***	3,66***	0,20	3,81** *	3,62** *	4,03	3,83
Tablo 2 C Pedagogy							
Analysis of Information	4,43***	4,11***	0,32	4,38** *	4,10** *	4,61***	4,16***
Motivation	4,37***	4,10***	0,27	4,36** *	4,05** *	4,40	4,26
Case Analysis	4,18***	3,26***	0,92	4,19** *	3,21** *	4,15 ***	3,44***
Role Playing	3,84***	3,66***	0,18	3,83** *	3,65** *	3,86	3,71

*Column A lists the mean scores for the perceptions on the importance of the knowledge and skills based on a 5-point scale, with "1" represents "Not important" and "5" stands for "Very important" for Panels A and B, or "1" represents "Not efficient" and "5" stands for "Very efficient" for Panels C. Column B lists the mean scores of the assessment of whether the knowledge and skills could have been sufficiently delivered in the present state of accounting education based on a 5-point scale, "1" represents "Not provided" and "5" represents "Sufficiently provided". The variance Column lists the differences between the mean scores of Column A and that of Column B, which may indicate the wide of the gap between the importance perception scores and the present-status assessment scores. Based upon paired t tests, the difference between the mean scores listed in Columns A and B are all statistically significant (at 0.01 level).

When the overall mean scores are examined with regard to paired t test results, we see that in the knowledge section of the current accountancy education system (column B), the topics of taxes, financial accountancy, auditing, ethics and social responsibilities, finance, information systems and e-commerce are not included in the perceived significance level (column A). When skills and pedagogy sections are examined, the same statistical results are obtained at a significance level of 1 % according to the paired t test results.

CONCLUSIONS

We conducted our study on academicians who offer accountancy education in Turkey and members of the profession who are practitioners of accountancy. The study focused on the absolute necessity of cooperation in the fields of education and practice in Turkey.

It was not surprising for us to find "taxes" being given top priority by both the practitioners and the academicians among information-based components, because in our country the accountant is perceived as a person working on the basis of taxation. The fact that management accountancy, finance and business law succeed "taxes" in

our study requires that the practitioners and the academicians give priority to tax-based practice and training. When the results according to skills are examined, it is observed that the decision-making skill ranks first. Foreign language comes the sixth for the academicians while it ranks eleventh for the practitioners. The reason for this could be that in practice, accountants do not need a foreign language except for export procedures. The fact that foreign language occupies the sixth place among important factors could naturally be taken as a positive approach.

When the matter is perceived from a pedagogical perspective, it is observed that the factors determined in both groups are attached the same level of importance. The academicians stated that the topic of case analysis should be offered in a more detailed manner. Also, both groups are almost in total agreement on the issue of motivation.

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ANTICIPATING UNDESIRE D EFFECTS: ENCOUNTERING CIVIL SERVANTS' RESISTANCE WITHIN M-MUNICIPALITIES IN TURKEY

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ABSTRACT

The main aim of this paper is to observe and investigate personal and social sources of resistance towards m-technologies through civil servants' working practices. This paper provides a unique qualitative analysis by drawing on a series of interviews with municipality officers and considers how personal and societal factors are shaping the adoption of m-municipality services in Turkey. In doing so, the paper seeks to deepen the understanding of local, in practice, sources of resistance in emerging markets.

INTRODUCTION

With novel technologies emerging every day, suspicions regarding applicability, sustainability and appropriateness are getting stronger. Many new ICT tools will only be remembered as often expensive fad and fashion items. In parallel to the flood of new gadgets, a set of behavioral attitudes towards new technologies are emerging ranging from regular updating and direct adoption to clearer resistance and strategizing at individual and organizational level. Positive voluntary refusal to engage and adopt is becoming a common practice. While a lot of research has been dedicated to the understanding of technology acceptance, little attention has been given to the understanding of social resistance to technological engagement in the particular context of public administration in emerging markets.

This paper encompasses six sections. The following section includes a summary of the literature on the multifaceted concept of resistance and links it to the specific context of m-technology and m-government applications. Then, in order to establish a better understanding of civil servants' resistance to m-municipalities initiatives, a summary of the specific situation of Turkey transition from e- to m- strategy is presented. The fourth section presents the methodology. The fifth section provides the discussion of the findings. Finally, conclusions as well as the suggestions for further research and limitations are discussed.

Literature review: the multifaceted concept of resistance

The rise of technologies engagement and adoption in business life has attracted many interests over the years (Venkatesh et al, 2003). This has contributed to an improved understanding in areas such as technology and consumer interface (Burke, 2002); landscape of practices (Buscher et al 2001; Fulk et al, 1990; Consantinides, 2004); e-buying (LaRose, 2001, Novak et al 2000); workplace interaction (O'Kane and Hargie, 2007) and knowledge process (Markus et al, 2002). In parallel, a specific literature has developed regarding m-technologies including domestication of m-technologies (Fortunati, 1998); users' practices (Katz, 2003) and engagement at social level (Goggin and Spurgeon, 2008). In contrast, there is limited academic work on resistance. Resistance is defined by Collinson [1994:49] as seeking to "challenge, disrupt or invert prevailing assumptions, discourses and power relations. It can take multiple material and symbolic forms, and its strength, influence and intensity are likely to be variable and to shift over time..." As quoted from Palmer et al (2010), p9 and drawing on the work of Ackroyd and Thompson (1999), Fleming and Spicer (2007), four main expressions of resistance are emerging including: refusal, voice, escape and creation:

Resistance as *refusal* does not follow instruction and overtly blocks the effects of power by undermining the flow of domination rather than attempting to change it. Resistance as *voice* is to let one be heard by those in control in order to change particular aspects of power relations in favour of those being affected by them. Resistance as *escape* reflects those mechanisms used to disengage mentally from the workplace such as cynicism, skepticism and dis-identification. Resistance as *creation* refers to the way that alternative identities and discursive systems of representation emerge within the broader flows of domination (Fleming and Spicer, 2007: paraphrased from pages 29-43, emphasis added).

One constant argument in the literature remains the divergence connecting resistance motivated by personal motivations (internally driven) and motivated by societal and ideological factors (externally driven). Institutional theory is often drawn upon to investigate how institutional framework shape organization's configuration, behavior and action (DiMaggio and Powell, 1983). Concepts such as legitimacy, principal agent organization and social network theory have also been investigated (Dacin et al, 2007, Granovetter, 1985). Studies tend to see resistance and barriers as a negative bipolarization with a winner and loser, many actors are considered as non-participant undermining the operationalisation aspects and practices at the local level in day to day activities (Knights and McCabe, 2000). In addition, barrier and resistance is often portrayed as fixed detached from a dynamic environment with ongoing activities (Palmer et al, 2010). Significantly, many resistance act are often indirect, underlying the importance of other factors in the decision making process (Prasad and Prasad, 2000).

Another emerging number of researches centered on anti-choice behaviors reflecting voluntary anti-consumption as another facet of resistance. These studies suggest that sources of resistance are multiple ranging from (a) simplifying decision mechanism (Shaw and Newholm, 2002; Hogg and Michell, 1996); (b) prioritization of better options (Craig-Lees and Hill, 2002, Piacentini and Banister, 2009); (c) resistance as a reflection of hidden intention including ethical concerns and environmental principles (Shaw and Newholm, 2002; Iyer and Muncy, 2009; Gabriel, 1999; Knights and McCabe, 2000; Prasad and Prasad, 2000). These types of resistances are also described as moral avoidance (Lee et al., 2009); and (d) resistance as a coping mechanism (Lazarus and Folkman, 1984).

A central assumption to resistance related specifically to ICT lies in the fact that m-ICT brings its own ritual, myths, values and basic conjectures (Schein, 2004). Civil servants local day to day context and histories with previous government ICT projects have often shaped opinions and attitudes towards future ICT adoption or rejection. Indeed, the impact of mobile technologies on individual life ought not to be misjudged (Ling, 2008). Mobile technology are usually (a) personally carried by each individual, (b) used for both business and personal task (c) never disconnected from the network even at night, (d) ubiquitous for all type of users including children and (e) expected to allow instant connection (Solomon and Buchanan, 1991; Wilska, 2003).

Other functional factors also require particular attention such as network infrastructure and security. Legal requirements regarding data collection, storage and retrieval practices also need due consideration. Furthermore, wider non-economic and social aims such as governance, democracy and transparency of government activities and decision in our context are impacting and shaping resistance.

Decisions regarding technologies are usually a tradeoff between increased efficiency and convenience on the one side and decreased personal control over work practice and multitasking expectations on the other side (Castell, 2001; Giddens, 1991; 1992). Contradictory elements of mobile technologies such as access anywhere anytime have to be integrated within civil servants' working rituals and histories.

The question which these issues raise in the light of advancing m-technologies is: How do civil servants express and shape their resistance to engage in m-municipality services?

From e- to m-government in Turkey

E-Government is the provision of traditional government services to citizens through electronic tools such as telephone, computers and other devices. Internet is increasingly becoming the channel for delivering government services to citizens. Recently the development in mobile technologies with the introduction of internet enabled mobile phones, PDA's, Wi Fi and wireless networks has created alternative methods for providing government services to citizens in a more effective and cheaper way. These developments have created a new channel to deliver government services which is called mobile government or simply m-government.

M-government is defined as the strategy and its implementation involving the utilization of all kinds of wireless and mobile technology, services, applications and devices for improving benefits to the parties involved in e-government including citizens, businesses and all government units. The benefits of mobile government are: (a)

cost reduction (Melitski et al., 2005; Holden et al., 2003), (b) working practices efficiency, (c) transformation/modernization of public sector organizations (Larsen and Rainie, 2002; McIvor et al., 2002), (d) added convenience and flexibility, (e) better services to the citizens (democratic and inclusion claim) (Foley, 2004; Klein, 1999), and (f) ability to reach a larger number of people through mobile devices than would be possible using wired internet only (Kushchu and Kuscü, 2003).

It is estimated that governments during the period 2000-2010 will spend as much as \$3 trillion on ICT. However, it is important to bear in mind that between 60% and 85% of e-government projects do fail (Gubbins, 2004). A particular concern has been the somehow limited access to digital infrastructure, i.e. PC and wired internet access by the masses in emerging markets. In 2008, the UN e-government readiness report places Turkey at the 76th place out of 182 countries. Capability absorption issues both by public administration and for low-income, less educated citizens restrict further ICT choices (Evci et al., 2004; Torenli, 2006). Turkey is a clear case for such trends (Dedeoğlu, 2004; Özcan and Kocak, 2003).

One recent development in Turkey is the E-Government Gateway initiative is described as the provision of all e-government applications through a single portal launched in November 2008 (Kumas, 2007; Sungu et al., 2008). *“Once the e-gateway or the portal is created, the service will be extended to include other communication devices like cell phones and pocket PCs, and users can access the system with smart cards or imprinted digital certificates for a secure transaction.”* (TURKSAT, 2008).

Five main initiatives Mobile Electronic System Integration, Traffic Information System, Mobile information Project (Ministry of education), G2G applications (mobile intranet for ministry personnel) and the National Judicial Network (Court system integration) have led the field (Cilingir and Kushchu, 2004; Kuran, 2005). These projects are mainly infrastructure enabling tools (Ghyasi and Kushchu, 2004).

In addition to these major mobile government applications, there are various other applications in local governments. Most of these applications are based on SMS technology such as sending SMS to citizens for announcements, giving information about services, and the like (Ghyasi and Kushchu, 2004).

Methodology

Interviews with a total of 30 civil servants at the local municipalities in Turkey were conducted. The first group of questions covered topics such as m-municipality applications in Turkey, resistance and barriers to the transition and addition of m-services to existing e-services and personal social bottleneck regarding lives and working patterns of the civil servants and work processes at the public administrations. The second group of questions concentrated on the adoption of technological applications and tools at the municipalities both from a civil servant (individual) and managerial (organizational) perspective. Adoption of and/or resistance to m-government in general and m-municipality in particular was questioned.

The sample selection was purposive. Analysis uses manual coding following grounded theory principles (Strauss and Corbin, 1998). Data were allocated to micro categories following Yin's (1994) pattern matching strategy. Second, indexing process took place systematically which was applied to all data, building the whole picture from which the interpretation took place (Gibbs, 2002; Merriam, 1998).

Findings

Three broad dimensions leading to resistance to m-municipality practices emerged as the most enduring aspects: i) Functional resistance which relates to lack of technical equipment and infrastructure that leads to resistance, ii) Personal resistance which covers personal characteristics and their influence on perception of m-municipality applications, and iii) Behavioral resistance which is about the behavioral characteristics of civil servants' regarding the use of mobile municipality services.

The findings point to multiple paths of resistance decisions. It is confirmed that both personal and societal factors are important; practical working behavior aspects, reshaping of rituals and civil service code are exposed to be crucial determinants of active resistance. As an additional aspect, our respondents express that a clearer definition and debate on mobility within public administration ought to be conducted before trying to implement any such innovation.

According to Kushchu and Kuscü (2003), infrastructure development, privacy and security, legal issues, mobile penetration rate and accessibility, and compatibility are the challenges for mobile government. The findings of this study added other dimensions which prevent the adoption and the implementation of mobile government practices in developing countries.

Mobile municipality services will undoubtedly contribute to faster, highly qualified and more effective service offerings to citizens. However, at the same time, these applications require municipalities and other institutions to make necessary changes within their organizations in terms of organizational structure, job descriptions, team work, business process and budgeting plans. As citizens become more and more familiar with mobile municipality services, they will start using these services often and civil servants will face a much more dynamic and complicated work process. Therefore, the issues related to resistance to m-municipality services by civil servants have to be solved within a short period of time.

Functional resistance

Infrastructure development is crucial in order to cope with functional resistance to mobile municipality applications. The information technology infrastructure must be at a satisfactory level. The physical infrastructure refers to the technology, equipment, and network required for implementation of m-municipality applications. Institutional arrangements and software that make m-municipality transactions possible are very important. One of the technical difficulties might arise from lack of compatibility of the mobile systems with the existing e-government systems.

“We don’t have required software and infrastructure in order to provide mobile services.”

“There will definitely be a problem if a change is made in the software, equipment or mobile devices used.”

“If we start to offer mobile services to our citizens, we will need several extra infrastructure and software since total number of citizens who demand these services may increase day by day.”

Personal resistance

Civil servants are mostly concerned with the attitudes and opinions of citizens about the problems of mobile municipality services. Citizens have a great concern about privacy and security in mobile municipality. The general issue is the belief that their mobile phone numbers might be traced when they send their opinions and inquiries to the municipality. Authorities must overcome this mistrust and assure mobile device users that people’s privacy is protected and the information of citizens will not be shared with third parties. One other issue is that civil servants can not leave their habits quickly and easily. Therefore, it has been difficult for them to embrace newly developed technological applications.

“I think mobile services prevent citizens’ solving their problems face to face which causes tension and stress both for the citizens and for us.”

“For using mobile services and implementing mobile practices, regulations and rules must be set in order to handle possible mistakes or unethical use of personal information.”

“We got used to communicate with other personnel or our citizens through classical channels such as telephone or e-mail messaging. We don’t use mobile devices for business purposes that much.”

Behavioral resistance

The findings indicate that civil servants often use older and more classical tools and methods and were not aware of the advantages brought by mobile services. They are using their mobile phones for verbal communication purposes. They mostly don’t share documents or follow business tasks via their mobile phones or other mobile devices.

“I use my mobile phone only for talking.”

“I don’t think that mobile phones are user friendly for data sharing or knowledge transfer.”

“It is mostly not necessary to use mobile phones for sending or receiving information; we have been using classical methods for that.”

CONCLUSION

According to the results of this study, it can be concluded that the adoption of m-government and m-municipality by civil servants working at municipalities requires arrangements and focus by the authorities both in terms of the technical resources utilized and attitudes and opinions of civil servants for providing mobile municipality services. Current technological applications and services signal that m-government will be a significant part of e-government efforts. Therefore, policy makers and IT professionals should be prepared to adopt these developments and participate in the ways to enhance e-government and m-government activities.

Re-engineering of work processes in municipalities may contribute to handling problems and developing successful and effective strategies for transforming traditional service methods and tools to brand new channels such as mobile devices and technological applications. Besides, this transition may not require a significant change in the organizational structure; rather may necessitate an understanding and effort by civil servants and managerial personnel in the municipalities. Managers should investigate the underlying reasons for resistance to mobile municipality services and develop their strategies based on their observations and insight. Whether resistance is caused by personal factors such as habits, fear of unknown, beliefs and attitudes or technical and economic factors such as lack of budget, infrastructure, software and the like should be carefully analyzed. The organizational culture is the most important factor for implementing and embracing change. Civil servants will demand using mobile technology as soon as they are really convinced about the positive outcome brought by these applications.

The limitation of this study is that the interviews were conducted on a specific group of civil servants which limits the findings to the municipalities they are working at. Further research may include a broad set of municipalities so that more respondents can be included. Besides, a quantitative research may be conducted by taking into account the dimensions found in this study, adding others through focus groups and in-depth interviews and analyzing their impact on the resistance to mobile government/municipality service offerings. Lastly, the factors which may have a positive influence on the acceptance of technological tools in terms of providing mobile services can be investigated.

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PUBLIC POLICY AND INTERNATIONAL BUSINESS

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ABSTRACT

This paper defines public policy and describes and illustrates by examples the interaction between public policy and international business.

INTRODUCTION

Nations' interests often collide. Because resources are scarce and demand is unstoppable, what a nation wants from another nation cannot be always provided: a source of dispute and fear between nations. Nevertheless, a nation alone cannot fulfill all its needs and must establish exchange with other nations. Hence, governments enact laws and rules to regulate relationships and dealings with other nations by a way to secure a fair exchange and preserve own rights. These laws and rules shape the country's public policy and draw the nature and the extent of exchanges with other countries. They represent a system of laws, regulatory measures, courses of action, and funding priorities concerning a given topic promulgated by a governmental entity or its representatives (Northern Carolina grantmakers, 2006). Along two third of the twentieth century and despite the dominance of protective measures against foreign business exchanges, countries could manage successfully bilateral and multilateral exchanges. Disputes were rare because consumption was able to absorb most of the production. However, saturation marks the last third of the twentieth century. Industrialized markets are no longer able to absorb local production. Industrialized countries had a hunger for new markets to sell their productions and buy raw materials. Hence a need to soften protective measures emerges. The Uruguay Round agreement on freeing trade and then the creation of the WTO are some of several manifestations of this need and of the willingness of international business players to harmonize local public policies in order to enhance foreign exchange. Thus, Business and politics goes hand to hand. Policies are made to influence business and businesses are conducted to influence policies. According to Dupuis and Prime (1996), two essential factors affected the success or the failure of international business:

- environmental factors such as legal restrictions or economic growth: public policy
- internal factors such as insufficient financial resources or economy of scales

“Essentially, the WTO is a place where member governments go, to try to sort out the trade problems they face with each other. The first step is to talk. The WTO was born out of negotiations, and everything the WTO does is the result of negotiations. Where countries have faced trade barriers and wanted them lowered, the negotiations have helped to liberalize trade. But the WTO is not just about liberalizing trade, and in some circumstances its rules support maintaining trade barriers — for example to protect consumers or prevent the spread of disease. At its heart are the WTO agreements, negotiated and signed by the bulk of the world's trading nations. These documents provide the legal ground-rules for international commerce. They are essentially contracts, binding governments to keep their trade policies within agreed limits. Although negotiated and signed by governments, the goal is to help producers of goods and services, exporters, and importers conduct their business, while allowing governments to meet social and environmental objectives”. The system's overriding purpose is to help trade flow as freely as possible — so long as there are no undesirable side-effects — because this is important for economic development and well-being. That partly means removing obstacles. It also means ensuring that individuals, companies and governments know what the trade rules are around the world, and giving them the confidence that there will be no sudden changes of policy. In other words, the rules

have to be “transparent” and predictable. Trade relations often involve conflicting interests. Agreements, including those painstakingly negotiated in the WTO system, often need interpreting. The most harmonious way to settle these differences is through some neutral procedure based on an agreed legal foundation. That is the purpose behind the dispute settlement process written into the WTO agreements”.

The above definition appears on the website of the WTO as an introduction for the aim of the WTO. A look on that definition shows clearly the salience of public policies as a developer or blocker of international business. It highlights the importance to squeeze barriers to conduct international business, to provide a sustainable, unchangeable and favorable legal background for exporters and importers to develop their business, hence to internationalize their activities. The reader of the definition can recognize a tacit affirmation that public policies are blocking rather enhancing international business and that is crucial to try to move with these policies towards an overall, general, common, and favorable “international public policy” represented in the terms of the WTO rules. Based on real examples we will try along this paper to identify and describe the relationship public policy-international business.

PUBLIC POLICY: DEFINITION

While the study of politics has a long history, the systematic study of public policy, on the other hand, can be said to be a twentieth century creation (Birkland (2001)). It dates, according to Daniel McCool (1995), to 1922, when political scientist Charles Merriam sought to connect the theory and practices of politics to understanding the actual activities of government that is public policy." (p.4) (see McCool, Daniel C. Public Policy Theories, Models, and Concepts: An Anthology. Englewood Cliffs, N.J.: Prentice Hall, 1995). Individuals and groups often attempt to shape public policy through education, advocacy, or mobilization of interest groups. Shaping public policy is obviously different in Western-style democracies than in other forms of government. But it is reasonable to assume that the process always involves efforts by competing interest groups to influence policy makers in their favor. A major aspect of public policy is law. In a general sense, the law includes specific legislation and more broadly defined provisions of constitutional or international law. Public policy is a course of action or inaction chosen by public authorities to address a problem. Public policy is expressed in the body of laws, regulations, decisions and actions of government. Policy analysis may be used to formulate public policy and to evaluate its effectiveness. According to Jenkins (1978), a Public Policy is ‘a set of interrelated decisions taken by a political actor or group of actors concerning the selection of goals and the means of achieving them within a specified situation where those decisions should, in principle, be within the power of those actors to achieve’. Thus, Jenkins (1978) understands Public Policy making to be a process, and not simply a choice. Birkland (2001) adds that there is a lack of a consensus on the definition of public policy. He indicates that the elements common to all definitions of public policy are as follows:

- The policy is made in the name of the "public".
- The policy is generally made or initiated by government.
- The policy is interpreted and implemented by public and private actors.
- The policy is what the government intends to do.
- The policy is what the government chooses not to do.

PUBLIC POLICY: A PROCESS

In line with Jenkins (1978), Theodoulou (1995) views public policy as a process. The public policy process is essentially the movement from the emergence of a problem, to it being placed on to the policy agenda, and finally, to its enactment and reflection on its effectiveness (Theodoulou (1995)). The public policy process may be thus broken up into six fluid stages:

- 1) **Problem Recognition** - Problems that may potentially make their way onto the public policy agenda are recognized.
- 2) **Agenda Setting** - Problems that are deemed worthy of attention are placed on the agenda.
- 3) **Policy Formulation** - Various policies are crafted to deal with the problem that has been set on the agenda.
- 4) **Policy Adoption** - An official policy is agreed upon.
- 5) **Policy Implementation** - The public policy that has been officially agreed upon is put into action.
- 6) **Policy Analysis and Evaluation** - The implemented policy is evaluated for its effectiveness.

THE FORMAL AND THE INFORMAL PUBLIC POLICY

A look on the above definitions of public policy reveals a formal aspect of the concept. Public policy is the set of laws, rules, and regulations emanating from authorities in the name of the public and aim to regulate and frame actors' activities. Public policy has a legal enforcement and once it is not respected, sanctions may be applied. Nevertheless, governments, groups of people, and organizations do not have always the power to enact rules and establish laws, so they refer to the informal public policy. They may mobilize people through media. They may push people towards a unanimous position that force the government to enact rules. They may disturb the market and the society by shortening supplies or cutting jobs. Thus even without formal laws or regulations, organization and groups may change the formal public policy in place through acting by an informal public policy based on mobilizing citizens and indirectly influencing policy makers. We may deliver here the case of the Cerro de San Pedro mine in Mexico and how citizens through revolutionary movement could stop the exploitation of the mine and forced the Canadian company (the explorer of the mine) to pay prejudice to the people of the village where the mine is located (Vargas-Hernandez, 2007))

PUBLIC POLICY DEPENDENTS: POWERFUL AND POWERLESS

The nature is made of powerful and powerless. Nations are subject to the same classification. Look how only five members of the united nations who have the right for veto. Business too does not escape this condition. Powerful and powerless countries and/ or businesses often fight -sometimes cooperate- to conduct their business and preserve their interests. During the sixth and the seventh decades of the twentieth century-period of economic expansion-, countries use to have protective public policies aiming at saving local businesses against foreign players. Rules are setup to protect powerful from being powerless and to protect powerless from disappearing or being more powerless. Neither powerful nor powerless had the desire or felt the necessity –as they did with the beginning of the eighth decade - to eliminate or soften these policies. The reason is that local markets were enough and could absorb most of the productions. Markets' saturation -usually powerful (e.g. Japan, Germany, France)- marks the beginning of the eighth decade, and new markets -usually powerless (e.g. China, India)- emerge. Hence powerful had an appetite to invade powerless and profit from their growth. Undesirably, they were blocked by the powerless local public policies which disable the development of business internationalization into their territories. Hence the Uruguay Round for tariffs removal started followed by the WTO establishment. Up to date, many countries still not members of the WTO, either because they interpret its rules as harmful for their economies (e.g. Venezuela, Cuba) or because they are seen by the WTO as not fulfilling the necessary conditions to be eligible for the WTO membership (e.g. China and problem of copyright protection). WTO's members themselves have often disputes and refer usually to justice to solve their conflicts. There is a cold dispute underway between powerful-powerful, powerless-powerless, and powerful-powerless. Countries feel always that they are harmed by certain agreements with other countries and look often to change them. Partners in these agreements do not always agree on the change which create dispute. Neutral entities can sometimes solve this dispute. Unfortunately, they cannot do it other times. Here military, economic, and political powers serve as tools to solve this dispute. Powerful appears to be favored in detriment of powerless. Nonetheless, powerless could sometimes impose their rules. In the following part we will try to describe, analyze, and illustrate with examples the three aspects of this dispute: powerful-powerful, powerless-powerless, and finally powerful-powerless.

Powerful-powerful: the dealing powerful-powerful is rather cooperative than dominative. Each part, based on the power in hand tries to conclude a suitable agreement with the other part, which in turn will behave similarly. Negotiations are undertaken within the framework of "give and take". Each part adjusts its public policy according to the adjustment offered by the partner. Both parts try to calculate their sacrifices from adjusting local policies and whether they are compensated by the partner's sacrifices or not. The examples of the old European Union (the eleven countries) and that of Japan and USA are pictorial examples of this first kind of relationship. For instance the EU has been built on cooperation between its members. Though, its first eleven members were not economically perfectly equal, there was some balance between these countries by a way that each part benefits almost equally from the other. Thus the EU knew a remarkable success as it secure fair exchange between all the members. Nevertheless, it was much difficult to agree on the salience of adding new 14

members (mostly from Eastern Europe) to the old EU. The reason is that not all old members agree on the adequacy of compensation they will get from adding the new 14 countries compared to the set of sacrifices they will provide. Hence public policies serve as softener of these sacrifices. Several old EU members impose discrimination's rules against some products and activities coming from the new 14 members. A more recent example of powerful-powerful relationship is the problem of beef meat imported from USA into Japan. Japanese authorities banned exportation of USA beef after the latter being contaminated with mad disease. The ban last for almost 3 years. American policy makers have tried many times to convince their fellows Japanese that the meat is no longer contaminated and that additive measures had been taken to secure intact meat, a soft policy measure. Japanese were not so convinced and keep supporting the ban. Here American policy makers move towards an aggressive way and they threaten Japan by imposing some restrictions on Japanese car sales and exportation into USA, an aggressive policy measure. Here Japanese felt threaten and accept to re-import American meat but with more strict control on the quantities and the content. Export was reestablished; however few days after removing the ban, Japanese authorities discovered in a routine check some parts of beef excluded from being imported, thus they impose the ban again.

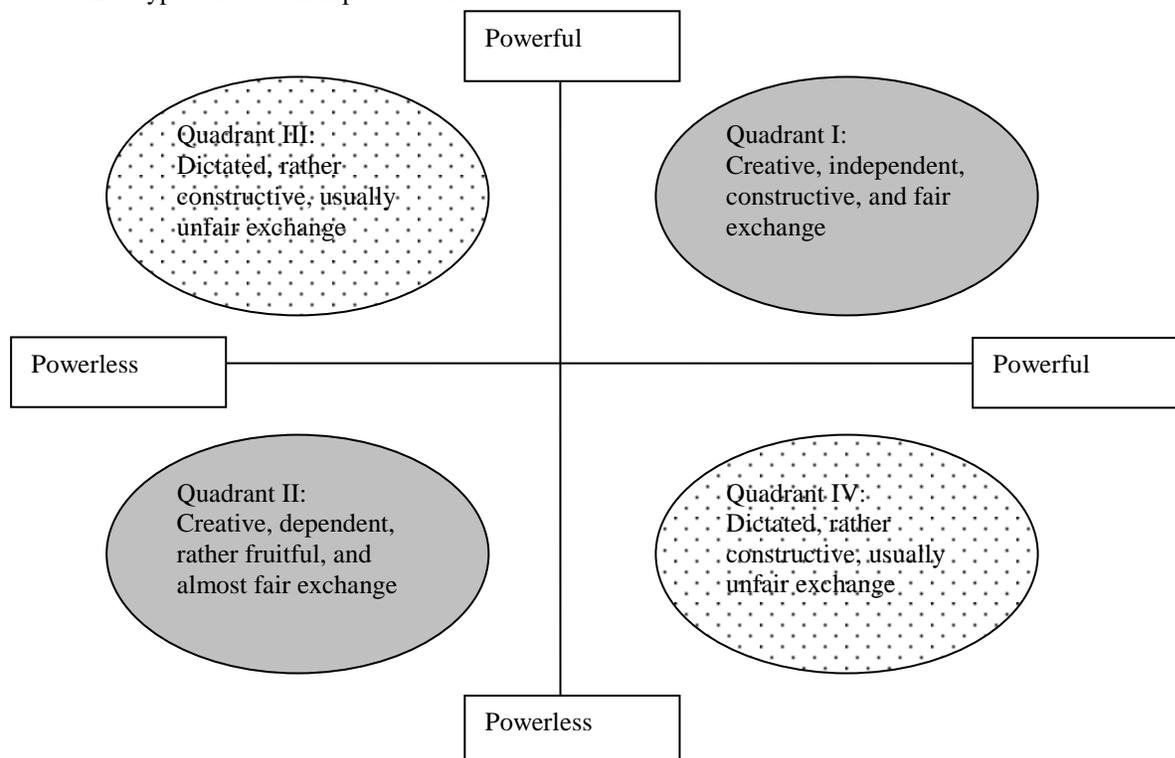
Powerless-powerless: the relationship powerless-powerless is also cooperative rather than dominative. Nevertheless the level of exchange is low. Powerless, contrary to powerful, are under pressure and therefore they are not always able to conclude the exchanges they want with others powerless. However, the history earns some successful examples (bilateral cooperation between Tunisia and Libya and move of Tunisian food retailer Bonprix to Libya). Here bilateral business namely retail internationalization is ensured but with less amount comparing to the powerful-powerful relationship. Recently several powerless alliances are emerging (e.g. South American alliance between Venezuela, Peru, and Bolivia; Magreb alliance between Tunisia, Algeria, Morocco, Libya, and Mauritania). These countries are working to adjust their public policies by a way to develop multilateral exchange between union's members and block it with non-union's members. This emergence of powerless-powerless cooperation comes as support for the unfairness of the powerful-powerless relationship. After while, powerless felt exhausted and exploited by powerful and then move towards retiring from this relationship for a better and more fair exchange with powerless partner.

Though, powerless-powerless exchange seems to be beneficial for both parts, powerless are not always able to conclude such exchange despite its suitability. The reason is that powerless are often under pressure from powerful who tend to stop and weaken powerless-powerless cooperation. A good example is the French intervention between Algeria, Morocco, and Tunisia to stop "the ready to start" nuclear reactor project aiming to produce electricity for the people of the three countries in cheaper prices

Powerful-powerless: this relationship is mostly dominative and far to be cooperative even though it is called so usually. Domination is undertaken either by incentives or by threat and sanctions. The powerful - relying on the set of political, financial, and economic resources under hand- works towards softening the powerless' public policies to fit at maximum to his interests. Here the former may give incentives (opening market, export quotas, subventions, etc) or threaten the powerless by sanctions such as political troubles, lack of support in international topics, and threat of withdrawal from others partnership (e.g. China-USA dealing/ China-Japan dealing/ North Korea-Japan, USA, China dealing/ France-North African countries dealing/ USA-Mexico dealing). In such kind of relationship, powerless are -to some extent- forced to change their formal public policies to fit the powerful desires. However, this relationship is neither stable nor sustainable. Powerless usually refer to informal public policies to disrupt the powerful activities inside their territories by activating consumers' ethnocentrism or by spreading rumors (e.g. Coca-Cola problem in Egypt in 2000). Second, powerless may revolute and change their formal public policies against the will of powerful. Two good concrete examples of the latter situation are the takeover of control of oil production by the Algerian and Venezuelan governments and of iron production by the Peruvian government from the hands of multinationals; and the takeover of land and agricultural products distribution by the Zimbabwe government from British farmers. Similarly, powerful may rely on same techniques to attack the powerless image and deepen his submission. Recently, after discovering the infected pet foods coming from China, all American media as well as European and Japanese media treated the subject intensively. China sales of pet foods decreased and other problems emerged in different sector (food production).

REPRESENTATIVE CHART OF INTERNATIONAL BUSINESSES RELATIONSHIP BASED ON SHETH ET AL'S (1991) MODEL

The following chart is inspired from the work of Sheth et al (1991) on customer-brand relationship. It was actually developed in psychology to describe four facets of relationships between married couple. Then it was reproduced in marketing and social behavior to describe customer-brand relationship; customer-environment relationship; and company-environment relationship. Here I will try to reproduce this chart going to describe the above three types of relationships between international businesses.



The quadrant I represents a powerful-powerful exchange. Here both parts are independents in setting the convenient public policy necessary for the exchange. They have almost same chance for equal benefits, thus this relationship appears to be independent as no one else will dictate on both parts of the exchange and it is constructive and fair.

The quadrant II is a powerless-powerless exchange. It appears to be fruitful and fair between both parts. However, they are always free neither to conclude this exchange nor to fix the public policy they think the best to run this exchange as some dictation may come from powerful and may harm this exchange.

The quadrant III and IV represent a powerful-powerless exchange. It appears to be an unfair exchange as powerful tends to take more benefit in detriment of powerless. Policies are usually dictated by powerful. Nevertheless, this exchange can be fair in some case where powerless rely on competitive advantage as it is the case nowadays with oil industry (the Venezuelan governments took control of oil production and impose new rules on foreign companies). This advantage may help the powerless to get more benefit and then the exchange is likely to be fair.

CONCLUSION

Public policy appears to be of considerable effect on international business development. Politicians as well as businesses, economists, and ordinary people are all involved in the public policy process. They are on the same time creators and changers of public policy, and subjects to public policy manipulations. Public policy serves to protect a group's interests from other groups' threats and to regulate within-group deals. Businesses are directly involved and affected by public policy. Hence they are trying continuously-through their governments- to moderate it by a way to protect their interests and maximize their profit. However it is not always possible to do so and hence international businesses find themselves obliged to offer certain sacrifices to keep the exchange ongoing.

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ORGANISATIONAL CULTURE IN THE CONTEXT OF ORGANISATION IMPROVING CHANGES

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ABSTRACT

Numerous researchers consider organization culture and managing organizational culture changes as a key success factor. The paper studies the impact of the organizational culture within organizational reality constraints on management process. Its objective is to analyze and evaluate the said impact on corporate management, and identify ways for improvement. The empirical study analyzes the case of an international automotive company with its R&D Centre as focal point for the analysis of the organization culture. The study was conducted with the organizational culture assessment questionnaire, based on the model of competing values, among 63 participants (31 Polish and 32 German staff).

INTRODUCTION

Today's financial crisis, involving - among other things - ever more difficult operating conditions in the marketplace, requires that businesses are flexible in adjusting their strategy in such a way as to make it fit a totally new situation. Introducing new methods and concepts often ends in failure if not accompanied by a change in organisational culture. An organisational culture within a business may either impede deployment of new strategies or become a strong determinant of its success.

According to numerous researchers, organisational culture and managing organisational culture changes is a key success factor. A large volume of publications sees organisational culture management as an expression of professional management practices. Organisational culture is a permanent distinguishing feature of a business, representing values and ideas which are common to everybody within an organisation. Creating organisational culture that is based on appropriate attitudes and personnel conduct goes a long way towards building a competitive advantage and allows companies to play a reactive game vis-à-vis their operating environments. It therefore becomes a necessity for managers to employ cultural components in their management practice. An essential question comes up in this connection: what impact does organisational culture have within organisational reality constraints on management process under ever more volatile conditions? An attempt to answer this question is what underlies the objective of this study: to try and analyse as well as evaluate impact of organisational culture on corporate management, and to identify ways of its improvement. The normative part of this work concerns the operating practices of an international automotive company.

ESSENCE OF ORGANISATIONAL CULTURE

We have based our analysis in this study on a classical understanding of organisational culture as proposed by G. Hofstede and K. Cameron / R. Quinn whose work has strong empirical underpinnings. Geert Hofstede's cultural typology identifies five dimensions of national culture (Hofstede, 2007):

- Power distance: this is the extent to which employees see a formal organisational hierarchy as an inherent aspect of a well-structured and efficient organisation.
- Uncertainty avoidance: this is the extent to which employees are ready to accept situations of uncertainty and changes, and to act despite a lack of any formal procedures.
- Individualism/collectivism: this is the extent to which employees are ready to accept that common interests prevail over individual ones.

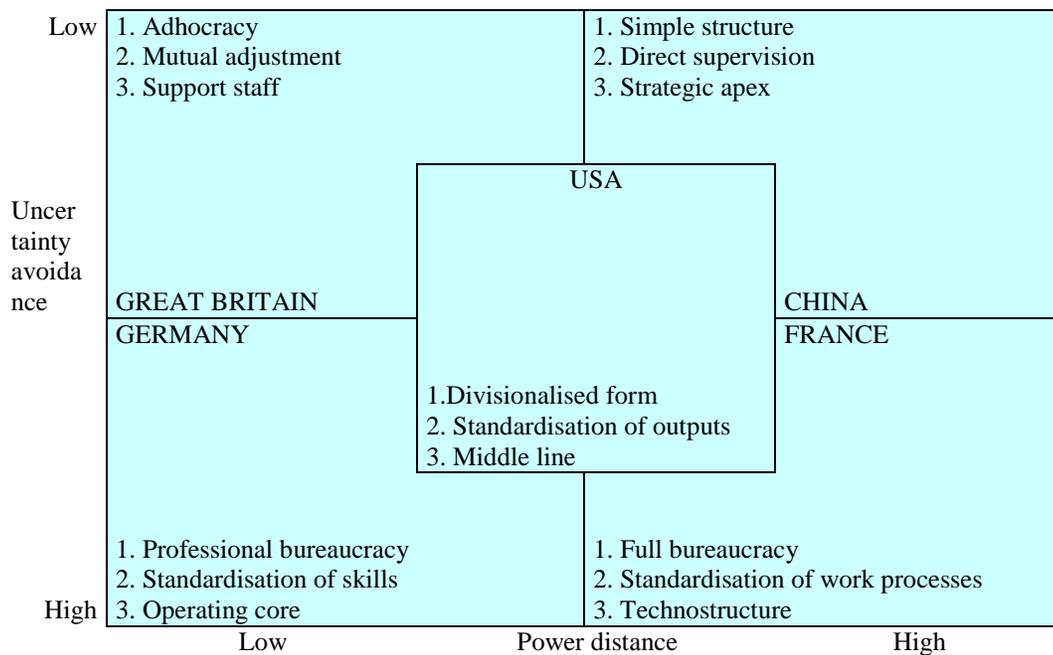
- Masculinity/femininity: this dimension refers to those values that affect individual motivations, i.e. economic or social values.
- Long-term/short-term orientation (G. Hofstede added this dimension based on a study of Asian scholars): this dimension is responsible for building long-term ties, ordering human relations in terms of status, and for individual perseverance.

Of the cultural dimensions falling within G. Hofstede’s framework, two seem to be of particular relevance to organisations: uncertainty avoidance and power distance. Organising always demands that answers be provided to two questions: who has the authority to decide for what and what rules or procedures should be followed to achieve the desired goals (Hofstede, 2007). The first of these questions is related to power distance; the other one is influenced by uncertainty avoidance. As described by O. Stevens, those factors significantly influence organisational structure building within corporations, and depend on prevalent culture in any given country. On that basis, four models of company can be distinguished. A “village market” (Hofstede, 2007) is a model that is rooted in the Anglo-Saxon culture; here, communication is paramount and situational demands rather than hierarchy or rules are of utmost importance within an organisation. The most popular model in the German-speaking countries is that of a “well-oiled machine” in which intervention by management is on an exceptional basis because a well-prepared set of rules and procedures settles any day-to-day problems. The “pyramid” model stems from Latin European and Latin American countries. It places importance on a hierarchy of power starting from a managing (general) director through to further levels along proper reporting lines. A model in which employees always rely on their bosses irrespective of any structural order is the “great family” model where the owner has a role of an all-powerful grandfather.

G. Hofstede compared the above models with H. Mintzberg’s typology of organisational configurations, adding to it the power distance and uncertainty avoidance matrix appropriate for a typical country in each configuration (Figure 1).

Figure 1. Five types of organisation according to H. Mintzberg

1. Preferred configuration
2. Preferred coordination mechanism
3. Key part of organisation



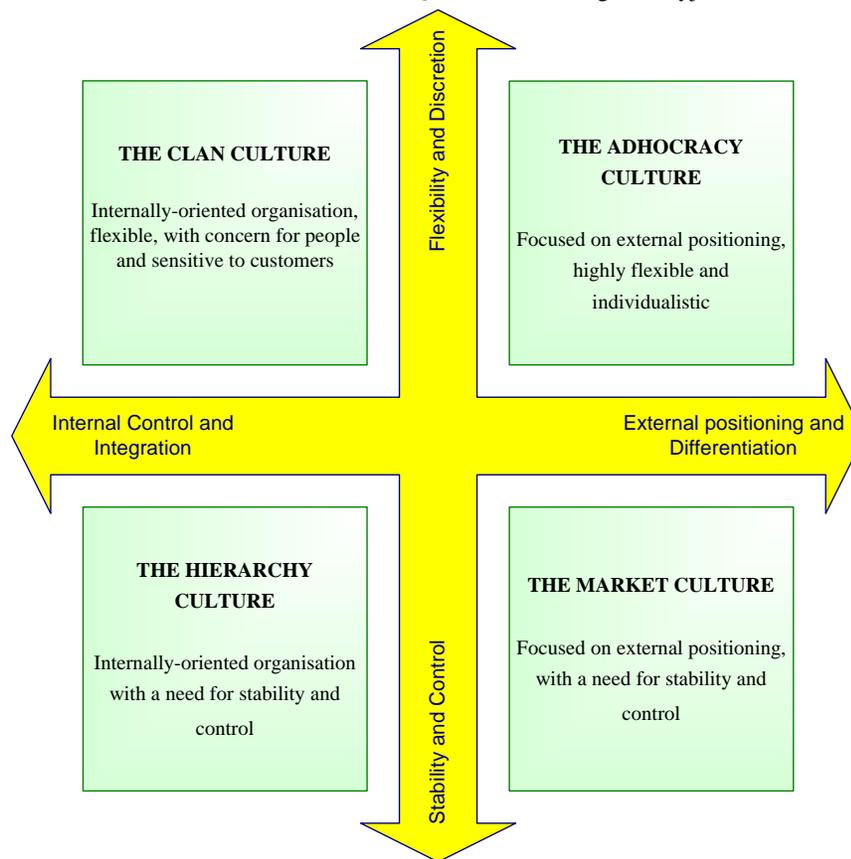
Source: Based on G. Hofstede, J.G. Hofstede, *Kultura i organizacje*.

Knowledge of a national culture is not only influential in negotiating with foreign partners or establishing partnerships but also has an impact on organisational structure of businesses with overseas branch offices.

K. Cameron and R. Quinn made use of the competing values model to develop an organisational culture assessment questionnaire (OCAI). According to the model, cultures are divided in terms of how they are oriented towards internal and external matters and what degree of discretion or control they show (K.Cameron, R.Quinn, 2003). Those two dimensions or axes divide the plane into four quadrants, or fundamental values, which are either in direct opposition to each other or are in competition. Each dimension has two opposing characteristics, such as flexibility versus stability, internal orientation versus external orientation (Figure 2).

Figure 2. Cultural typology according to Cameron and Quinn

Source: K. Cameron, R. Quinn, *Kultura organizacyjna*.



Individual quadrants have been named to reflect the most characteristic features of organisations:

- The clan culture: this is a friendly place where people are willing to work together. It is like an extended family where bosses and superiors are seen as mentors, teachers or even parents. The organisation is held together by employees' loyalty and attachment to tradition. A high degree of commitment is present, the organisation puts an emphasis on long-term benefits of personal development and places large importance on cohesion and morale. Development of human resources and concern for employees is a measure of success. The organisation values teamwork, participation and consensus.
- The adhocracy culture: organisations are dynamic, entrepreneurial and creative. People are not afraid to take risks and leaders are seen as innovators and visionaries. The glue that holds the organisation together is willingness to experiment and innovate. Being the first in whatever one does is of utmost importance. From the long-term perspective, emphasis is on growth, taking up challenges and gaining new resources. Success means being able to offer unique and innovative products or services. The organisation encourages freedom and individual initiative.

- The hierarchy culture: this is a much formalised place to work with a strict hierarchical structure to be followed. Procedures govern whatever people do. Leaders take pride on being good efficiency-minded coordinators and organisers. Organisational efficiency is a central focus, with formal rules and procedures in place to hold the organisation together. From the long-term perspective, focus is on stability, efficiency and uninterrupted work. Success is defined in terms of dependable deliveries, smooth scheduling and low cost. In terms of management of employees, the focus is on employment security, continuity and predictability.
- The market culture: this is a mostly results oriented organisation whose primary concern is with getting the job done. People are very competitive and goal-oriented. The leader is a supervisor with a focus on competitiveness and production. He is tough and demanding. Expansiveness and a winning mindset form the glue that holds the organisation together, and its major concern are reputation and success. From the long-term perspective, focus is on competitiveness and attaining measurable goals. Market share and market penetration are measures of success. Offering competitive prices and leading the market are of importance. The management style is to encourage strong competition.

ORGANISATIONAL CULTURE IN RELATION TO ORGANISATION'S STRATEGIC DIFFERENTIATORS

As an internal structuring factor, organisational culture (and its individual elements) is one of organisation's success ratios. G. Hofstede claims that four elements should be kept in balance in order to manage organisational culture, and these are: strategy, structure, supervision and culture. Results of any organisation should be measured against the goals it has set to achieve, with the major task of its management being to translate the goals into strategies. Strategies are carried into effect through appropriate structures and a supervision system, and their results are modified by an organisation's culture – all of these elements interact with each other (Hofstede, 2007).

One significant distinguishing feature of a company's organisational culture is its corporate mission. Its culture-creating role is of particular significance as it allows external identification; also, having a corporate strategy brings certain benefits, such as ability to adjust in response to changes, feeling confident and secure, ensuring corporate prestige and introducing human dimension to corporate life (Zbiegień-Maciąg, 1999) Hence, if properly formulated, corporate mission helps in development of a "positive" organisational culture and its consistent implementation may foretell a long-term success.

Organisational culture helps overcome internal uncertainty of a business, ensuring its internal integration and co-operation of all participants; it also plays a part in selection of certain organisational solutions and implementation of adopted strategies. This is because standards of conduct within an organisation are an important factor in shaping strategic behaviours; additionally, those standards determine whether or not a strategic programme implementation is effective (Stańda, 2003).

On the other hand, Steinmann and Schreyögg claim that strongly manifested and deeply-rooted cultures are destructive to efficiency and flexibility of businesses. The two authors hold that strong corporate cultures do not go hand in hand with innovativeness (Steinmann, Schreyögg, 1995), and that innovation-supporting values are suppressive of culture. S. Pierzchawka (Pierzchawka, 2005) adopts a similar view when claiming that the turbulent environment businesses are now operating in is not conducive to building strong organisational culture and negates its homogeneity. A culture that is weak allows both groups and individuals to pick and adjust solutions to situations as needed. Diverse external expectations require organisations to vary their actions and reactions to those pressures. For that reason, organisational culture of modern enterprises should be diverse, too, to ensure their flexibility and smooth adaptation to fast-changing environment or even to outpace external changes. Given the complexity of relations between organisations and their operating environments, cultures inevitably get "diluted".

Corporate culture is a strategic resource of a business; in it, we can see the model for future organisational culture. Thanks to its market and personnel orientation, it is flexible and ready to change quickly. Flexible cultures have the following features (Sikorski, 1999):

- They are highly competent in dealing with uncertainty. Employees must handle situations of uncertainty by themselves drawing on their own knowledge, skills and experience.
- They create a dynamic web of co-operative ties within a business to ensure faster communication and decision-making processes, transition from management-through-control to management-through-involvement (e.g. in intellectual capital management), and increase in organisation's operational flexibility.

- They set up a proper dynamic environment for activities of employee teams that is results-, process- and customer-oriented.
- They perceive external information in terms of opportunities rather than threats.
- Their management style nourishes employee independence and greater empowerment of in terms of employee rights to act with individual initiative and take individual decisions.
- They educate their employees to make use of information, bring up their creativity and the need for change, and build teamwork competence in harmony with the need for achievements and strong self-esteem.

Similar conclusions can be drawn from the work of Trompenaars and Hampden-Turner (Trompenaars, Hampden-Turner, 2000) who see long-term successes of Japanese companies as more important than the American dream of succeeding fast. In particular, they link strategy effectiveness to a synchronic view of time; leadership as hierarchy which is spread over time and works for the community; and to collectivism which makes it possible to harness the synergy of businesses working together.

Under yet another concept, organisational strategy and leadership are linked to G. Hofstede's dimensions, as follows:

- Technological or product leadership is easier to be achieved in organisational cultures which are characterised by low power distance, low degree of uncertainty avoidance, individualism and masculinity. The ability of businesses to offer technologically advanced or innovative products or services to their customers depends, among other things, on how strongly their organisational culture supports their adopted goals (e.g. by rewarding openness and experimentation).
- Operational excellence depends on the extent to which an organisation can introduce adaptive changes and attain efficiency in procedure development and deployment in order to be able to offer good-quality products and services at competitive prices. Such strategy will be successful in organisational cultures characterised by moderate power distance, high degree of uncertainty avoidance, individualism and femininity.
- Customer closeness: in order to adapt to specific and changeable needs of different customer groups and be able to offer products and services, long-term relationships should be built with customers (partnership marketing). To that end, an organisation should nourish flexibility among its employees, with a strong collaborative bias; this is supported by cultures which are feminine and are characterised by low power distance and moderate uncertainty avoidance.

Research carried out by Cameron-Quinn in 174 German companies (Theopold, 04/2005) shows that the highest potential for innovativeness and novel ideas lies with the market (62.5% - very high / 37.5% - average) and adhocracy cultures (35.7% / 64.3%); the clan and hierarchy cultures were all shown to have average innovativeness potential. The other question concerned sufficiency of resources in a business (people, capital, technology, market access) in order to implement and maintain innovations. The results are as follows: the clan culture (25% - very high / 75% - average), the hierarchy culture (0% / 100%), the adhocracy culture (19.3% / 80.7%), and the market culture (30% / 70%). This shows that, despite their low resource base, adhocracy cultures are creative thanks to their potential for innovativeness. Hierarchy cultures have little resources and also show little potential for innovativeness, which translates into their employees trying to adjust rather than being creative. Despite being well-resourced, the clan culture implements few ideas; this culture is mostly about execution. The market culture is the culture of innovators who, based on large resource base, are capable of implementing innovative ideas. This supports the thesis that the clan and adhocracy cultures have the greatest potential for innovation and new ideas.

As can easily be seen, then, organisational culture has a clear impact on corporate success, particularly in multinational companies. External factors, such as those related to globalisation and ever stronger unpredictability of operating conditions for companies, lead to changes in the hierarchy of organisational values, with cultural elements becoming a necessary part of management. The success of strategies pursued by multinational corporations often hinges on their ability to adjust to the social fabric of values of culture, not only of any given branch office but also of the entire country. This is particularly important in the case of managers who are expected to lead employees from a variety of cultures (Stoner, Freeman, D.Gilbert Jr. 2001). This is the subject of cross-national or comparative management studies (which focus on similarities and differences in doing business and management systems in various cultures) or intercultural management studies. Burggraaf speaks of intercultural management which is the combination of knowledge, insights and skills which are necessary for adequately dealing with national and regional cultures and differences between cultures, at the several management levels within and between organisations. (Earley, Mosakowski, Earley, 2004) go as far as to define the notion of cultural intelligence, a trait that is particularly required of managers. It has three sources: the head (cognitive intelligence, that is the knowledge of a culture and its rules), the body (physical intelligence, that

is body language and gestures) and the heart (emotional intelligence, that is the ability to build trust and relationships).

SIGNIFICANCE OF ORGANISATIONAL CULTURE IN A BUSINESS: A PRACTICAL DIMENSION

The company we have researched is an international supplier of systems, components and subassemblies for the automotive industry, mostly German automakers. In terms of its organisation, the company is structured around autonomous plants (branch offices) in various part of the world, with corporate headquarters located in Germany. The group's headquarters is responsible for the group strategy, project control, sales, marketing, research and development. Currently, the company hires close to 10,000 workforce in 14 different locations, with its turnover amounting to more than EUR 400m on a consolidated basis. A few years ago, shares in the company were sold to one of Asian-based concerns. The change has brought to a forefront the significance of organisational culture change and the impact of cultural factors. On the other hand, the ownership change did not bring any revolutionary changes: the management remained unchanged and the concern (the owner), drawing on experience in numerous other countries, did not force any total changes in corporate culture. Quality improvement programmes (TQM) are being deployed on an evolutionary basis, each employee is taught to be aware of his or her occupational responsibility for quality, and a one-step-at-a-time philosophy of improvement is encouraged (Kaizen).

ANALYSIS OF ORGANISATIONAL CULTURE BASED ON CAMERON & QUINN'S MODEL OF COMPETING VALUES

Organisational culture was analysed from the perspective of the company's Research and Development Centre whose representative offices are located in Poland and Germany (similar centres are also situated in Hungary, Slovakia and China).

In our study, we made use of the organisational culture assessment questionnaire (OCAI) which is based on Cameron & Quinn's model of competing values (K.Cameron, R.Quinn, 2003). There were 63 participants in the study, of which 31 were staff from the Polish office, and 32 from the one in Germany. The median age was 31–36 for the Polish office and 41–46 for the German office. The majority of respondents were men (41). Out of all those surveyed, 17 people performed managerial functions.

The tables below show averaged results for the entire organisation (current and preferred cultures are analysed)

Table 1. Average values based on OCAI questionnaire forms for the R&D unit – current culture

Cultural elements	Clan	Adhocracy	Market	Hierarchy
Organisational characteristics	21.08	20.65	30.95	27.31
Leadership style	17.71	14.24	32.92	35.14
Management of employees	21.85	18.38	33.79	25.98
Organisational glue	17.60	16.92	32.32	33.17
Strategic emphasis	13.44	14.13	39.24	33.19
Criteria for success	13.13	18.54	36.04	32.29
Total cultural profile	17.47	17.14	34.21	31.18

Source: Own work.

Table 2. Average values based on OCAI questionnaire forms for the R&D unit – preferred culture

Cultural elements	Clan	Adhocracy	Market	Hierarchy
Organisational characteristics	30.41	23.88	27.27	18.44
Leadership style	23.70	27.69	24.58	24.03

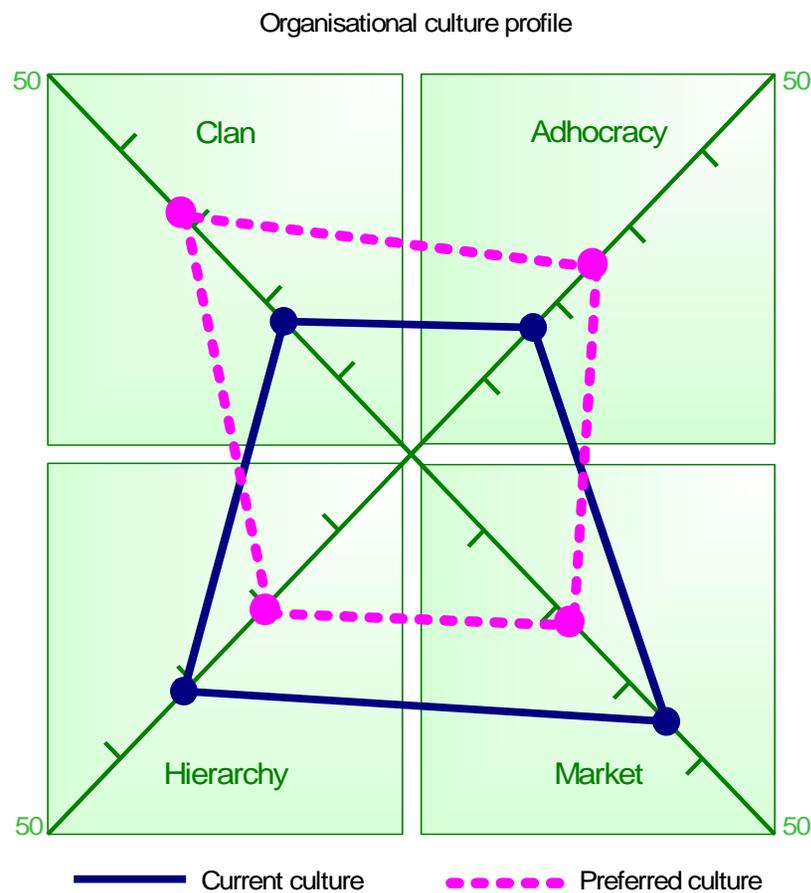
Management of employees	35.49	21.53	17.59	25.40
Organisational glue	33.78	25.83	21.77	18.61
Strategic emphasis	35.10	25.45	20.84	18.60
Criteria for success	33.30	18.82	23.23	24.65
Total cultural profile	31.96	23.87	22.55	21.62

Source: Own work.

DOMINANT TYPE OF CULTURE WITHIN ORGANISATION

The predominant cultural profile is that of the market (34) and hierarchy (31), with a noticeably less emphasis on the clan (17) and adhocracy (17) quadrants.

Figure 3. Cultural profile – study results based on the questionnaire (Cameron, Quinn) for the R&D unit



Source: Own work based on K. Cameron, R. Quinn, *Kultura organizacyjna*.

The organisation is focused on its external positioning and, albeit slightly less, on its internal matters. Its employees feel the need for stability and control. The model in which focus is placed on the market and hierarchy culture is typical of mature and efficient organisations. We should not forget, however, that the subject of our analysis is a subculture specific to a research and development unit where the emphasis is on continual adjustment to fast changing technologies, innovations and continual improvement; in other words, the adhocracy culture would be the perfect fit here. The result we have obtained could suggest certain petrification of organisational culture.

DIFFERENCES BETWEEN CURRENT AND PREFERRED CULTURES

The preferred organisational culture is one with an internal focus, flexible, with concern for its people and sensitive to its customers; in other words, a clear clan culture (32). The biggest differences are in the clan quadrant (close to 15 points) and the emphasis on that profile should be increased. A stronger focus should also be placed on the adhocracy quadrant (7). Differences for the hierarchy (12) and market (10) are also large; in this case, however, the emphasis should be lowered.

There are sizeable differences between the current and preferred cultures. This means that a cultural change will not be easy and attention should be paid to any difference over 10. A thought must be given to which organisational elements should be enhanced and which should be weakened so that any discrepancies between the current and preferred cultures are eliminated.

POWER OF DOMINANT CULTURE WITHIN ORGANISATION

What determines the power of the organisation's culture is its dominant profile; here, it is the market with 34 points. At 31, the score for the hierarchy profile is only slightly lower. What this means is that there is no single dominant culture within the organisation, and this may be a positive aspect. However, we should note a large asymmetry between the sizes of the lower and the upper half. What we are seeing is the lower half dominance (hierarchy and market). Previous analyses show that a strong culture may be the core of a company's success; equally, it may totally block any attempts at changing it. A weak culture better permits changes which result from differences between the current and preferred cultures. This is necessary in today's world where company survival depends on innovativeness, creativity and entrepreneurship; a culture that is flexible makes it easier to adjust to the fast changing environment.

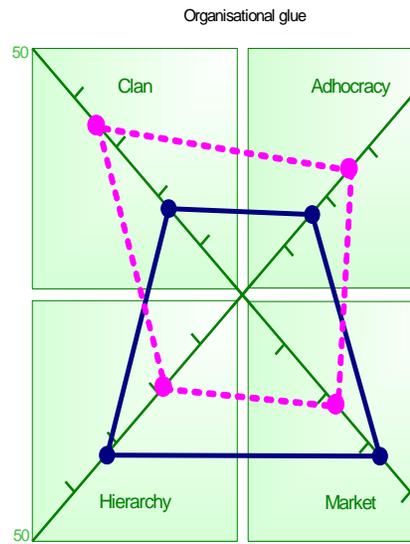
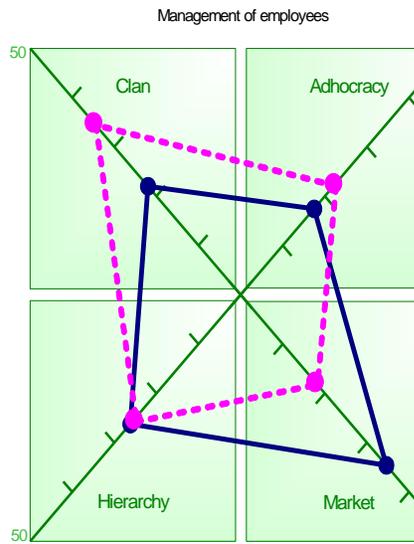
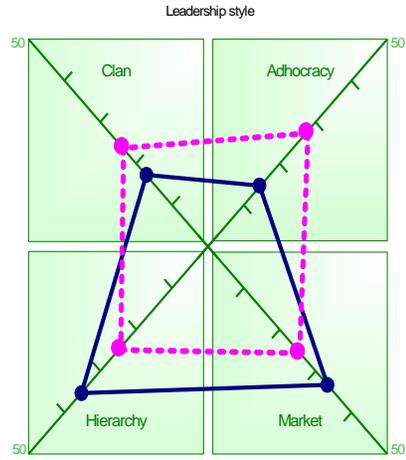
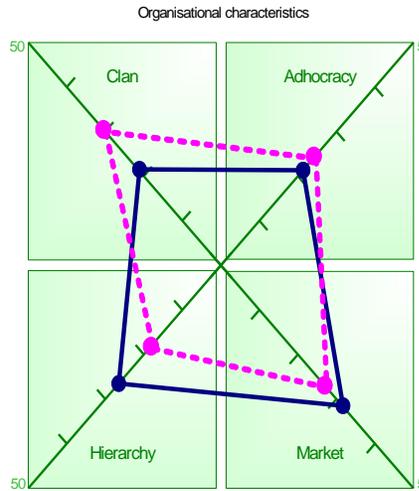
COMPATIBILITY OF CULTURAL PROFILES FOR DIFFERENT CATEGORIES AND INDIVIDUAL MEMBERS OF ORGANISATION

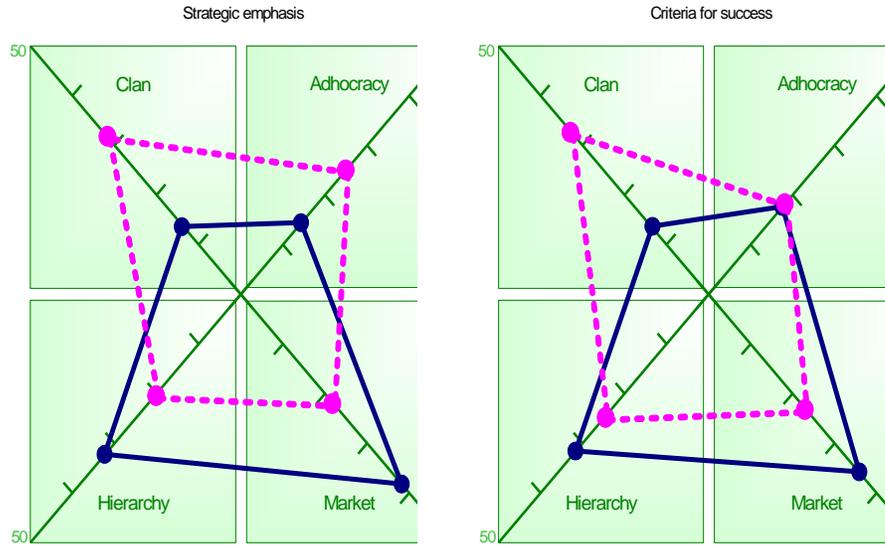
Another research task was to examine cultural compatibility: we set out to check whether the same type of culture was dominant in all management areas. Based on our examination of such management categories as organisational characteristics, leadership style, management of employees, organisational glue, strategic emphasis, criteria for success, we can see that these cultural aspects are harmonised both for the current and the preferred culture. This similarity shows that the organisational culture is homogeneous: in a majority of cases, individual values are apart by a few points and their shape approximates that for the total cultural profile of the organisation. The market profile is a dominant one for nearly all cultural aspects, and only the leadership style sees somewhat greater emphasis on the hierarchy.

Such homogeneous picture of all aspects of the organisational culture and the focus on identical values and principles is what ensures the company's smooth operation, removes a lot of obstacles and helps to avoid problems resulting from dissimilar perception of culture in different management areas and the resultant hypocrisy of values.

What is also noticeable is that, in assessment of the preferred values for subsequent cultural elements, the respondents identified the clan profile as necessary for success. There is a large discrepancy for all cultural elements between the current and the preferred values and, for the most profiles, the clan and adhocracy quadrants should be strengthened with an accompanying weakening of the market and hierarchy quadrants.

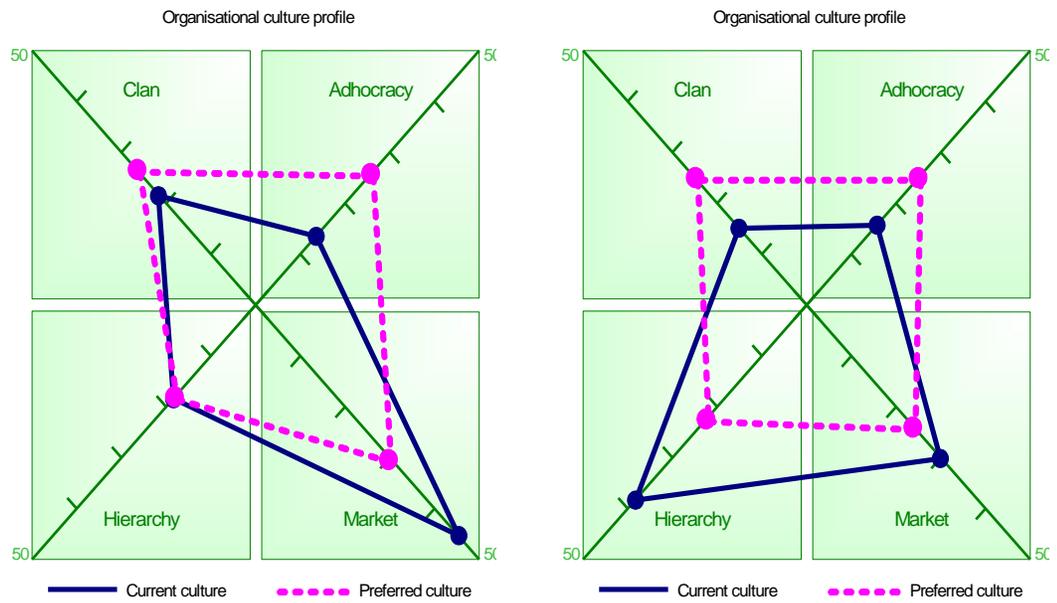
Figure 4. Individual elements of culture: result for the entire organisation

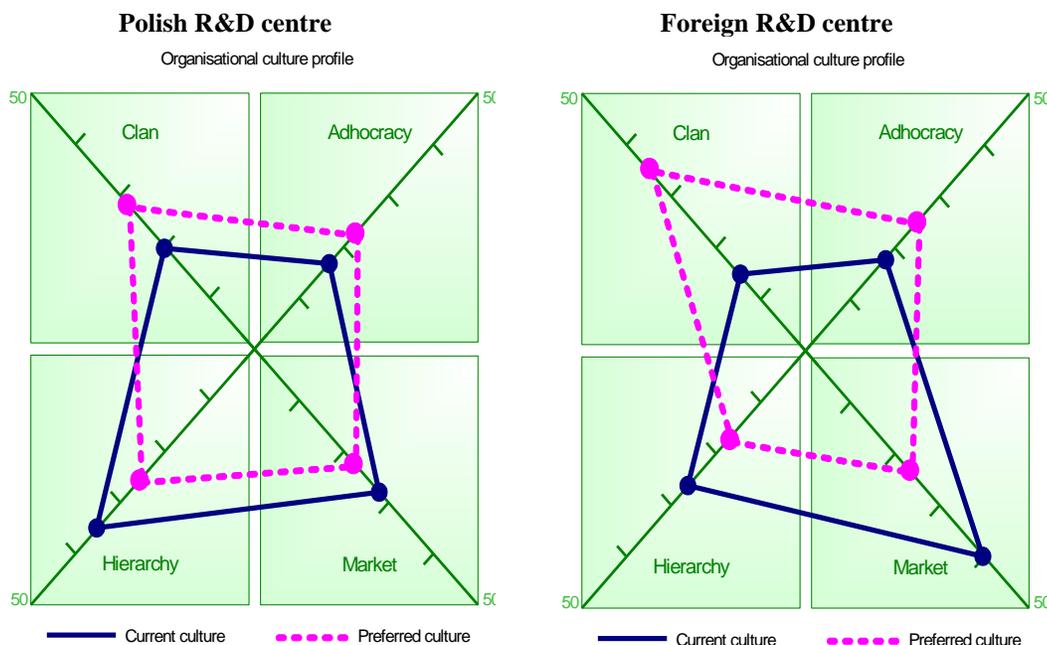




Source: Own work based on K. Cameron, R. Quinn, Kultura organizacyjna.

Figure 5. Similarities of main organisational culture profiles for different units: a comparison





Source: Own work based on K. Cameron, R. Quinn, *Kultura organizacyjna*.

An easily noticeable thing is a substantial difference in the organisational culture profile prepared by the managing director; this may have been caused by the fact that the managing director is new to the organisation, working in this capacity for just a year. The strong focus on the market culture has historical roots, too, as the company had depended on a single customer and the management's strategy now is to open up to new partners. This means that being competitive and good performance are the essential values. On the other hand, a large disparity in the perception of organisational culture between managers and directors may be the result of resistance to such changes and thinking in historical terms, where keeping the status quo was important (stability, efficiency, undisturbed work). Also, this may mean that the management's strategy is not transparent to them or have not been sufficiently disseminated.

On the other hand, the preferred organisational culture for the two profiles is much more coherent. There is a noticeable drive towards enhancing the clan and adhocracy cultures and diminishing the hierarchy and market cultures. This reflects departure from the emphasis on stability and control and the shift towards the cultures which focus on the flexibility and discretion.

Differences that we see in the profile of the Polish office (which is strongly oriented towards hierarchy) and the German office could be explained using Hofstede's national culture dimension. Exceptionally high uncertainty avoidance and power distance scores in Poland suggest that we are dealing with the hierarchy culture and the values of certainty and clear interdependence it offers. On the other hand, the lower value of the clan profile as seen in the case of Germans office could be linked to their higher individualism.

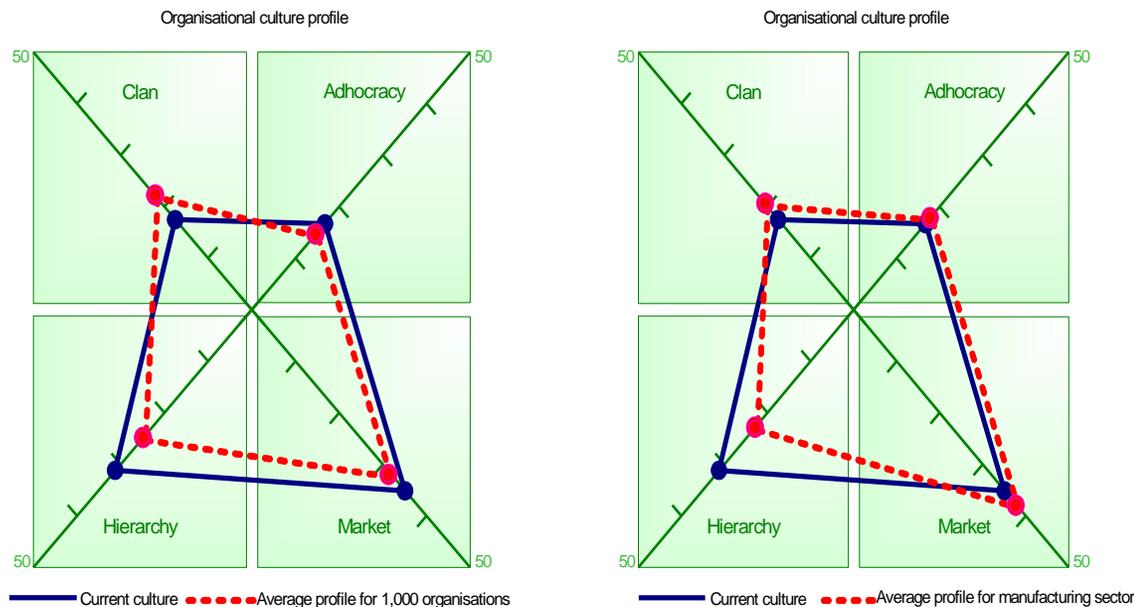
One striking result in our profile comparison is a very high score for the clan culture in the German office. The only explanation to that is a higher average age of the respondents from Germany, a factor with an impact on the need for stabilisation, good atmosphere and involvement in social matters (which is what the clan culture provides). What is also interesting is the inconsistency of individual culture elements for the German group and the topmost management. This might indicate problems within the organisation resulting from insufficient communication or its maladjusted structure.

RESEARCHED COMPANY'S CULTURE VS. AVERAGE ORGANISATIONAL PROFILE: A DEGREE OF SIMILARITY

If we make a comparison of the results for the company we have researched with the average cultural profile and its individual components for more than a thousand organisations (Cameron, Quinn, 2003) we can see a

particularly clear difference in the graph's lower half, with a much more significant role of the hierarchy culture and a slightly larger role of the market culture. This might suggest a far greater significance of control and stability in the company subject to our research compared to an average business.

Figure 6. Comparison of researched company's organisational culture to average cultural profile for more than 1,000 organisations and to manufacturing industry profile



Source: Own work based on K. Cameron, R. Quinn, *Kultura organizacyjna*.

Compared to our earlier comparison, we can see fewer discrepancies when we compare the researched company's profile with that for the manufacturing industry. The major difference is the more limited role of the clan in the researched company.

Thanks to the comparison such as the one above, we can check whether organisational culture meets the requirements of its operating environment. Having organisational culture that is similar to the average cultural profile does not mean that a company will be successful. Oftentimes, significant departures in terms cultural dimensions might mean that a company enjoys a competitive advantage.

TENDENCIES

As regards the tendencies described by Cameron and Quinn (Cameron, Quinn, 2003), we can confirm that the topmost management is inclined to keep the clan culture in higher regard than the managers down the line, in particular if we look at each individual cultural component. Two bottom quadrants are clearly dominant: they represent the hierarchy and market cultures which predominate in the majority of companies. When they attain a dominant position, those two quadrants have a tendency to stay in that position for a long time; this is the reason why so much effort is required to change a culture towards the clan and adhocracy which seem to be the preferred cultures for the researched company. The change in question emphasises the role of teamwork, innovativeness and changes as opposed to the current values of stability, productivity and control.

CONCLUSIONS

The cultural profile created on the basis of the Cameron & Quinn's competitive values model shows that the researched organisation is driven by effectiveness and market competitiveness. The adhocracy and clan profiles are kept to a minimum, with the hierarchy and market profiles gaining on significance. The lower half of the graph is dominant; this means control and stability orientation, a development that is not a strong point for a

research and development unit which needs collaboration, flexibility, strong innovativeness and entrepreneurship. This might mean that the work is overcome by bureaucratic procedures and competition. This type of organisational culture is usually seen in mature and efficient organisations. Studies of cultures show that tendencies exist that uphold this form of culture and that, for this reason, it is extremely resilient to change. Any attempt to shift the focus to the clan and adhocracy quadrants to harmonise organisational culture and make it more flexible might then require a lot of time and effort on the part of the management.

The employees in the researched company too see the need for change in this direction. It results from a substantial inconsistency between the values of the current and preferred cultures. What is at work here is collective subconsciousness of the group which senses cultural mismatch. The discrepancies are particularly large for the clan culture which, based on the results, should be strengthened. The same holds true for the adhocracy culture. Naturally, the sum total of values must match and, to attain that, we must significantly weaken the significance of the market and hierarchy culture.

The varying perceptions of culture by the managing directors and the middle management are another issue. This attests to a lack of coherence in the perception of the values, definitions and views among managerial staff. On the other hand, the value profiles of the preferred culture are much more coherent, and this might help when attempting culture change. It is of paramount significance that the managers speak with one voice when undertaking culture changes, and convey cultural values in an unambiguous and intelligible manner. Managers should also have appropriate skills and competences: one should not forget that different quadrants call for different management skills. For example, the clan and the adhocracy require that managers have the qualities of a leader capable of stressing the role of teamwork, innovativeness and changes. The opposite quadrants (of hierarchy and market) require the management to have the skills of a manager who is capable of maintaining the status quo and will strive to keep stability and productivity. To ensure harmony, all types of culture are needed together with their accompanying management skills because any change that lacks stability means chaos, and vision that lacks productivity means a failure (K.Cameron, R.Quinn, 2003).

In our further analysis of the model, we can see that there are noticeable differences in the perception of organisational culture in the two countries, that is in Poland and in Germany, despite strong links between the Polish and German parts of the research and development division. These differences boil down to the domination of the hierarchy culture in Poland and of the market culture in Germany. This might be accounted for in terms of national culture influence (high power distance and high degree of uncertainty avoidance in Poland). One interesting result is indication by the Germans of the clan culture as the preferred culture, even though Hofstede's research shows that collective orientation is more characteristic of the Poles. The explanation in this case might come from the respondents' age (higher average age for the German office personnel) and the fact that the economic crisis is currently more severe in Germany (the clan culture is the one which shows concern for employees and ensures social safety).

As seen in the examples above, a large number of organisational culture areas of the company we focused our research on requires improvement. Organisational culture will help in attaining success only when employees can identify with it, when it is in agreement with corporate goals and the adopted strategy, and when it affects the situation of employees and is based on concern for their good. In today's world, organisational culture is a factor that is indispensable for proper operation of any organisation. This is also why it is essential that its change should be a conscious process.

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DIVERSIFICATION WITH BRIC

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ABSTRACT

We investigate possible short and long term diversifications than can be achieved by investing in BRIC stock markets in addition to the US stock market. Our results based on contemporaneous and long term analysis suggest that investing in BRIC stock markets provides diversification benefits, especially for US investors.

INTRODUCTION

In the context of “globalization”, world economies are becoming more interconnected and integrated. Increasing volume of international trading, and even faster increase of the international capital flows are the two main drivers of globalization. Trade liberalization and increasing number of memberships with the WTO can be listed as the reasons for the growth in international trade volume. For the increase in international capital flows, liberalization and deregulation in the capital markets, elimination of foreign exchange controls, and search for higher returns of capital exporting economies can be listed as the reasons.

From the financial point of view, one can explain the growth in capital flows to and foreign ownership in developing markets with two motivational factors: higher returns and lower overall portfolio risk. It is an empirical issue to determine if the developing markets provide higher returns than the developed markets. Depending on the sample periods higher returns can be observed, but due to higher volatility they may not be proper investment alternatives. On the other hand, even though those developing market returns may have higher volatility, they can provide significant portfolio diversification benefits if their returns are not correlated with those of the developed markets. In the past, those diversification benefits were tied to factors such as barriers to international capital flows, exchange controls, lack of free trade, inadequate information on foreign securities and investor bias against foreign securities. However, in recent years, significant increase in correlations and volatility transmission between equity markets during and after the 1987 equity market crash are considered as reasons for lower available benefits through international diversification.

When international portfolio diversification is considered, one has to consider developing markets as an important alternative. Among the developing markets, four countries, namely Brazil, Russian Federation, India and China deserve special attention. Referred to as BRIC in economic circles, those four have a total market capitalization over \$10 trillion (slightly larger than half of US market capitalization) and the market indices of those countries have increased by 201% to 630% between 2001 and 2007. Based on these figures, BRIC stock markets can obviously provide high returns (at least for that period of time) for investors worldwide, but the question about their contribution to portfolio risk is an empirical issue. In this paper, we examine possible diversification benefits that can be gained by investing in BRIC stock markets in addition to the US stock market, both in short and long terms. Our findings point out possible short term benefits based on diversification, and continuation of these benefits in the long term.

The rest of the paper is as follows: next we provide a brief discussion of the related literature. Data and methodology is presented in the third section. We present correlations among these markets, and then employ and present the results of cointegration analysis in results. The last section summarizes the results and concludes.

LITERATURE REVIEW

There are a large number of studies that investigate the dynamic linkages among world equity markets. Some of them provide evidence for integration, and some of them against, including studies that examine multiple countries. Here we present only a subsample of studies on the issue:

Hamao and Masulis (1990), Kasa (1992), and Arshanapalli and Doukas (1993) present evidence for the equity markets of the developed countries being integrated. Chen et al., (2002) for emerging markets, Gilmore and McMannus (2002) between the US and three developing Central European Markets, and Manning (2002) for South East Asia find cointegrating relationships among equity markets. In addition to those, Tokic (2003) supports the integration results for the USA and five markets; Australia, Japan, Hong Kong, New Zealand and Singapore; Cha and Oh (2000) for the Japanese, the US, Hong Kong, Korea, Singapore and Taiwan; and Ghosh et al. (1999) for the US, Hong Kong, India, Korea and Malaysia. Eun and Shim (1989) finds effects of the US equity markets on world markets, and also argue that the US is the most dominant market in the world, an argument usually supported in other studies that include the US in their sample.

Some of the studies that do not support the integrating relationship are as follows: Yang, Khan and Pointer (2003) for developed markets, DeFusco et al. (1996) for the US market and thirteen emerging capital markets, Pan et al. (1999) for six country's equity indices. No long-term linkages between the US and European equity markets were found by Byers and Peel (1993) and Kanas (1998). Ghosh et al. (1999) do not find any effect of the USA and Japan on the stock markets of Taiwan and Thailand.

A very recent study by Ozdemir et al. (2008) find long term relationship (cointegration) for 8 of the 15 emerging markets they examine. For the remaining seven they do not find evidence of cointegration, but they document Granger causality from the US, but not vice versa.

DATA AND METHODOLOGY

In examining the relationship among the stock markets of the US and BRIC, we use monthly US Dollar based MSCI country indices. Using the MSCI indices gives us comparable data about the stock markets, in terms of coverage and a common currency. Data used is between January 1995 and May 2008, where the starting point is determined by the availability of data for the Russian Federation. All index series are converted to natural logarithms in order to better fulfill distributional assumptions. The log transformed series are named *lus*, *lbr*, *lru*, *lin*, and *lch* for the US, Brazil, the Russian Federation, India, and China respectively.

As a first step, we measure the average (geometric) returns, calculate standard deviations of the returns, and calculate Sharpe index for each country to determine if there are risk adjusted return differences among them. Then we test the existence of unit roots in the series employed, as it is now common knowledge that most economic time series contains unit roots, followed by the examination of the correlations among the returns based on the country indices, to see short term co-movements. As the final step, we apply cointegration methodology to pairs of each BRIC country and the US log index values, and then to all five countries together, to investigate the long-term co-movements. If cointegration exists among these countries, there will be no gains from portfolio diversification as they share a common trend(s). Results of the analyses are presented below.

RESULTS

Monthly average stock index returns, standard deviations of the returns, and Sharpe index values (using US 3 month T-Bill rate as risk free rate) of the five countries examined are presented in *Table 1*. Three of the four BRIC market indices have higher average returns than the US market, China being the exception. Investors looking for higher returns can turn to these countries. When listed in the order of highest to lowest Sharpe ratios, Brazil is at the top, followed by the US and Russia (very close), then by India, and finally by China which is not only the lowest but has a negative Sharpe ratio. Based on these results, when adjusted for risk levels involved,

US based investors, or investors that have investments in the US markets, can get better returns in Brazil, but not in the other three BRIC countries.

Table 1 Mean monthly returns, SDs and Sharp ratios during 1995-2008

	US	Brazil	China	India	Russia
Mean Return	0,007038	0,01603	0,0011	0,01017	0,01792
Standard Deviation	0,04231	0,10406	0,11035	0,08646	0,16282
Sharp Ratio	0,091033	0,12348	-0,0189	0,08076	0,09046

As many economic time series data is known to have unit roots, the second step of our analysis is to determine the existence (or non-existence) of unit roots in the stock market index series from the BRIC and the US. In order to have robust results, we applied ADF test by Dickey and Fuller (1979), KPSS test by Kwiatkowski, Phillips, Schmidt, and Shin (1992), DF-GLS detrended by Elliot, Rothenberg and Stock (1996), and the Z_{α} test by Ng and Perron (2001), all of which suggest *lus*, *lbr*, *lru*, *lin*, and *lch* series are all I(1).

In the next step, we compute the returns of the logged country indices by taking the first differences, and examine the correlations among them. The returns are all stationary in levels. Based on the relatively low correlation coefficients presented in *Table 2* we can say investing in BRIC stock markets and the US market together to form a portfolio, short term diversification benefits can be realized.

Table 2 Correlation coefficients among return series

	DLBR	DLCH	DLIN	DLRU	DLUS
DLBR	1.000000	0.423369	0.360380	0.472025	0.536297
DLCH	0.423369	1.000000	0.356397	0.293902	0.386977
DLIN	0.360380	0.356397	1.000000	0.345851	0.371018
DLRU	0.472025	0.293902	0.345851	1.000000	0.369052
DLUS	0.536297	0.386977	0.371018	0.369052	1.000000

However, as most investors in stock markets have (or should have) long term investment horizons, it is important to see if these short term correlations are indicators of long term diversification benefits or not. We apply cointegration methodology to the index series in order to answer this question.

The Johansen procedure (Johansen, 1991, 1995; Johansen and Juselius, 1990) is applied to pairs of stock market indices from countries of BRIC and the US, to see whether any of those market indices have a long term equilibrium relationship with the US market.

The results presented in *Table 3* indicate no cointegration between the stock markets of each of the BRIC countries and the US market.

Even when there is no indication of pairwise long term relationship, as indicated by the lack of cointegration between the US and the BRIC markets, it is possible to have the group be cointegrated when considered altogether. So, the last set of tests examine the existence of long term relationship(s) among the four BRIC markets and the US altogether.

Table 3 Bilateral Johansen cointegration test results

H_0	H_A		US-Brasil	US-Russia	US-India	US-China
		Trace Critical Value (0.05)				
$r = 0$	$r > 0$	20.26184	15.12479	13.44658	17.58138	13.01316
$r \leq 1$	$r > 1$	9.164546	1.314741	1.377378	2.011273	1.152405
		Maximum eigenvalue Critical Value (0.05)				
$r = 0$	$r > 0$	15.89210	13.81005	12.06920	15.57011	11.86075
$r \leq 1$	$r > 1$	9.164546	1.314741	1.377378	2.011273	1.152405

r denotes the maximum number of cointegrating vectors
None of the test values are significant

Table 4 Multilateral Johansen cointegration test results

H_0	H_A		US-Brasil-Russia-India-China	
		Trace Critical Value (0.05)		
$r = 0$	$r > 0$	69.81889	55.49373	
$r \leq 1$	$r > 1$	47.85613	33.59431	
$r \leq 2$	$r > 2$	29.79707	16.34984	
$r \leq 3$	$r > 3$	15.49471	4.596916	
$r \leq 4$	$r > 4$	3.841466	0.280786	
		Maximum eigenvalue Critical Value (0.05)		
$r = 0$	$r > 0$	33.87687	21.89942	
$r \leq 1$	$r > 1$	27.58434	17.24447	
$r \leq 2$	$r > 2$	21.13162	11.75292	
$r \leq 3$	$r > 3$	14.26460	4.316130	
$r \leq 4$	$r > 4$	3.841466	0.280786	

Lag length is 1 (based on FPE, AIC, SC, HQ criteria)
r denotes the maximum number of cointegrating vectors
None of the test values are significant

Results presented in *Table 4* show that there is no evidence of cointegration among the market series, indicating the lack of a long term equilibrium relationship.

CONCLUSION

The economies of Brazil, the Russian Federation, India and China, referred to as BRIC, are an important part of the world economy and becoming even more important. According to Goldman Sachs' 2007 report, BRIC countries are expected to be among the largest economies of the world in the next few decades. The stock markets of the BRIC countries also make up a significant portion of the world stock market capitalization already.

Consequently, it is necessary to consider those markets in a world portfolio. The question is whether considering those markets as a part of world portfolio provides any diversification benefits or not. In this paper, we try to answer this question by examining the market index values of BRIC and the US for the last twelve years. Our results indicate that those markets can provide higher returns as well as diversification benefits when considered with the US markets.

In terms of short run benefits, each of the BRIC market returns has relatively low (all less than 55%) pairwise correlations among each other and with the US market. When long-term relationships are examined, the diversification benefits are shown to withstand in our sample period. This interpretation is based on rejection of cointegration between each country market index and the US, and also among BRIC and the US considered altogether.

Equity investors can include BRIC markets in their portfolio with the US markets in order to achieve higher returns, and in the process their portfolio risk (measured in variability) will not increase proportionally, resulting in portfolio diversification benefits. However, the usual disclaimer of investment advice applies here as well: past performance (or relationships in our case) does not guarantee future performance.

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A COMPARATIVE ANALYSIS OF PERCEIVED BUREAUCRACY IN UNIVERSITIES: A CASE

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ABSTRACT

Universities are forms of bureaucracy, which is a complex organizational system for big-scaled organizations. According to the dimensional approach bureaucracy can occur in an organization in a degree, as some bureaucracy characteristics can be stronger than others. In addition, the units of an organization due to their different specific characteristic properties can perceive the bureaucracy differently. In the study, Hall's Organizational Inventory, which was developed for evaluating the degree of bureaucratization by using the dimensional approach, is used to find out if there is a difference in the perception of the bureaucracy between similar academic units in the same university.

INTRODUCTION

Although bureaucracy is usually seen as inefficient, slow and generally bad, it is a form of organization that has been enormously successful and is the result of thousands of years of trial and error evolution (Borgatti, 2002). It is the tool of power, an “effective” device to control and direct human effort and behavior (Yücel, 1999). When organizations begin to grow by increase in number of staff, division of labor and centralization and having more complex activities, more rules and more hierarchical structure, then it means that the organization is bureaucratized.

Universities, a part of public sector (Kutlu, 2007), are one of the forms of bureaucracy called “professional bureaucracy” by Henry Mintzberg. Mintzberg (1993) suggests this type of organizations relies on the skills and knowledge of their operating professionals to function and produce standard products or services. Universities are characterized as professional as the operational processes of the organization have to challenge with the complex and sophisticated knowledge. On the other hand, the structure of these organizations is essentially bureaucratic as its coordination achieved by design, by standards that predetermine what is to be done (Mintzberg, 1993). The amount of studies about the bureaucratization in universities in the literature is so little. Therefore the main context of the paper is based on the studies that are published in the old dates.

The aim of the paper is trying to find out if there is a difference in the perception of the bureaucracy between similar academic units in the same university. Using the empirical results of a questionnaire developed by R.H. Hall in 1961 two departments; industrial engineering and management engineering of the management faculty of Istanbul Technical University are compared as a case. The departments of the faculty have similar research fields while the origin of their establishment and organizational structures are quite different.

MEASUREMENT OF BUREAUCRACY

When bureaucracy is scientifically defined, it is a descriptive and objective term describing a complex organizational system that is suitable for big-scaled operations requiring many technical skills for realizing the policies determined by others (Ergun and Polatoglu, 1984). There are different points of view to the concept of bureaucracy according to the way it is used (Budak, 2005). In the literature the most common type of

bureaucracy is called Weberian type, developed by German economist and sociologist Max Weber. Weberian bureaucracy requires a formal organization where work is conducted according to formal rules under a hierarchy of rational-legal authority, and individuals are recruited to fill roles in the organization based on their formal competence and educational qualifications (Gornitzka et al., 1998). Max Weber (Gerth and Mills, 1946) argued that; the decisive reason for the advance of bureaucratic organization has always been its purely technical superiority over any former organization.

The degree of bureaucracy in an organization sets the boundaries for human action (Yücel, 1999). The degree of bureaucracy can differ in organizations or the staff working in the same organization can perceive it differently. There are two approaches used in the literature for measuring the degree of bureaucracy. Yücel (1999) states that until 1960s, bureaucratic characteristic of organizations were evaluated by using case studies called unidimensional approach to the study of organization. In the late 1950s this approach was questioned and researchers began to think that all the characteristics of the bureaucracy might not be present in the organization at the same time and some characteristics can be stronger than the others. This approach was designated as dimensional approach.

Unitary Approach

According to the unitary approach, an organization is either bureaucratic or not (Yücel, 1999). This approach suggests that all of the bureaucracy characteristics must be observed in a high degree. Stanley Udy (1959), assuming the number of the hierarchical levels of an organization as criterion, featured an organization as bureaucratic when it had more than three hierarchical authority levels (Baransel, 1979).

Dimensional Approach

According to the dimensional approach, an organization can be bureaucratic in a number of ways (Yucel, 1999). An organization can have or can be perceived by a high degree of bureaucratization in some areas but not all areas. The most common instruments in the literature used for measuring bureaucracy are stated in Table 1 ranged from the most wide-used to the least.

Table 1: The instruments that use dimensional approach for measuring the degree of bureaucracy

	Researchers	Date	Instrument
1	Hall, R. H.	1961	Organizational Inventory
2	Aiken, J. and Hage, M.	1966	Structural Properties Inventory
3	Pugh, D. S., Hickson, D. J., Hinings, C. R., McDonald, K. M., Turner, C. and Lupton, T.	1963	Aston Interview Schedule

Source: Adapted form Yücel (1999)

In the study, Hall's dimensional approach which has the most widely usage in the literature is used for the comparison of perceived bureaucracy in a university. Hall's study of the degree of bureaucratization tended to confirm that bureaucracy may be generally viewed as a matter of degree rather than of kind (Courpasson and Clegg, 2006). Hall (1961) developed a survey instrument which is called "Organizational Inventory" to measure six bureaucratic dimensions after an extensive literature review on bureaucratic characteristics (Yücel, 1999). The dimensions identified by Hall are listed as Hierarchy of Authority (HA), Rules and Regulations (RR), Division of Labor (DL), Procedural Specifications (PS), Impersonality (IM) and Technical Competence (TC).

According to Yücel (1999), researchers continuously report two distinct second order factors usually where hierarchy of authority, rules and regulations, procedural specifications and impersonality compose first factor and division of labor and technical competence compose the second factor. These two factors are found as inversely correlated. The first factor is accepted as the measure of bureaucratization by most researchers. On the other hand the second factor, which is accepted as a partial measure of professionalism, is either discarded or analyzed separately (Yücel, 1999). Isherwood and Hoy (1973), named the fist factor as "control" and second factor as "expertise".

HYPOTHESIS

The general bureaucratic structure influences a university or a faculty of a university by the rules and governance. However the bureaucratic system can influence the departments of the faculty in different ways as the departments have organizational sub structures and backgrounds with separately specific characteristics. The hypothesis of the study is formed as the system of bureaucracy in a faculty can be perceived differently by the staff of its departments or subunits due to the different characteristic properties of the units. Even though the departments the parts of the faculty are similar units, their organizational structure and background may make the staff perceive the bureaucracy differently. In the paper, it is tried to find out if there is a difference in the perception of the bureaucracy between similar academic units in the same university. Using the empirical results of a questionnaire developed by R.H. Hall in 1961 two departments; industrial engineering and management engineering of the management faculty of Istanbul Technical University are compared as a case. The departments of the faculty have similar research fields while the origin of their establishment and organizational structures are quite different.

Background of the Departments

Industrial engineering department was derived from the production division of the mechanical engineering faculty, which is one of the oldest branches of the university. It becomes an independent department in 1969 and joined with the management engineering in the establishment of management faculty in 1982. On the other hand management engineering department originated from a division established in 1971 under the faculty of basic sciences for teaching general knowledge based on economics and law to the engineer candidates. Later as the development in the socio-economic conditions of the country, it expanded to an independent department in 1977. When compared, considering their background, industrial engineering department is characterized as more technical while management engineering is more social science oriented.

Organizational Structure of the Departments

The departments have significantly different structural systems. Industrial engineering department consists of two academic divisions called operations research and industrial engineering. However this structure does not separate the academic staff that belongs to these divisions in research and teaching activities. They usually work in a common way as one unit. On the contrary management engineering department has six divisions that are completely separated in their inner operations. The divisions; management and organization, production management and marketing, economics, law, quantitative methods and finance and accounting, mostly have research fields based on social sciences. In the study less divisionalised structure of the industrial engineering department is expected to be less bureaucratic in the perception of their staff when compared with the management engineering department staff.

METHODOLOGY

The questionnaire used in Hall's "Organizational Inventory" instrument is employed for comparing the perceived bureaucracy between the academic staff of the departments in the management faculty of Istanbul Technical University. The aim of the analysis is search for the difference of the perceived bureaucracy between two departments of the faculty. The data of the academic staff responses were collected and analyzed to find out if there is a difference between the groups of staff working in industrial engineering department and management engineering department by the dimensions of bureaucracy.

At first, the scores of the respondents were calculated by taking the average value of the items for each dimension so that every respondent has one average score for each dimension and one general average score. The reason for considering this approach is that although the data of the responses is taken in interval (likert) scale, the average values are in a ratio scale. Therefore the sample size can be considered as sufficient for the data set that is in ratio scale. Later the reliability is checked and some of the data is removed to obtain a data set with a high reliability. Before employing the t-test for the comparison, a normality test is employed to check if

the data set fits the normal distribution. The results and interpretations of empirical analysis are stated in the following sections.

Sample and Data Collection

The questionnaire involves 62 questions, which are grouped under six dimensions mentioned before as Hierarchy of Authority (HA), Rules and Regulations (RR), Division of Labor (DL), Procedural Specifications (PS), Impersonality (IM) and Technical Competence (TC). In addition to these items, the academic title, working time and the graduation department of the participants were asked as demographic characteristics, which are shown in Table 2. The answers for the questionnaire items are designed as appropriate for the five point likert scale. There are 54 respondents consisted of 34 respondents from industrial engineering department and 20 respondents from management engineering department. After the data collection, the means of the groups of the departments are compared and differences are found in the perception of bureaucracy by both departments of the faculty.

Table 2: Demographic characteristics in the collected data

Department	Academic titles		Employment time (years)		Graduation areas	
Industrial Engineering	Professor	3	Over 25	2	Industrial Engineering	23
	Associative Professor	3	15 - 25	9	Other Engineering	11
	Assistant Professor	6	5 - 15	6		
	Research Assistant	22	Under 5	17		
	TOTAL	34	TOTAL	34	TOTAL	34
Management Engineering	Professor	4	Over 25	3	Engineering	12
	Associative Professor	1	15 - 25	2	Social Sciences	8
	Assistant Professor	2	5 - 15	1		
	Research Assistant	13	Under 5	14		
	TOTAL	20	TOTAL	20	TOTAL	20

Data Analysis

Before the evaluation of the response scores for each dimension, the reliability is checked for items for each dimension in both groups. In reliability analysis if the alpha coefficient is between the value 0.40 and 0.60, the scale has a low reliability and if the alpha coefficient is between the value 0.60 and 0.80 the scale can be considered quite reliable (Akgül and Çevik, 2005). When the data sets are analyzed, it is obvious that, some sets of data exist with low reliability for particular dimensions.

In the next step, “corrected-item total correlation” and “alpha if item deleted” values were examined. If the corrected-item total correlation is negative or even lower than 0.25, the item should be removed from the data set (Akgül and Çevik, 2005). Therefore some items are removed to increase the alpha coefficient over 0.60 for a good reliability. The items; HA 4 for the hierarchy of authority dimension, DL 1, DL 3 and DL 10 for the division of labor, RR 7 and RR 11 for the rules and regulations dimension, IM 2, IM 9 and IM 10 for the impersonality dimension and TC 4 and TC 7 for the technical competence dimension were deleted because of the fact that their corrected-item total correlation is negative or smaller than 0.25. The procedural specifications dimension has a good reliability in both groups so that there is no need for an item removal in its data set. In Table 3 and Table 4 the alpha coefficient values are shown as before and after the items were removed for each

dimension. The means of the respondent scores for each dimension are shown in Table 5 after the items were removed for reliability.

Table 3: Alpha coefficient values of the data sets

	HA	DL	RR	PS	IM	TC	Overall
Industrial Engineering	0.6848	0.5683	0.5328	0.6385	0.4405	0.7397	0.6748
Management Engineering	0.4773	0.2805	0.6512	0.7431	0.6887	0.5418	0.7780

Table 4: Alpha coefficient values of the data sets (after items are removed)

	HA	DL	RR	PS	IM	TC	Overall
Industrial Engineering	0.6741	0.6711	0.6107	0.6385	0.6301	0.7056	0.6748
Management Engineering	0.6153	0.6046	0.6351	0.7431	0.8157	0.6660	0.7780

Table 5: Mean values of the data sets (after items are removed)

	HA	DL	RR	PS	IM	TC	Overall
Industrial Engineering	2.578	3.076	2.344	2.821	2.500	3.206	2.754
Management Engineering	3.060	3.043	2.872	3.067	2.911	3.240	3.032

The data set should also fit the normal distribution to employ the t-test to compare the groups. As a result, before the comparison, a normality test is performed to search for normality of the variables that show respondent average values for the dimensions. The first group of the sample consists of 34 respondents and the second group consists of 20 respondents. If the number of respondents is lower than 29, Shapiro-Wilks test can be used and if the number of respondents is equal to or greater than 29 Kolmogorov-Smirnov test can be used (Akgül and Çevik, 2005). The results of significance for the distributions of the respondent average scores was checked for each dimension and overall. The results of significance are shown for the distributions of the average scores of respondents for each dimension and overall are shown in Table 6. The findings report that all the data sets of the dimensions fit the normal distribution except dimensions of hierarchy of authority and rules and regulations for the industrial engineering department group.

Finding and Results

The means of the groups of the departments are compared by performing t-test on the data sets of average scores of the respondents for each dimension. The results are shown in Table 7. The results indicate that there is a significant difference between the means of the groups in the dimensions; hierarchy of authority, rules and regulations, procedural specifications and impersonality but a significant difference is not found for the division of labor and technical competence dimensions. In addition when the average values for all items of the respondents are compared for both groups, significance in difference is valid.

Table 6: Normality tests for the groups

	Department	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
HA_avg	1	,193	34	,002	,884	34	,002
	2	,152	20	,200(*)	,949	20	,360
DL_avg	1	,142	34	,080	,974	34	,574
	2	,196	20	,043	,940	20	,245
RR_avg	1	,150	34	,050	,933	34	,039
	2	,145	20	,200(*)	,952	20	,406
PS_avg.	1	,091	34	,200(*)	,966	34	,369
	2	,144	20	,200(*)	,956	20	,475
IM_avg	1	,126	34	,186	,950	34	,121
	2	,133	20	,200(*)	,932	20	,166
TC_avg	1	,131	34	,152	,974	34	,591

	2	,175	20	,111	,933	20	,180
AVG_avg	1	,078	34	,200(*)	,973	34	,543
	2	,175	20	,109	,959	20	,528

* This is a lower bound of the true significance.
a Lilliefors Significance Correction

Table 7: Results of the t-test for the comparison of the means

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
HA_avg	Equal variances assumed	,000	1,000	-3,412	52	,001	-.481291	,1410571	-.7643427	-.1982390
	Equal variances not assumed			-3,434	40,762	,001	-.481291	,1401539	-.7643875	-.1981942
DL_avg	Equal variances assumed	,177	,676	,217	52	,829	,032773	,1513175	-.2708676	,3364138
	Equal variances not assumed			,223	43,783	,824	,032773	,1467614	-.2630464	,3285926
RR_avg	Equal variances assumed	2,015	,162	-4,226	52	,000	-.527859	,1248948	-.7784792	-.2772397
	Equal variances not assumed			-4,077	35,885	,000	-.527859	,1294767	-.7905310	-.2651879
PS_avg	Equal variances assumed	,002	,964	-1,990	52	,052	-.245588	,1233831	-.4931746	,0019981
	Equal variances not assumed			-1,956	37,845	,058	-.245588	,1255534	-.4997919	,0086154
IM_avg	Equal variances assumed	,465	,498	-2,657	52	,010	-.411111	,1547208	-.7215812	-.1006410
	Equal variances not assumed			-2,561	35,590	,015	-.411111	,1605323	-.7368161	-.0854062
TC_avg	Equal variances assumed	1,141	,290	-,170	52	,866	-.034118	,2011202	-.4376949	,3694596
	Equal variances not assumed			-,178	45,864	,860	-.034118	,1917746	-.4201708	,3519355
AVG_avg	Equal variances assumed	,265	,609	-3,983	52	,000	-.277866	,0697569	-.4178432	-.1378882
	Equal variances not assumed			-3,757	33,240	,001	-.277866	,0739625	-.4283022	-.1274292

In the literature, the dimensions of the hierarchy of authority, rules and regulations, procedural specifications and impersonality form a second order factor called “control” while other factor consisting of the dimensions of division of labor and technical competence is called “expertise”. The control factor, which is accepted as the measure of bureaucratization by most researchers, enables us to compare the perceived bureaucracy for the departments of the faculty. The analysis states that the department of management engineering is more bureaucratic than the department of industrial engineering in the all dimensions of the control factor as nothing can be said about the expertise factor.

CONCLUSION

The paper is aimed to search for the perceived bureaucracy in the academic departments of the university. The dimensional approach is considered and Hall’s Organizational Inventory which is a more widely used instrument in the literature, is taken for comparing the perceived bureaucracy between the staff of the industrial engineering and management engineering of the management faculty of Istanbul Technical University as a case.

The results of the empirical analysis of the questionnaire responded by 54 respondents point out that there is a significant difference in the perceived bureaucracy between the departments of the faculty in the university in terms of rules and regulations, procedural specifications and impersonality dimensions of bureaucracy. However a significant result was not obtained about the dimensions of the division of labor and technical competence. The department of management engineering is found to be more bureaucratic than the industrial engineering

department. This case is explained with the organizational structure of the departments as management engineering department has a divisionalised structure while industrial engineering acts like a whole unit. The structures and the background of the departments do not affect the expertise characteristics of the bureaucracy, but the control characteristics of the bureaucracy in all dimensions are perceived differently.

As a managerial implication, the managers of the academic units or faculties should know the specific characteristic properties of their subunits or departments and they also should know the whole bureaucratic system can be perceived differently by the staffs who work in similar departments with different characteristics. When an academic manager performs an action concerning with the bureaucratic system he/she should estimate the different perceptions by the staff and should find solutions for directing the applications according to these perceptions.

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THE IMPACT OF TRUST ON THE RELATIONSHIP BETWEEN INTERORGANIZATIONAL COLLABORATION AND PRODUCT INNOVATION PERFORMANCE

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ABSTRACT

Product innovation performance is an important indicator for evaluating a firm's research and development. This study is different from the past research. It explores the impact of three different partners' involvement, with the purpose of understanding the influence that suppliers, customers and third parties have on both design and market performance, as well as the moderating effect that trust has on inter-organization collaborative relationships and product innovation performance. The results revealed that greater supplier involvement only serves to strengthen design performance, while customer and third party involvement simultaneously increases design performance and market performance. Moreover, when the dyadic trust level is high, the greater the involvement of third parties, the better the design performance.

INTRODUCTION

Innovation performance is an important indicator for evaluating a firm's product research and development (R&D) (Cordero, 1990). In order to improve product innovation performance, organizations must possess both market and technical knowledge, and the most direct way to achieve this is to allow customers and suppliers to participate in new product development (Clark & Fujimoto, 1991). In recent years, much research has focused on the influence that an organization's external factors has on product innovation performance, such as the involvement of suppliers (e.g., Petersen, Handfield, & Ragatz, 2004; Song & Benedetto, 2008) and customers (Lynch & O'Toole, 2006) in new product development, and the assistance of third parties (Lynch & O'Toole, 2006). It is evident that inter-organization collaboration and innovation performance are very important issues.

However, the involvement of these organizations produces different results. Belderbos, et al. (2004) explored the relationship between cooperative R&D and corporate productivity and product innovation. The research found that cooperation with competitors or suppliers focuses on the improvement of productivity, and that cooperation with customers, universities, or research institutions helps companies' sales performance. Some research suggests that the involvement of suppliers in companies' product innovation can improve financial performance (Petersen et al., 2005) and design performance (Petersen et al., 2005), and customer participation can result in improved market performance (De Luca & Atuahene-Gima, 2007) which demonstrates that different cooperative partners produce different results. However, previous research has tended to focus little on the integration of supplier, customer, and third party participation. Therefore, this study will explore the influence that these three cooperative partners have on performance.

Although much previous research shows that the participation of external organizations has a positive impact on a company's internal product development performance, there is as much as a 70% failure rate (Hitt et al,

2003). It is clear that for inter-organization collaboration to be effective, it is subject to the moderating of certain factors. Some scholars in recent years have come to believe that trust is an important construct in the research of inter-organizational relationships, and that bilateral trust is a major factor in facilitating effective cooperation (e.g. Dwyer, Schurr & Oh 1987) . Trust, therefore, plays a major role in cooperative relationships between organizations; the higher the level of trust between the two parties, the more they are willing to share knowledge, which allows both parties to learn (Selnes & Sallis, 2003) . This study believes that the level of trust impacts the extent to which inter-organization collaboration influences product innovation performance.

In summary, this study will explore the impact that inter-organization collaboration has on product innovation performance, with the main goal of understanding the influence that suppliers, customers and third parties have on innovation performance in inter-organization collaborative relationships, as well as the moderating effect that trust has on inter-organization collaborative relationships and product innovation performance.

LITERATURE REVIEW AND RESEARCH HYPOTHESIS

Relationship between Inter-Organization Collaboration and Product Innovation Performance

Product innovation performance refers to the level to which product innovation reaches its target (Robbins, 1990) . In the past, any evaluation of product innovation performance mainly considered design performance and market performance (Cordero,1990). Although in recent years, research evaluation indicators have employed financial performance (Petersen et al., 2005), upon comparison it was found that financial performance and market performance evaluation indicators are very similar. In order to distinguish them from general operational performance financial indicators, this study will continue to use design performance and market performance to evaluate product innovation. From the past marketing literature we find that inter-organization collaboration influences product innovation performance, and this so-called inter-organization collaboration refers to two or more organizations jointly creating or using existing tactics or rules, and cooperating to deal with the various types of work and challenges in an environment (Alexander 1993). This study will explore the effects that inter-organization collaboration between suppliers, customers and third parties has on performance.

Effects of Supplier Involvement

One way that a company can boost its competitive advantages is to allow supplier involvement in design and product development. A company uses the supplier's expertise to enhance its in-house capability and reduce the time it takes for the product to go from conception to the market place, improving cost and quality, and producing better design performance (Ragatz, Handfield, & Petersen, 2002). Petersen et al.(2005) use the inclusion of suppliers in new product development teams to verify that supplier involvement enhances project efficiency and thus influences financial performance and design performance. Song and Benedetto (2008) find that good suppliers facilitate the growth of a product's market share and improve financial performance. It is evident that supplier involvement boosts the design and market performance of manufacturers. Therefore, we hypothesize:

- H1: The greater the involvement of suppliers, the greater the new product's (a) design performance, and (b) market performance.

Effects of Customer Involvement

Gemunden, Heydebreck, and Herden (1992) feel that customer contact is a prerequisite for success, and that allowing customers to participate in the early stages of new product development is of particular importance (Lynch & O'Toole, 2006). Research by Sherman, Souder, and Jenssen (2000) shows that including the customer in the R&D team reduces the development time of new products. However, the above thoughts are merely a concept which is the result of a company's one-way requirements; the customer participation only involves the providing of information and is therefore relatively low. According to Gadde and Snehota's (2000) classification of high involvement, a high level of customer involvement must include relation-specific investment and a high

level of interaction. The most obvious effect of customer participation in new product development is time performance in both market and technical development (Clark & Fujimoto, 1991; Sherman, Souder, & Jenssen, 2000); these are all important indicators of market performance. From the past literature we can see that customer participation mainly effects market performance, and to a lesser extent assists in technical aspects such as design performance. This study therefore infers that:

H2: The greater the customer involvement, the greater the market performance of the new product. There is no significant impact on design performance however.

Effects of Third Party Research Institutions

Belderbos, et al. (2004) believe that the involvement of third parties such as universities or research institutions can improve productivity and result in greater sales performance in the innovative product market. Universities are therefore an important resource for companies in innovation knowledge. Lynch and O'Toole (2006) conducted a survey of Ireland's manufacturing industry and found that as much as 57% of respondents involved third parties in their new product development, the main reason being to respond to customer requirements, acquire expertise, create market opportunities, and lower costs and risks as well as development time. Therefore, this study believes that third party involvement in companies' R&D can improve market performance as well as result in the acquisition of technical expertise for the company. We hypothesize:

H3: The greater the involvement of third party research institutions, the greater the new product's (a) design performance, and (b) market performance.

Moderating Effect of Trust

In the past, it was generally accepted that inter-organization collaboration improved innovation performance. However, some research found the opposite to be the case. Wynstra, Weele, and Weggemann (2001) find that early supplier involvement does not lower costs or improve quality, and can even result it worse than expected results. Past research on cooperation between organizations shows that trust plays a major role, because when there is a high level of trust between both parties, both parties are willing to share knowledge and both parties can learn from the cooperation (Selnes & Sallis, 2003). Because the involvement of innovative products requires a high level of bilateral trust before both parties are willing to share information and produce results, this study believes that inter-organization collaboration can only produce good innovation performance when a high level of trust exists between two parties. Therefore this research hypothesizes that:

H4: The positive relationship of supplier involvement and (a) design, and (b) market performance, has a greater (lesser) effect when the level of trust between the two parties is higher (lower).

H5: The positive relationship between customer involvement and market performance has a greater (lesser) effect when the level of trust between the two parties is higher (lower).

H6: The positive relationship between third parties and (a) design, and (b) market performance has a greater (lesser) effect when the level of trust between the two parties is higher (lower).

METHODS

Sample

The primary sample was drawn from R&D managers and executive of Taiwan manufacture. Questionnaires were mailed to 300 dealers and 84 returned after 2 weeks. After telephone calls had been made and questionnaires mailed for a second time, 42 more were received 2 weeks later, so the total number of returned questionnaires was 126 (response rate, 42%). This work uses *t*-testing to compare the response groups before and after the telephone calls, with insignificant differences in terms of supplier involvement, customer involvement, third party involvement, trust, design performance and market performance with a *p*-value between 0.22 and 0.92; therefore, a combined statistical analysis was satisfactory.

Measures

The measurement items for each construct were taken from the relevant literature and adjusted for current conditions and the characteristics of Taiwan's manufacturing industry. All the items adapted from English scale

were translated into Chinese. One person back-translated the questionnaire into English to validate translation equivalence (Douglas & Craig, 1983). The original and back-translated version were compared for conceptual equivalence and refined where necessary. Five executive MBA students were invited to participate in the pre-test phase when the first draft had been finished; further modifications to the applicability, clarity, comprehensibility and logic of the overall design were made accordingly. All items except demographic items were measured on a Likert 7-point scale. The measurement items are listed in the Appendix.

Product innovation performance is a multidimensional construct (e.g., Griffin & Page, 1996; Petersen et al., 2005; Song & Benedetto, 2008;). We divided product innovation performance into design performance and market performance. Each performance was measured on a four items scale adapted from Petersen et. al (2005) and Langerak and Robben (2004) separately.

Supplier involvement was measured on a four items scale adapted form Lim, Sharkey, and Heinrichs (2003); Walter (2003) and Song and Benedetto (2008). Data were: (1) suppliers involved in early stage of product development; (2) supplier input for parts design; (3) supplier input for prototype test; and (4) product development people meet supplier. Supplier input for parts design showing a low factor loading was deleted.

Customer involvement was measured on a five items scale adapted form Lim, Sharkey, and Heinrichs(2003). The items included involvement in early stage of product development, using customer as a source for ideas, listening to customers' needs, using information from customers, and meeting between product development people and customers. The last item showing a low factor loading was deleted.

Third party involvement was measured by five items that were developed for this study. The items captured from the supplier and customer involvement including involvement in early stage, prototype test, co-design, information sharing, and meeting.

Control variables. The literature suggests several industrial variables that may affect product innovation performance. This study included several variables commonly used as control variables in management and marketing research studies, such as firm's size, market turbulence and technological turbulence. Market turbulence and technological turbulence scale adapted form Jaworski and Kohli(1993).

Trust is defined as the perceived ability and willingness of other parties to behave in ways that consider the interest of both parties in the collaboration. The five items were adapted from Selnes and Sallis (2003).Table 1 presents the correlation matrix and descriptive statistics for the measures.

Table 1 Correlations ^a

Variables	1	2	3	4	5	6	7	8
1. Market uncertain								
2. Technology uncertain	0.59							
3. Supplier involvement	0.31	0.38	(0.74)					
4. Customer involvement	0.24	0.23	0.41	(0.78)				
5. Third party involvement	0.39	0.45	0.39	0.29	(0.92)			
6. Trust	0.41	0.37	0.28	0.37	0.29	(0.88)		
7. Design performance	0.40	0.36	0.48	0.49	0.51	0.40	(0.84)	
8. Market performance	0.38	0.40	0.42	0.44	0.45	0.41	0.72	(0.77)

^a n=126. Correlations greater than 0.20 are significant at $p < 0.01$. Alpha coefficients are on the diagonal in parentheses.

Reliability and validity

This study used LISREL 8.72 to analyze the research model. The adequacy of each multi-item scale in capturing its construct was first assessed using the measurement model of all constructs. Internal consistency reliability, convergent validity and discriminate validity were all checked before testing the hypotheses (Anderson & Gerbing, 1988). First, according to confirmatory factor analysis (CFA), we deleted items and compress dimensions. All the fit indices revealed an acceptable fit. ($\chi^2(203) = 210.37, p = 0.34$); root mean square error of approximation [RMSEA] = 0.02; root mean square residual [RMR] = 0.09; normed fit index, [NFI] = 0.95; comparative fit index [CFI] = 0.99; goodness-of-fit index [GFI] = 0.87; adjusted goodness- of-fit index [AGFI] = 0.83).

Secondly, in the aspect of reliability, The Cronbach α of each variable was between 0.74 and 0.92, which was above 0.70 recommended by Nunnally & Berstein (1994). The composite reliability (CR) of measurable variable

was between 0.72 and 0.93, which was above 0.6 recommended by Bagozzi and Yi (1988) and Fornell and Larcker (1981), revealing that the research variables are in the acceptable range.

Finally, we measured validity according to convergent validity and discriminate validity proposed by Anderson and Gerbing (1988). The factor loading t value was between 6.99 and 12.69, and each of measurable variables was reaching significant which content with Gerbing and Anderson (1988). The average variance extracted (AVE) of measurable variable is between 0.49 and 0.72, except the customer involvement were lower than the 0.5 recommended by Fornell and Larcker (1981), the others variable were all accepted. This measurement model, therefore, had a good convergent validity.

In terms of discriminate validity, the values of the two highest correlated constructs were set at 1 to conduct a chi-square difference test. The highest value of the correlation between market performance and design performance reached 0.92. This value was set at 1, for which the result, $\Delta\chi^2(1) = 14.85$ ($p < 0.001$), reached a significant difference; therefore, the market performance and design performance should be divided into two constructs. On the basis of the aforementioned results, it was found that the other constructs with lower correlations should also be distinguished, thereby reaching the discriminate validity.

RESULTS

Following the Baron and Kenny (1986) approach, the main and moderating effects were tested by using hierarchical multiple regression analyses. To mitigate the potential for multicollinearity, each scale constituting an interaction term was mean centered (Aiken and West, 1991). Table 2 summarizes our results.

Table 2. Results of Moderated Regression Analysis (N=126)

Variables	Design performance			Market performance		
	Step 1	Step 2	Step3	Step 1	Step 2	Step 3
Control						
Market uncertain	0.29**	0.14	0.19*	0.22*	0.08	0.07
Technology uncertain	0.19	- 0.02	- 0.10	0.27**	0.09	0.07
External organization involvement						
Supplier involvement		0.20*	0.18*		0.15	0.13
Customer involvement		0.26**	0.23**		0.22*	0.28**
Third party involvement		0.28**	0.36***		0.21*	0.21**
trust		0.18	0.05		0.17	0.10*
Supplier involvement \times trust			- 0.04			- 0.02
Customer involvement \times trust			- 0.04			0.15
Third party involvement \times trust			0.26**			0.02
Adjust R^2		0.43	0.46		0.35	0.36
R^2	0.19	0.45	0.50	0.19	0.38	0.40
F	14.12***	16.48***	12.79***	14.39***	12.37***	8.74***
<ul style="list-style-type: none"> Standardized regression coefficients are shown * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$ 						

With regard to our hypotheses based on the rationale that external organization involvement enhance product innovation performance, we found supplier involvement to be significantly related to design performance ($\beta = .18$, $p < .05$), thereby providing support for Hypothesis 1a. However, the supplier involvement was not significantly related to market performance (Hypothesis 1b). As respected, the customer involvement was significantly related to market performance ($\beta = .28$, $p < .01$). However, customer involvement was also significantly related to design performance ($\beta = .23$, $p < .01$). this finding revealed a different facet of customer involvement and provided partial support for Hypothesis 2. Moreover, the third party involvement was significantly related to both design and market performance ($\beta = .36$, $p < .001$; $\beta = .21$, $p < .01$), thereby providing support for Hypothesis 3a and Hypothesis 3b.

As for the moderating effect of trust, there were no moderating effects for the supplier and customer involvement. Therefore, Hypothesis 4 and Hypothesis 5 were not supported. However, trust had a moderating effect on the relationship between third party involvement and design performance ($\beta = .26$, $p < .01$), but no moderating effect on the market performance. That means, under higher levels of trust, the positive relationship

between third party involvement and design performance increased. Therefore, Hypothesis 6a was supported, but Hypothesis 6b was not.

DISCUSSION AND SUGGESTIONS

Discussion

This study is different from the past research. It explores the impact of three different partners' involvement, with the purpose of understanding the influence that suppliers, customers and third parties have on both design and market performance, as well as the moderating effect that trust has on inter-organization collaborative relationships and product innovation performance.

While examining the effects of suppliers, customers, and third parties on product innovation performance, this study found that greater supplier involvement only serves to strengthen design performance. This result is possibly due to suppliers providing technical level knowledge and technology, which has a more direct effect on design performance, and an indirect effect on market sales performance.

Secondly, customer involvement simultaneously increases design performance and market performance, which differs from the original hypothesis. Yet this study's industry customers do not merely provide requirement information like ordinary consumers; industry customers possess similar technical and professional knowledge, and as such they have a substantial effect in providing technical level information during product development.

In addition, third party involvement effects both market performance and design performance. These results are in line with past research (Belderbos, et al. 2004). Because third parties are impartial professional entities such as universities and research organizations which can provide manufacturers with advanced technical theory and market knowledge, it can result in better design and market performance. This shows that third party cooperation, with no relation to market competition, is beneficial to improving product innovation performance.

Finally, this study finds trust has no moderating effect on supplier and customer involvement. When the trust level is high however, the greater the involvement of third parties, the better the design performance. A possible reason for this is that, in the supply chain, the prerequisite for manufacturers to willingly allow suppliers and customers to participate in new product development is that the level of trust between both parties is already high. Therefore, trust is the foundation of inter-organizational cooperation, and is not a moderating factor of inter-organization collaborative partners that affects performance. That is to say, the output performance of suppliers and customers participating in product development is not subject to the moderation of trust. However, the cooperation model of third parties participating with manufacturers in new product development possibly came about through government policy. For example, in Taiwan there is the SBIR (Small Business Innovation and Research) policy for assisting small businesses, and there exists no past trust basis between cooperative members. Moreover, the product design is related commercial secret. It is risk to share information with the third party. As a result, there are performance benefits to be had if third parties and manufacturers can establish mutual trust.

Implications for Management

This study finds that involvement from different external organizations produces different results. This provides businesses a practical mode of choice, and when companies wish to pursue design performance, they must not overlook the effects of the expertise of industry customers on product innovation performance, in addition to supplier and third party participation. If an organization wants to improve market performance, they can mainly employ the customer and third party participation model, with customer participation being the most important.

The moderation of trust on inter-organization collaboration and innovation performance is more evident with third party involvement. It can be seen that establishing and maintaining trust between companies and third parties is very important. For example, allowing universities and research institutions to better understand the industry and a company's new product development, or increasing trust between both parties through industry-academic cooperation, improves a company's product innovation performance.

Limitations and Future Research

This study focuses on the subject of the effects of manufacturing industry suppliers, customers, and third parties on product innovation performance, and is not applicable to all industries, for example the hot topic of service innovation in recent years. In the future, further research may be conducted on the service industry/non-profit organizations, and explore the effects that external organizations have on innovation performance. Secondly, in addition to the moderating variable of trust which is employed in this study, we can consider other possible variables or mechanisms, such as the discovery by De Luca and Atuahene-Gima (2007) that knowledge integration mechanisms have a moderating effect on product innovation performance in inter-functional cooperation, and further research could conduct on inter-organizational collaboration and innovation performance in the future.

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OPTIMAL SEQUENCE FOR SINGLE MACHINE SCHEDULING WITH MIXTURE PRIORITY JOBS

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ABSTRACT

This paper considers the machine scheduling problem with mixture priority jobs (MSPMP), which has many real-world applications, particularly, in the IC manufacturing industry. In an IC manufacturing factory, there usually exists two classes of end-products, namely standard products for spot market and customer specific products for customer orders. Furthermore, because of different product profit rates and the varied importance level of customers, there often exists more than one priority level of customer orders. Since the MSPMP involves constraints on mixture priorities, sequence dependent setup times, job families, and family-dependent processing time, it is more difficult to solve than the classical machine scheduling problem. In this study, we describe the MSPMP in detail and formulate the MSPMP as integer programming problem to sequence the jobs with minimizing the total machine workload. The applicability of the integer programming model is demonstrated by solving a real-world example taken from an IC manufacturing factory.

INTRODUCTION

In order to increase a company's competition edge, the main focus of manufacturing strategies for a manufacturer is to improve delivery time performance. Better on-time delivery is the primary concern of corporate level. While, for the consideration of profitability, increasing throughput and minimizing setup times are among other managerial and strategic goals. Finding practical scheduling methods that effectively include these sometimes conflicting objectives is a great challenge.

In this paper, we consider the machine scheduling problem with mixture priority jobs (MSPMP) on single machine. For the MSPMP investigated in this paper, there are two main classes of job orders, one with no priority restriction and the other being assigned priority. In the case of job orders with no priority restriction, jobs can be processed preceding (or succeeding) any other jobs. In the case of job orders with priority, job A with higher job priority must be completed before job B with lower job priority can be begun. Further, jobs are clustered by their families with each family containing several product types. The job processing time may vary, depending on the product family of the job process on. Setup times for two consecutive jobs of different product families on the same machine are sequence dependent. Since the MSPMP involves constraints on mixture priorities, job family, family dependent processing time, and sequentially dependent setup times, it is more difficult to solve than the classical machine scheduling problem.

The MSPMP has many real-world applications, particularly, in the integrated circuit (IC) manufacturing industry. In the past, semiconductor companies can be successful if they only focus on either of the two types: mass manufacturing with high volume and low cost, or high level of product mix that is flexible (Wood, 1997). High-volume, low-cost fabs tend to use a make-to-stock (MTS) strategy; while high-mix, flexible fabs tend to use make-to-order (MTO) strategy (Youssef et al., 2004). Under the MTS system, standard products are manufactured in anticipation of future spot market demands and stored in the finished goods inventory. Demands are thus directly satisfied from the finished goods inventory. In this case, the jobs are with no priority restrictions and the processing sequences are scheduled based on minimizing setup times and inventory costs.

While, under the MTO system, a job is released to the manufacturing facility only after a firm customer order has been received (Youssef et al., 2004). Due to different product profit rates and the varied importance level of customers, there often exists more than one priority level of customer orders (Uzsoy et al., 1991; Ehteshami et al. 1992; Narahari and Khan, 1997; Freed and Leachman, 1999; Gupta et al. 2004; Bard and Rojanasoonthon, 2005; Pearn et al. 2007). The actual sequence of those jobs with specified priority must be arranged following their specified priority. As the competition become much fiercer, the trend toward increased product variety and drastic changes in market demand have necessitated production systems that can produce both MTS and MTO products. In the hybrid MTS and MTO systems, some products are produced for spot markets based on a demand forecast, while other products are produced based on actual orders, on a common production line with limited capacity (Tsubone et al. 2002). As a result, these mixture priority jobs in a production system complicated the production analysis and scheduling.

Most practical scheduling problems contain setup times. Generally, setup includes work required to prepare a machine to produce parts of a given type, including setting jigs and fixtures, adjusting tools, configurations setting, and acquiring materials. Any successful scheduling system needs to take the sequence-dependent nature of the setups into account since ignoring setup considerations in scheduling decisions can result in loss of capacity (Uzsoy et al. 1991). Hence, in this paper we model the concerns of on-time delivery through the use of mixture priority jobs, while the sequence-dependent setup times will be explicitly taken into account in order to effectively utilize the machine capacity.

In this paper, we formulate the MSPMP on single machine as an integer programming problem. To illustrate the applicability of the integer programming model, a real-world example taken from an IC assembly shop floor in an IC manufacturing factory located in the Science-based Industrial Park at Tainan, Taiwan, is solved to obtain the optimal solution.

DESCRIPTION OF MSPMP

The machine scheduling problem with mixture priority jobs (MSPMP) on single machine may be defined as follows. We are given a set of jobs to be processed. The jobs to be processed are clustered by their product types which must be processed on the production facility. The jobs can be categorized into two classes, namely with priority and with no priority restriction. Further, the job processing time may vary, depending on the product type (job family) of the job process on. Setup times for two consecutive jobs of different product families on the same machine are sequentially dependent. The objective of the MSPMP is to find a schedule for sequencing the jobs, which satisfies the priority processing restrictions, while the total machine workload is minimized. Minimizing the total setup time is equivalent to the minimization of the total machine workload. Process characteristics modeled include mixture job-priority consideration and sequence dependent setup-time constraint.

The MSPMP is NP-hard. Even without the mixture job-priority constraint, the MSPMP special case which minimizes makespan on a single machine in the presence of sequence-dependent setup times is equivalent to the Traveling Salesman Problem, and it has been shown to be NP-hard (Freed and Leachman, 1999; Liu and Chang, 2000).

Consider the following MSPMP on single machine example with three families of jobs (R_1 , R_2 , and R_3) ready for processing initially. Job family R_1 contains four jobs, r_{11} with priority 1, both r_{12} and r_{13} with priority 2, and r_{14} with no priority restriction. Job family R_2 contains three jobs, r_{21} with priority 1, r_{22} with priority 2, and r_{23} with no priority restriction. Job family R_3 contains three jobs, both r_{31} and r_{32} with priority 2, and r_{33} with no priority restriction. Table 1 displays the setup times required for switching one product type to another for the three types 1, 2, and 3. Job processing times for families R_1 , R_2 , and R_3 are 50, 50, and 50, respectively. In Table I the label U denotes that the machine is in initial status. Note that the setup times and the processing times are associated with the product types, independent of class of jobs or job priority levels.

One feasible solution for this example is shown in Figure 1. The total machine workload is 830 with setup time 330 and processing time 500. We note that the job priority constraints are satisfied for the solution. Thus, there are four product type changes, from machine initial status to $R_2(r_{21})$, $R_2(r_{21})$ to $R_1(r_{11})$, $R_1(r_{12})$ to $R_2(r_{22})$, and $R_2(r_{23})$ to $R_3(r_{31})$.

Note that the optimal solution for this example is shown in Figure 2. The total machine workload is 770 with setup time 270 and processing time 500. We note that the job priority constraints are satisfied for the solution. Thus, there are four product type changes, from machine initial status to $R_2(r_{21})$, $R_2(r_{21})$ to $R_1(r_{11})$, $R_1(r_{14})$ to $R_3(r_{31})$, and $R_3(r_{33})$ to $R_2(r_{22})$.

Table 1: Setup Times Required for Switching One Product Type to Another for R_1 , R_2 , and R_3

From	To			
	U	R_1	R_2	R_3
U	-	120	30	60
R_1	0	0	180	60
R_2	0	60	0	60
R_3	0	180	120	0

AN INTEGER PROGRAMMING FORMULATION

A mathematical programming formulation is a natural way to solve machine scheduling problems and is fundamentally important for researchers to understand the status and development of various scheduling models and their relative efficiency (Rinnooy Kan, 1976; Blazewicz, 1991; Pan et al. 2001). This section presents an integer programming model for solving MSPMP on single machine.

Figure 1: A Feasible Schedule for the MSPMP Example.

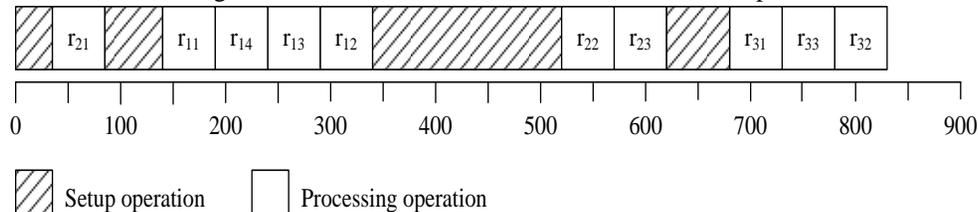
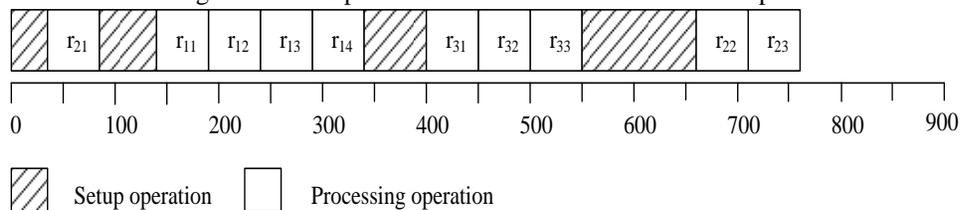


Figure 2: The Optimal Schedule for the MSPMP Example.



We first define $R = \{R_0, R_1, R_2, \dots, R_I\}$ containing $I + 1$ families of jobs, each family $R_i = \{r_{ij} | j = 1, 2, \dots, J_i\}$ containing J_i ($j = 1, 2, \dots, J_i$) jobs to be processed. Thus, family $R_1 = \{r_{11}, r_{12}, \dots, r_{1J_1}\}$ contains J_1 jobs, family $R_i = \{r_{i1}, r_{i2}, \dots, r_{iJ_i}\}$ contains J_i jobs, and family $R_I = \{r_{I1}, r_{I2}, \dots, r_{IJ_I}\}$ contains J_I jobs. In this setting, job family $R_0 = \{r_{01}\}$ represents a pseudo-job family, which is used as the initial status of the machine. We also define $A = \{0, 1, 2, \dots, H\}$ as the set of processing priority code. Let h_{ij} ($h_{ij} \in A$) be the processing priority code of job r_{ij} . In the case of jobs with processing priority code zero, jobs are with no priority restriction and can be scheduled proceeding (or succeeding) any other jobs. In the case of jobs with positive priority code, job with a smaller priority code indicates that this job has a higher processing priority. Thus, set $h_{ij} < h_{i'j'}$ if job r_{ij} has a higher processing priority than job $r_{i'j'}$.

Let n_{ij} be the lot size of job r_{ij} , and p_i be the unit processing time for each job r_{ij} in family R_i ($r_{ij} \in R_i$). Therefore, the job processing time for job r_{ij} is $n_{ij}p_i$. Let $s_{i'}$ be the sequence dependent setup time between any two consecutive jobs $r_{ij}(\in R_i)$ and $r_{i'j'}(\in R_{i'})$ from different job families ($i \neq i'$). We also define the variable ct_{ij} as the completion time for job r_{ij} . We note that, the priority codes, lot size, and completion time for the job r_{01} should be set to zero so that these pseudo-jobs should be scheduled as the first jobs on the machine, which indicates the initial status of the machine.

Let $y_{ij\bar{i}j'}$ be the precedence variable defined on two jobs r_{ij} and $r_{i'j'}$ scheduled on the machine, with $y_{ij\bar{i}j'}=1$ if job r_{ij} precede job $r_{i'j'}$ (not necessarily directly), and $y_{ij\bar{i}j'}=0$ otherwise.

To find a schedule for sequencing jobs which minimize the total machine workload without violating mixture priorities constraints, we consider the following integer programming model.

$$\text{Minimize } wl \tag{1}$$

subject to

$$wl - ct_{ij} \geq 0, \text{ for all } i, j, \tag{2}$$

$$ct_{01} = 0, \tag{3}$$

$$ct_{ij} - n_{ij} \times p_i \geq 0, \text{ for all } i, j, \tag{4}$$

$$(ct_{ij} + s_{i'} + n_{i'j'} \times p_{i'} - ct_{i'j'}) + M \times (y_{ij\bar{i}j'} - 1) \leq 0, \text{ for all } i, j, \tag{5}$$

$$h_{ij} \times h_{i'j'} \times (h_{ij} - h_{i'j'}) \times (y_{ij\bar{i}j'} - 1) \leq 0, \text{ for all } i, j, \tag{6}$$

$$y_{ij\bar{i}j'} + y_{i'j'ij} = 1, \text{ for all } i, j, \tag{7}$$

$$y_{ij\bar{i}j'} \in \{0, 1\}, \text{ for all } i, j. \tag{8}$$

The constraints in (2) together with the objective function (1) seek to minimize the total machine workload. The constraint in (3) assigns the initial status of the machine. The constraints in (4) ensure completion time is greater than job processing time. The constraints in (5) ensure the unequal completion time ct_{ij} and $ct_{i'j'}$ for the two jobs r_{ij} and $r_{i'j'}$ scheduled on the machine, where $y_{ij\bar{i}j'}=1$ corresponds to $ct_{i'j'} - ct_{ij} \geq n_{ij}p_i + s_{i'}$. The number M is a constant, which is chosen to be sufficiently large.

The constraints in (6) ensure that job with smaller priority code or priority code equals zero (higher job priority or no priority restriction) should precede the other job with larger or priority code equals zero (lower job priority or no priority restriction), ($y_{ij\bar{i}j'}=1$ and $y_{i'j'ij}=0$, if $h_{ij} \leq h_{i'j'}$ or $h_{ij}=0$ or $h_{i'j'}=0$) or ($y_{ij\bar{i}j'}=0$ and $y_{i'j'ij}=1$, if $h_{ij} \geq h_{i'j'}$ or $h_{ij}=0$ or $h_{i'j'}=0$). The constraints in (7) ensure that either the job r_{ij} precede job $r_{i'j'}$ ($y_{ij\bar{i}j'}=1$) or the job $r_{i'j'}$ succeed job r_{ij} ($y_{i'j'ij}=1$).

The computational complexity of the integer programming model is as follows. For a MSPMP on a single machine with I job families, containing a total of $N_I = 1 + J_1 + J_2 + \dots + J_I$ jobs, the integer programming model contains one variable of wl , N_I variables of ct_{ij} , and $N_I(N_I - 1)$ variables of $y_{ij\bar{i}j'}$. Further, the constraint sets in (2) contains one equation, the constraint set in (1) and (3) each contains N_I equations, and constraint sets in (4), (5), and (6) each contains $N_I(N_I - 1)$ equations. Thus, the total number of variables is $N_I^2 + 1$, and the total number of equations is $3N_I^2 - N_I + 1$.

To accelerate the execution in solving the integer programming problem, a depth-first search strategy (Freed and Leachman, 1999; ILOG OPL, 2002) together with a strong branching rule (ILOG OPL, 2002) can be used to accelerate the execution in solving the integer programming problem. By using the depth-first search strategy, when the tree size or the number of fully developed branches exceeds limitations induced by computation time or memory requirements, the program terminates and returns the best solution achieved (ILOG OPL, 2002).

To solve the integer programming problem for the MSPMP example described in Section II, we adopt ILOG OPL (2002) to generate the constraints and variables of the model. For the MSPMP on a single machine, with three job families, ten jobs, and mixture-priority level, the model contains 122 variables and 353 constraints. We note that, by using the IP software ILOG CPLEX on a Pentium IV 3.0 GHz PC, the integer solution of the problem is indeed identical to that depicted in Section II.

A REAL-WORLD APPLICATION

To demonstrate the applicability of the integer programming model in real situations, we consider the following example taken from an IC assembly shop-floor in an IC manufacturing factory located in the Science-based Industrial Park at Tainan, Taiwan.

The IC assembly process includes back grinding, die sawing, die bonding, wire bonding, molding, marking and plating, and trimming and forming. In the process, these integrated circuits, or die, are formed on wafers that are typically grouped into lot sizes of 25. The size of each lot may vary which depends on the design of dies and die yield. Unlike the front-end processes are highly reentrant, the assembly process follows a more linear type of flow, in which die bonders are considered the most critical resources. In the MSPMP, the die-bonders are scheduled to be utilized as efficiently as possible, and this implies the reduction of number of setups is crucial. After completing the scheduling on the bottleneck, the lot release time and the scheduling on all the non-bottlenecks facilitate the feeding of the bottleneck.

This real example studies the TSOP2 (Thin Small Outline Package, type 2) package product for the IC assembly factory. There are six job product families and 15 jobs in this example. Table 2 shows processing priority, lot size, and unit processing time, which would be die bonding under certain size of chop table, mount stage and mount head for those 15 wafer lots.

In the die-bonding process, the setup time required for switching one product type to another depends on the size of wafer and die. As the jobs come from several product families, switching a job from one to another belonging the same family only requires the parameter setting operations on the machine. In other cases, switching a job from one to another belonging different family must consider the total corresponding setup time occurring due to changing chop table, changing mount stage and mount head, and the parameter setting operations on the machine. The time to change chop table is 240 minutes, the time to change mount stage and mount head is 120 minutes, and parameter settings is 30 minutes in this case. The setup time required for switching one product type to another is shown in Table 3.

To solve the integer programming problem for the real example, we again adopt ILOG OPL (2002) to generate the constraints and variables of the model. For the real example, the model contains 257 variables and 753 constraints. By using the IP software ILOG CPLEX on a Pentium IV 3.0 GHz PC, the model takes 170.03 CPU seconds to obtain the solution with a total load of 10410 with setup time 1080 and processing time 9330. Figure 3 shows the solution.

CONCLUSION

In this paper, we considered the machine scheduling problem with mixture priority jobs (MSPMP) on a single machine, which has many real world applications, particularly, in the IC manufacturing industry. The MSPMP is first described to understand the characteristics of the MSPMP. We then formulate the MSPMP on a single machine as an integer programming model to find the optimal sequences for the jobs with minimizing the total machine workload. To demonstrate the applicability of the proposed integer programming model, a real-world example taken from an IC assembly shop-floor in an IC manufacturing factory is solved.

For future research, we can consider the parallel machine scheduling problem with mixture priority jobs. A model that takes into account mixture priorities, job family, family dependent processing time, sequentially dependent setup times, and machine capacity can also be established.

Table 2: The Product Types, Wafer size, Processing Time, and Processing Priority in the Real Example

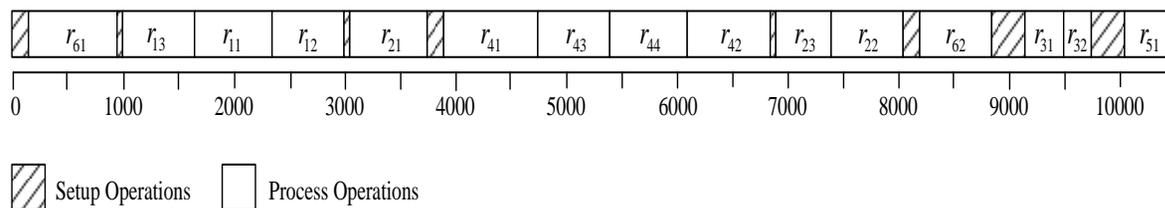
<i>Job I.D.</i>	<i>Product type</i>	<i>Wafer size</i>	<i>Lot size</i> <i>(unit: 1000 die)</i>	<i>Processing time</i> <i>(min/1000 die)</i>	<i>Processing</i> <i>priority</i>
1	1	12 inch	21	35	1
2	1	12 inch	18	35	2
3	1	12 inch	18	35	0
4	2	12 inch	21	35	2

5	2	12 inch	19	35	3
6	2	12 inch	14	35	0
7	3	8 inch	9	40	3
8	3	8 inch	7	40	4
9	4	12 inch	21	40	2
10	4	12 inch	19	40	3
11	4	12 inch	16	40	0
12	4	12 inch	18	40	0
13	5	8 inch	8	45	4
14	6	12 inch	18	45	1
15	6	12 inch	15	45	3

Table 3: Setup Times Required for Switching One Product Type to Another in the Real Example

From	To	U	1	2	3	4	5	6
U		0	150	150	150	150	150	150
1		0	0	30	390	150	390	150
2		0	30	0	390	150	390	150
3		0	270	270	0	270	270	390
4		0	30	30	270	0	390	150
5		0	270	270	30	270	0	270
6		0	30	30	270	30	270	0

Figure 3: The Optimal Schedule for the Application Example



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HEURISTIC SOLUTION TO MULTI-SITE PICKUP AND DELIVERY PROBLEM WITH MULTIPLE-PRIORITY REQUESTS

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ABSTRACT

Due to the complexity and cost of transportation and distribution activities, a multi-site manufacturer needs to schedule vehicles for pickup and delivery effectively and efficiently to increase a company's competition edge. This project considers the multi-site pickup and delivery problem with multiple-priority requests (MPDPMP), which has many real-world applications, particularly, in the IC manufacturing industry. This study is motivated by a practical MPDPMP from a semiconductor manufacturing company. In the facility under study, transportation activities, arisen from pickup-and-delivery of wafer, mask, or finished-goods, are frequently and complicated. In addition, vehicle-scheduling decision for each request is based on its priority. Since the MPDPMP involves constraints on multiple-priority requests, pickup and delivery, multiple vehicles, and vehicle capacity constraints, it is more difficult to solve than the classical pickup and delivery problem. In this study, we describe the MPDPMP in detail and present a heuristic algorithm for resolving the MPDPMP. An example is used to illustrate the performance of the proposed algorithm.

INTRODUCTION

Multi-site investment has been a popular way to increase capacity, particularly, in the semiconductor manufacturing industry. As a result, in many of today's multi-site companies, transportation and distribution activities emerge as one of the central issues owing to their complexity and costs. Due to the relative magnitude of the transportation and distribution costs is associated with the routing and scheduling of vehicles, enterprises have shown a growing interest for efficient vehicle-scheduling because of the good chance of getting large savings on such expenses (Stray et al. 2006; Dondo et al. 2008). Hence, there is a genuine need for effective multi-site pickup and delivery methods.

A vehicle route is a sequence of pickup and/or delivery points which the vehicle must traverse in order, starting and ending at a depot or domicile. A vehicle schedule is a sequence of pickup and/or delivery points together with an associated set of arrival and departure times (Bodin and Golden, 1981). One of the importance classes of vehicle routing and scheduling problems is pickup and delivery problems, in which commodities or people have to be collected and distributed (Bereglia et al. 2007). In the pickup and delivery problem, a set of routes has to be constructed in order to satisfy transportation requests. A fleet of vehicles is available to operate the routes. Each vehicle has a given capacity, a start location, and an end location. Each transportation request specifies the size of the load to be transported, the locations where it is to be picked up and the locations where it is to be delivered. Each load has to be transported by one vehicle from its set of origins to its set of destinations without any transshipment at other locations (Savelsbergh and Sol, 1995).

Due to the prevalence and importance in the practical applications, a number of papers addressed the pickup and delivery with time windows (PDPTW). The survey papers (Bodin et al. 1983; Solomon and J. Desrosiers, 1988; Bereglia et al. 2007) provide a comprehensive review of the literature on PDPTW. In the cases, the transport requests are known in advance, the problem is known as static PDPTW. In the cases, the transport requests are received in real-time and eligible for consideration, the problem is known as dynamic PDPTW. In this study, we focus on the static PDPTW. For static PDPTW, Nanry and Barnes (2000) use hierarchical search methodology. Xu et al. (2003) present column generation based solution approaches. Lu and

Dessouky (2006) proposed an insertion-based construction heuristic. Bent and Van Hentenryck (2006) presents a two-stage hybrid algorithm, simulated annealing algorithm first used in the first stage and Large neighborhood search used in the second stage. Dondo et al. (2008) considers the multiple vehicle time-window-constrained pickup and delivery problem.

This study is motivated by a practical multi-site pickup and delivery problem with multiple-priority requests (MPDPMP) from a semiconductor manufacturing company. In the facility under study, the production network consists of wafer fabs, mask houses, and one warehouse distributed in two Science Parks. There is one depot with fixed number of vehicles. Sites among each other are connected by transport. Transport requests arise from wafer delivery among fabs due to capacity backup, mask-delivery from mask house to fabs, material-delivery from warehouse to fabs and finished-goods from fabs to warehouse. In addition, there often exists more than one priority level of customer orders because of different product profit rates and the varied importance level of customers (Uzsoy et al. 1991; Freed and Leachman, 1999; Pearn et al. 2007). The actual schedule of those jobs with specified priority must be arranged following their specified priority. Higher priority is assigned to specific lots to reduce their cycle time. Because lots with different priorities have different processing priority, the various priority class lots also have a great influence on vehicle routing and scheduling. That is, multiple-priority scheduling decision will affect considerably the amount of time spend on vehicle routes.

In the MPDPMP, transport requests are known in advance. Each transport request specifies the amount of mask or wafer lots, the pickup locations (the origins), a time-interval for pickup, a time-interval for delivery, and the locations to be delivered (the destinations). Furthermore, each request needs to be operated by a single vehicle transporting lots from a specified origin to a specified destination without any transshipment. Each vehicle must start from the depot, visit a number of sites along the selected route, and return the assigned depot. At each visit, the vehicle can perform pickup, delivery, or combined pickup and delivery without violating vehicle capacity restriction.

To fulfill the transport requests of the multi-site semiconductor manufacturing company, this study considers the multi-site pickup and delivery problem with multiple-priority requests (MPDPMP). For the MPDPMP investigated in this project, the requests are assigned priorities. Vehicle-scheduling decision for each job is based on its priority. Further, numbers of vehicles housed in each depot is per-determined. Every vehicle used in schedule starts from its depot, performs a route, and returns its depot. Since the MPDPMP involves constraints on multiple-priority orders, pickup and deliveries, multiple vehicles, and vehicle capacity constraints, it is more difficult to solve than the classical pickup and delivery problem. This study considers a more general version of MPDPMP, which are investigated by taking into account multiple-priority orders, pickup and delivery, multiple vehicles, and vehicle capacity constraints. The objective is to find a route and schedule for a vehicle fleet in order to accomplish a set of orders at minimum total traveling distances satisfying time window restrictions while without violating vehicle capacity constraints.

DESCRIPTION OF MPDPMP

The MPDPMP may be defined as follows. All transport requests are known in advance. We are given a vehicle fleet in order to serve a set of transport requests. The road network is represented by a graph $G=(V, E)$ with a set of nodes V representing the possible pickup and/or delivery points and whose arcs correspond to road connecting these points. The travel cost of each arc $(i, j) \in E$ is represented by c_{ij} which satisfies the triangle inequality $c_{ij} \leq c_{ik} + c_{kj}$. It may occur that the same point is associated to different requests for pickup and/or delivery. The planning horizon is denoted the interval $[P_1, P_2]$.

We are also given a set of transport requests. Each request involves:

- Lot size to be transported by one of the vehicles and no transship is allowed;
- a pickup point $\in V$;
- a delivery point $\in V$;
- a time window $\subset [P_1, P_2]$ during which pickup has to take place;
- a priority code.

Note that, lots must be taken at the pickup location before being brought to the delivery location. In this study, the planning horizon is set to be eight hours with the consideration of workload. Due to the variety of lot size and transport frequencies, planning period is set as two hours and a rolling horizon approach is used in the PDPTW. Numbers of vehicles housed in the depot is pre-determined. In each planning horizon, each vehicle must start from depot, visit a number of sites along the selected route, and return the assigned depot. At each

visit, the vehicle can perform pickup, delivery, or combined pickup and delivery without violating vehicle capacity restriction. Note that, the capacity of a vehicle can never be exceeded after visiting a node.

Because lots with different priorities have different processing priority, the various priority lots also have a great influence on vehicle routing and scheduling. That is, multiple-priority scheduling decision will affect considerably the amount of time spend on vehicle routes. Throughout this project, each request is assigned a value of priority, which is known at the beginning of the request released. For transport request with hot priority, the pickup and delivery has to be serviced in the same planning period. For other requests, the pickup and delivery can be allowed in two consecutive planning-periods, i.e. pickup performed in one period and delivery performed in the next period. Note that, pickup and delivery have to be transported by the same vehicle. In addition, we allow each site to be visited once or twice during each planning period. In the first case, both pickup and delivery are performed during the same visit. In the second case, one visit is used for the delivery and the other one for the pickup. Note that, a site being visited twice may be visited by two different vehicles.

The MPDPMP is to determine the routes from the depot and the sequence at which service should begin at each point for each vehicle, so that time periods are satisfied without violating vehicle capacities and total traveling distance is minimized.

Problem Complexity: Since the PDPTW, the special case of MPDPMP, is NP-hard, the mathematical programming formulation can only solve the relatively small-size problem, researchers need to develop heuristic algorithms for solving large-scale problems (Savelsbergh and Sol, 1995; Lu and Dessouky, 2006).

AN ALGORITHM FOR THE MPDPMP

In this section, we present a heuristic algorithm by combining the merits of savings algorithm (Clark and Wright, 1964), parallel savings algorithm (Altinkemer and Bavish, 1991), insertion algorithm (Pearn et al. 2007) and insertion algorithm based on residual capacity (Dethloff, 2001) with modifications to obtain the vehicle routes, which can effectively utilize the vehicle capacity.

Given the network represented by a graph $G=(V,E)$, we first define $S=\{s_j|s_j \in V; j=0,1,2,\dots,J\}$ containing $J+1$ nodes in the network, in which node s_0 representing the depot node while remaining J nodes (s_1,\dots,s_j) representing J sites in this multi-site environment. The arc cost is symmetric with each arc $c_{jj'} \in E$ representing the traveling time from site s_j to site $s_{j'}$. We also define $F=\{f_k|k=1,\dots,K\}$ as the fleet of homogenous vehicles containing a set of K vehicles. Let W be the predetermined vehicle capacity.

In each planning period, we have $R=\{r_i|i=1,2,\dots,I\}$ containing I transport requests to be processed. Each transport request r_i is associated with lot size n_i , pickup site sp_i and/or delivery site sd_i , and priority code. When transport request r_i is hot request, the pickup and delivery have to be performed in this period. In this case, lots must be taken at the pickup site before being brought to the delivery site. While in other cases, we need to check whether pickup or delivery should be performed in this period, since pickup and delivery are performed by one vehicle in consecutive periods.

The proposed algorithm essentially contains two phases. Phase I creates a multiple of K vehicle routes simultaneously for all delivery requests. For delivery requests, each request r_i with lot size n_i to $sd_i (=j)$ performed by vehicle f_k is assigned to site s_j and cluster k . In this case, if two more requests are performed by the same vehicle and delivery to the same site, just add up the lot sizes. In other case, if two deliveries to the same site are performed by two different vehicles, then one dummy node are duplicated to create different routes. The optimal route service the set of sites in each cluster is obtained by solving a traveling salesman problem over the nodes in the cluster and depot node. After Phase I, partial route like $PR_k=(s_0, u_1, \dots, u_{g-1}, u_g, \dots, u_{G_k}, s_0)_k$ should be generated, in which s_0 represents depot node, u_g represents the site be scheduled to be serviced, and G_k represents the total number of sites in the route PR_k .

In Phase II, we calculate the insertion cost of every unscheduled request, i.e. hot requests and pickup requests, at every possible position of each partial schedule PR_k to insert the request to the lowest insertion cost position. Note that a request is inserted into the route only if the capacity constraints are not violated. Let $\lambda_k(u_{g-1}, r_i, u_g) = c_{s(u_{g-1})i} + c_{is(u_g)} - c_{s(u_{g-1})s(u_g)}$ be the additional setup cost when request r_i is inserted between position $g-1$ and g in route PR_k .

The procedures of the proposed heuristic algorithm are described as follows.

Phase I: Initial routes construction

- Step 1. For delivery request r_i with lot size n_i to delivery site $sd_i = j$ performed by vehicle f_k , assign site s_j to cluster k and add up n_i to delivery demand to s_j . If site s_j has been assigned to other cluster, then duplicated one dummy node s_j to create cluster k .
- Step 2. Repeat Steps 1-2 until all delivery requests are assigned.
- Step 3. For each cluster k , form partial route PR_k by solving a traveling salesman problem over the nodes in the cluster k and depot node. If there is any vehicle f_k with no cluster nodes, set partial route $PR_k = (s_0, s_0)_k$.

Phase II: request insertion

- Step 1. For pickup request r_i with lot size n_i to pickup site sp_i and delivery site sd_i :
 If there is a PR_{k^*} which contains site sp_i and site sd_i , in which site sp_i precedes site sd_i , then assign r_i to site sp_i and site sd_i , as well as add n_i to pickup demand of site sp_i and delivery site sd_i .
 Else compute its best feasible insertion position of sp_i and sd_i , in which site sp_i preceding site sd_i in each partial route PR_k . Then assign r_i and insert site sp_i and site sd_i into the lowest insertion cost position of the route PR_{k^*} .
- Step 2. Repeat Steps 1-2 until all hot requests are assigned.
- Step 3. For pickup request r_i with lot size n_i to pickup site sp_i :
 If there is a PR_{k^*} which contains site sp_i , then assign r_i to site sp_i and add n_i to pickup demand of site sp_i .
 Else compute its best feasible insertion position, by $\lambda_k^*(u_{g-1}, r_i, u_g)$ in each partial route PR_k . Then assign r_i to site sp_i , add n_i to pickup demand of site sp_i , and insert site sp_i into the lowest insertion cost position of the route PR_{k^*} determined by the lowest insertion cost $\lambda_{k^*}^*(u_{g-1}, r_i, u_g) = \min_{k=1, \dots, K} [\lambda_k^*(u_{g-1}, r_i, u_g)]$.
- Step 4. Repeat Steps 3-4 until all pickup requests are assigned.

A NUMERICAL EXAMPLE

Considering the following MPDPMP example comprises 20 transport requests, 10 sites being served by three homogeneous vehicles (f_1 , f_2 , and f_3), each must start from the depot and return to the depot. The capacity of each vehicle is set to be 20 units in this example.

Each transport request r_i is associated with lot size n_i , pickup site sp_i and/or delivery site sd_i , and priority code. In addition, when r_i is a delivery request in this planning period, then the vehicle is also specified, i.e. this vehicle perform pickup for r_i in the previous period. Note that, pickup and delivery need to be performed in this planning period if r_i is a hot request. The information of each transport request is shown in Table 1. The traverse time matrix c_{ij} is given in table 2.

The solution of this MPDPMP example solved by the proposed algorithm is as follows. After Phase I, partial route for f_1 , $PR_1 = (s_0, s_4, s_3, s_1, s_0)_1$, partial route for f_2 , $PR_2 = (s_0, s_1, s_7, s_6, s_0)_2$, and partial route for f_3 , $PR_3 = (s_0, s_9, s_0)_3$, are generated, as shown in Figure 1. Transport requests performed by each partial routes are $\{r_3, r_4, r_5\}$ for PR_1 , $\{r_6, r_7, r_8, r_9\}$ for PR_2 , and $\{r_{10}, r_{11}\}$ for PR_3 , respectively. After Phase II, route f_1 , $(s_0, s_2, s_4, s_3, s_1, s_0)$, route f_2 , $(s_0, s_1, s_7, s_6, s_0)$, and route f_3 , $(s_0, s_2, s_8, s_9, s_0)$, are generated, as shown in Figure 2. In route f_1 , the total traverse time is 13, transport requests performed are $\{r_1, r_3, r_4, r_5, r_{13}, r_{14}, r_{19}\}$, the initial vehicle load from depot is 15, and vehicle load back to depot is 4. In route f_2 , the total traverse time is 13, transport requests performed are $\{r_6, r_7, r_8, r_9, r_{12}, r_{15}\}$, the initial vehicle load from depot is 8, and vehicle load back to depot is 10. In route f_3 , the total traverse time is 16, transport requests performed are $\{r_2, r_{10}, r_{11}, r_{16}, r_{17}, r_{18}, r_{20}\}$, the initial

vehicle load from depot is 7, and vehicle load back to depot is 16. We note that the vehicle capacity constraints are satisfied in the solution.

Table 1: Transportation request related information

r_i	n_i	sp_i	sd_i	priority	vehicle	r_i	n_i	sp_i	sd_i	priority	vehicle
r_1	3	s_2	s_3	Hot	—	r_{11}	5	—	s_9	Normal	f_3
r_2	5	s_2	s_9	Hot	—	r_{12}	4	s_7	s_1	Normal	—
r_3	6	—	s_1	Normal	f_1	r_{13}	3	s_3	s_1	Normal	—
r_4	7	—	s_4	Normal	f_1	r_{14}	3	s_4	s_7	Normal	—
r_5	2	—	s_3	Normal	f_1	r_{15}	6	s_6	s_1	Normal	—
r_6	3	—	s_1	Normal	f_2	r_{16}	2	s_8	s_6	Normal	—
r_7	1	—	s_6	Normal	f_2	r_{17}	2	s_8	s_5	Normal	—
r_8	1	—	s_6	Normal	f_2	r_{18}	4	s_2	s_5	Normal	—
r_9	3	—	s_7	Normal	f_2	r_{19}	1	s_3	s_8	Normal	—
r_{10}	2	—	s_9	Normal	f_3	r_{20}	8	s_9	s_1	Normal	—

Table 2: traverse time matrix c_{ij}

	s_0									
s_1	3	s_1								
s_2	5	6	s_2							
s_3	6	1	5	s_3						
s_4	6	3	2	2	s_4					
s_5	4	7	4	3	6	s_5				
s_6	3	4	7	4	3	5	s_6			
s_7	5	5	7	2	5	2	2	s_7		
s_8	8	4	3	2	8	4	4	2	s_8	
s_9	2	1	8	5	3	3	5	5	6	s_9

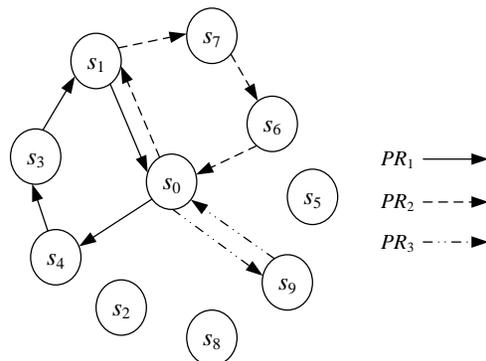


Figure 1: Partial routes after Phase I of the example

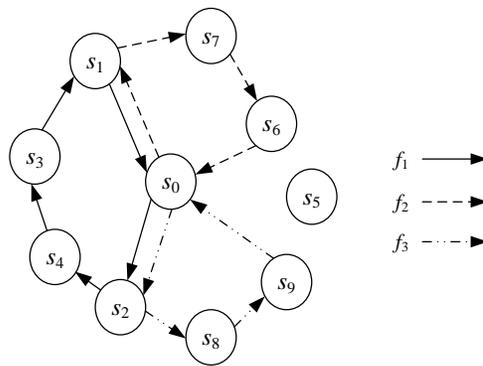


Figure 2: Solution of the example

CONCLUSION

In this paper, we considered the multi-site pickup and delivery problem with multiple-priority requests (MPDMP), a practical generalization of the vehicle routing problem, and often found in real world practice, particularly, in the IC manufacturing industry. The MPDMP involves constraints on multiple-priority orders, pickup and deliveries, multiple vehicles, and vehicle capacity constraints, therefore it is more difficult to solve than the classical pickup and delivery problem. The MPDMP is NP-hard. In this paper, we presented a heuristic algorithm to resolve the MPDMP. An example is used to illustrate the performance of the proposed approach.

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THE IMPACT OF TRUST ON THE RELATIONSHIP BETWEEN RELATIONSHIP LEARNING AND RELATIONAL KNOWLEDGE STORES

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ABSTRACT

This study examines the effect of relationship learning between customers and suppliers on relational knowledge stores and the moderating role of dyadic trust. The results reveal that relationship learning activities between customers and suppliers will facilitate customers' relational knowledge stores, including interactive, functional, environmental, and interpersonal knowledge. With regard to the moderating effect of trust, trust has no moderating effect on the relationship between relationship learning and environmental knowledge stores. However, trust plays the moderating role on the other three knowledge stores. The positive effects of relationship learning on interactive, functional, and interpersonal knowledge stores strengthens under medium levels of trust; the effects are reduced under conditions of high or low trust. By discussing the moderating role of trust, this study demonstrates the hidden costs of high levels of trust.

Keywords Relational knowledge store, Relationship learning, Trust

INTRODUCTION

Over the past decades, knowledge has become an important issue in the field of management research. The knowledge acquisition and development by firms (i.e., organizational learning) have been regarded as the critical factors for success. Scholars have argued that organizational capabilities deriving from the development of knowledge stores, specifically ones that are difficult to observe and imitate, can conduce to competitive advantage and exceptional performance (Eisenhardt & Martin 2000; Teece, Pisano, & Shuen 1997). Thus, the establishment of knowledge stores is strategically important for firms.

Although prior studies have emphasized concepts pertaining to learning and knowledge management within firms, research into these in interfirm relationships is confined to a few conceptual articles (e.g., Lukas, Hult, & Ferrell 1996; Mohr & Sengupta 2002). Johnson, Sohi, and Grewal (2004) initiated the construct of relational knowledge stores and examined empirically the role of relational knowledge stores in interfirm relationships, which fosters a firm's relational capability.

Johnson, Sohi, and Grewal (2004) proposed the effects of sensemaking on relational knowledge stores, but little was known about the antecedents of relational knowledge stores. Selnes and Sallis (2003, p.80) addressed the concept of interfirm relationship learning and defined it as 'a joint activity between a supplier and a customer in which the two parties share information, which is then jointly interpreted and integrated into a shared relationship-domain-specific memory that changes the range or likelihood of potential relationship-domain-specific behavior'. In this study, we suggest that relationship learning (including the dimension of sensemaking) contribute to the establishment of relational knowledge stores.

Whether learning activities between two parties are capable of deriving useful knowledge involves issues such as levels of dyadic trust. In terms of trust, firms may conceal information during relationship learning activities under low levels of trust, which may induce low quality of relational knowledge. Under high levels of trust, however, the existence of hidden costs may limit the effectiveness of relationship learning (Selnes & Sillis 2003). We, therefore, believe that appropriate amount of trust is better than high level or low level of trust. That is, trust has moderating effect on the relationship between relationship learning and relational knowledge stores.

In sum, this study will investigate Taiwanese manufacturers to examine the effect of relationship learning between customers and suppliers on relational knowledge stores and the moderating role of dyadic trust.

RESEARCH FRAMEWORK AND HYPOTHESES

Johnson, Sohi, and Grewal (2004) believe that it is crucial to examine how to interact with partners, manage functional activities, and detect and adapt to the turbulent environment. They, therefore, argue that firms should establish related knowledge to upgrade capabilities of relationship management and also introduce the concepts of relational knowledge stores, including three dimensions: interactional knowledge stores, functional knowledge stores, and environmental knowledge stores. Interactional knowledge stores comprise knowledge, including dimensions such as communication, negotiation, conflict management, and development and implementation of collaborative programs, about issues related to interactions in partner relationships and reflect the socio-psychological levels of interfirm relationships. Functional knowledge stores comprise knowledge, including working with suppliers in aspects of cost reduction, quality control, operation and production, logistics and delivery, and inventory management, and production development, about issues related to the management of supply chain functions. Environmental knowledge stores comprise knowledge, including elements in the secondary and macro task environments such as competitive behavior, market conditions, and variation in laws and regulations, about its external operating environment.

Based on the exploratory interviews with Taiwanese manufacturers and their partners, we point out the importance of interpersonal relationships and propose the concept of interpersonal knowledge stores that comprise knowledge about issues related to accumulation of ways to build interpersonal relationships and comprehension of personal working styles through areas, such as common hobbies, experience sharing, goodwill expression, consideration, and trifle sharing, in order to advance interpersonal relationships.

Although Johnson, Sohi, and Grewal (2004) address three dimensions of relational knowledge stores, the antecedent condition is not mentioned. In this study, we introduce the new concept of interpersonal knowledge stores and believe that relationship learning will stimulate the development of relational knowledge store and further brings better performance. Given the relationship between relationship learning and relational knowledge stores, we also examine the moderating role of dyadic trust.

Relationship learning

Recently many studies show that firms can derive competitive advantages from organizational learning. Selnes and Sallis (2003) argue that learning between partners is as important as that within a firm. Relationship learning, hence, is a crucial avenue for firms to create differential advantages and supernormal profits (Dyer & Singh 1998; Pine, Peppers, & Rogers 1995).

Lukas, Hult, and Ferrell (1996) propose that organizational learning is a function of the interaction within marketing channels which involves adaptive learning, assumption sharing, and knowledge development. Huber (1991) believes that organizational learning comprises four processes: knowledge acquisition, information sharing, information interpretation, and organizational memories. Selnes and Sallis (2003) construct the concept of relationship learning and argue that relationship learning consists of information sharing, joint sensemaking, and integration of relationship memories. Based on this concept, we investigate the relationship between relationship learning and relational knowledge stores.

Relationship between relationship learning and relational knowledge stores

Lukas, Hult, and Ferrell (1996) address that learning activities should be done through the interaction among channel members, the concept closely related to that of relationship learning. Moreover, they argue organizational learning within marketing channel will influence organizational memories, that is, firms' knowledge stores. John, Sohi and Grewal (2004) introduce the concept of relational knowledge stores and

believe that sensemaking influences the development of knowledge stores. Sensemaking involves the process of finding best solutions under the situation of conflicts in the supplier-customer relationship, attempts to pursue patterns of mutual achievement, and continuous amendment or evaluation of communication processes between two parties for stability of relationship. Through sensemaking, firms improve in areas of assimilation of new information and development of relational knowledge stores, therefore, to achieve better relationship performance and quality. Choo (1996) propose that sensemaking provides a meaningful background for organizational activities and especially guides firms toward the process of knowledge development. Sensemaking, therefore, plays an important role in the phases of creation, accumulation, and dissemination of knowledge.

Selnes and Sallis (2003) address that relationship learning involves activities such as information sharing, joint sensemaking, and integration of relationship memories. This study argue that when partners are willing to share information, interpret and integrate it into relationship memories, the learning activities will be helpful for developing the four kinds of relational knowledge stores. Then the firms are capable of comprehending partners and environment further, establishing better relationship with partners, and then enhance competitive advantage of entire supply chains. Therefore, we hypothesize the following:

H1: The level of relationship learning positively influences (a) interactional knowledge stores; (b) functional knowledge stores; (c) environmental knowledge stores; and (d) interpersonal knowledge stores.

The moderating effect of trust

Trust is an important concept in the research of interfirm relationships; trust is a facilitator of effective cooperative behavior in relationships (e.g., Dwyer, Schurr & Oh 1987). However, Selnes & Sallis(2003) address that high levels of trust might have three types of hidden costs which the parties are not easily aware of. The first cost is systematically avoids negative information. Under high levels of trust, strong emotions & liking involved in the relationship may stop the existence of negative information because it might endanger the good atmosphere of the relationship. That critical information is not exchanged may reduce relationship performance. The second cost is relaxing control mechanism against opportunistic behaviors. Under medium or low levels of trust, parties might search important information to avoid possible opportunistic behaviors. Within high-trust relationships, parties might take advantage of trust & exploit the other party in opportunistic ways (Hamel 1991). The third cost is the lack of creativity. Consistency results in groupthink which restrains the development of creativeness (Janis 1989).

Therefore, this study argues that under low levels of trust, useful relational knowledge will not be established because parties are reluctant to share information in the process of relational learning activities. Under high levels of trust, the existence of hidden costs also retards the development of relational knowledge. In this study, therefore, we believe that the expected result of relationship learning activities appears only in the situations of medium trust.

H2: The positive effects of relationship learning on relational knowledge stores strengthens under medium levels of trust; the effect is moderated (reduced) under conditions of high or low trust.

METHOD

Sample & Data Collection Procedure

The sample was taken from the list of The Largest Corporations in Taiwan - Top 5000 published by China Credit Information Service, Ltd., in which we chose manufacturing firms as our object, totally 2613 firms. The purchasing manager or the manager who were responsible for transactions with suppliers was asked to answer questions. The questions focused on relationships with their main suppliers.

Questionnaires were mailed to 2613 firms & 265 were returned after 3 weeks. After telephone calls had been made & questionnaires mailed for a second time, 152 more were received 3 weeks later, so the total number of returned questionnaires was 417 (response rate, 15.96%). After elimination of 16 returned questionnaires because of incomplete information, the final sample consisted of 401 returned questionnaires. This study uses t-testing to compare the response groups before & after the telephone calls, with insignificant differences in terms of sales volume, capital account, & cooperative years, with a p-value between 0.35 & 0.66; therefore, a combined statistical analysis was satisfactory.

Measures

The questionnaire included four parts, including relationship learning, relational knowledge stores, trust, & basic demographic information. Apart from the basic demographic information, the assessments in all parts utilised a 7-point Likert-type scale from 'strongly disagree' (1) to 'strongly agree' (7). The informants were asked to answer questions according to their perceptions of main suppliers. All the measurement items were listed in the appendix.

Relationship learning measured joint activities between customers & suppliers, in which two parties share information, interpret & integrate the information into relational memory, & then alter relational behaviors. The items were adopted from Selnes' & Sallis' (2003) study. The dimension of information sharing measured the ability of information exchange between two parties, formed by 7 items. Joint sensemaking measured the ability that firms interpret specific factors such as communication & conversation within a relationship, formed by 4 items. The dimension of integration into relational memories measured the ability that two parties integrate information into a relationship-specific memory, formed by 6 items. Seventeen items, in total, were used to assess the degree of relationship learning.

Relational knowledge stores, which can be divided into four dimensions: interactive knowledge stores, functional knowledge stores, environmental knowledge stores, & interpersonal knowledge stores, measured the storage level of knowledge (e.g., perspective, belief, behavior, process, & policy) accumulated from the management of relationships between customers & suppliers. Here we referred to items from the scale proposed by Johnson, Sohi, & Grewel (2004) & our research. Interactive knowledge stores (5 items) measured knowledge related to interaction within interfirm relationships. Functional knowledge stores (6 items) measured knowledge related to supply-chain management. Environmental knowledge stores (5 items) measured knowledge of external operating environment. Interpersonal knowledge stores (5 items) measured knowledge about how to establish interpersonal relationships. Therefore, Twenty-one items were included in this section.

Trust measured the capability & willingness which customers & suppliers believe that the partner may behave in favor of mutual interests. This was made up of 6 items, referring to Johnson, Sohi, & Grewel (2004).

Validity & Reliability

This study used LISREL 8.72 to analyze the measurement model. First, according to confirmatory factor analysis (CFA), we deleted one item of each dimension in information sharing & relationship-specific memory & left fifteen questions within three dimensions of relationship learning. We used CFA of the first order & the second order respectively. According to Marsh & Hocevar (1985), by calculating the target coefficient¹ we can compare CFA of the first order & the second order to decide the fitness with data. If the *T* value is closer to 1, that implies the second order CFA can replace the first order CFA, the model can be more precise. The *T* value of relationship learning was 1.00 (201.17/201.17) which was closer to 1. Moreover, the relationships between first order factor & second order factor were significant respectively (0.83, 0.87, 0.75, $p < 0.01$). Although the chi-square values were significant for the second order CFA ($\chi^2(87) = 201.17, p = 0.00$), the model fit was still good because it can easily be rejected if the number of the sample was large (Bentler & Bonett 1980), & other fit indices showed a good fit (root mean square error of approximation [RMSEA] = 0.06; root mean square residual [RMR] = 0.04; normed fit index, [NFI] = 0.98; comparative fit index [CFI] = 0.99; goodness-of-fit index [GFI] = 0.94; adjusted goodness-of-fit index [AGFI] = 0.91). Therefore, this study takes the results of second order CFA to implement further analyses.

Secondly, we conducted confirmatory factor analysis of all constructs & deleted one item in functional knowledge stores. Although the chi-square values were significant, the other fit indices showed a good fit ($\chi^2(359) = 981.00, p = 0.00$; RMSEA = 0.07; RMR = 0.04; NFI = 0.97; CFI = 0.98; GFI = 0.86; AGFI = 0.82). In the aspect of reliability, the Cronbach α of each variable was between 0.81 & 0.93, which was above 0.70 recommended by Nunnally & Bernstein (1994). The composite reliability (CR) of measurable variable was between 0.81 & 0.93, which was above 0.6 recommended by Bagozzi & Yi (1988) & Fornell & Larcker (1981), revealing that the research variables are in the acceptable range.

¹ Target coefficient (*T*) = first order measurement model χ^2 / second order measurement model χ^2

Finally, we measured convergent & discriminant validity. The convergent validity was tested in two ways . First, all factor loadings were significant (minimum t -value 14.94, $p < 0.01$); the values were between 0.68 & 0.89 (average 0.77). Second, average variance extracted (AVE) for all constructs were greater than 0.5. These results support the convergent validity of the measurement (Anderson & Gerbing 1988; Fornell & Larcker 1981).

The discriminant validity was first checked by forcing the estimated correlation coefficient (ψ_{ij}) to be one between two constructs, & then conducting chi-square difference tests (Anderson & Gerbing 1988). All chi-square differences were highly significant. For example, the correlation (0.67) between functional knowledge stores & environmental knowledge stores was the largest. If we set the correlation between them to be 1, the result was $\Delta\chi^2(1) = 709.58$ ($p < .01$), which was significant & should be divided into two constructs. Moreover, the square root of AVE for each pair of constructs was compared with the correlation between them. As shown in Table 1, all the square root of AVE values exceeded the correlation values. These results support the discriminant validity.

Table 1. Means, standard deviation, & correlation matrix of constructs

	Relationship learning	Trust	Interactional knowledge	Functional knowledge	Environmental knowledge	Interpersonal knowledge
Relationship learning	(0.77)					
Trust	0.58**	(0.75)				
Interactional knowledge	0.66**	0.61**	(0.73)			
Functional knowledge	0.60**	0.57**	0.66**	(0.79)		
Environmental knowledge	0.54**	0.49**	0.55**	0.55**	(0.76)	
Interpersonal knowledge	0.56**	0.53**	0.63**	0.67**	0.54**	(0.85)
Mean	4.89	5.11	5.21	5.11	5.09	4.95
Standard deviation	0.79	0.85	0.82	0.87	0.83	0.98

** $p < 0.01$. The square root of AVE is on the diagonal in parentheses.

RESULTS

Following the Baron & Kenny (1986) approach, the main & moderating effects were tested by using hierarchical multiple regression analyses. To mitigate the potential for multicollinearity, each scale constituting an interaction term was mean centered (Aiken & West 1991). Table 2 summarizes the results.

According to the results, the greater the relationship learning between suppliers & buyers, the more likely the buyer acquire interactive ($b_{13} = 0.49$, $p < 0.01$), functional ($b_{23} = 0.47$, $p < 0.01$), environmental ($b_{33} = 0.33$, $p < 0.01$), & interpersonal ($b_{43} = 0.46$, $p < 0.01$) knowledge stores. Therefore, H1a, H1b, H1c & H1d were supported.

With regard to our hypotheses, the positive effects of relationship learning on relational knowledge stores strengthens under medium levels of trust; the effect is moderated (reduced) under conditions of high or low trust. As expected, we found the moderating effects of trust on the relationship between relationship learning & interactive ($b_{15} = 0.08$, $p < 0.05$; $b_{16} = -0.12$, $p < 0.05$), functional ($b_{25} = 0.11$, $p < 0.01$; $b_{26} = -0.15$, $p < 0.01$), & interpersonal ($b_{45} = 0.13$, $p < 0.01$; $b_{46} = -0.21$, $p < 0.01$) knowledge stores. The positive relationship was reduced under conditions of high or low trust & increased under medium trust. However, the moderating effect did not exist on the relationship between relationship learning & environmental knowledge stores.

Table 2 Results of regression analysis ^a

<i>Variables</i>	<i>Interactive knowledge stores</i>	<i>Functional knowledge stores</i>	<i>Environmental knowledge stores</i>	<i>Interpersonal knowledge stores</i>
<i>Control Variable</i>				
<i>Size</i>	0.05	0.07	0.01	- 0.04
<i>Cooperation years</i>	- 0.05	- 0.08	- 0.04	- 0.01
<i>Independent Variable</i>				
<i>Relationship learning</i>	0.49**	0.47**	0.33**	0.46**
<i>Trust</i>	0.48**	0.48**	0.36**	0.50**
<i>Relationship learning × Trust</i>	0.08*	0.11**	- 0.07	0.13**
<i>Relationship learning × (Trust)²</i>	- 0.12*	- 0.15**	0.02	- 0.21**
Adjusted R ²	0.65	0.60	0.41	0.55
F	111.88**	87.42**	41.98**	73.78**

^a Standardized regression coefficients are shown.

* p < 0.05

** p < 0.01

DISCUSSION & SUGGESTIONS

Discussion

Trust is critical foundation of interfirm relationships. However, is it the higher the better? This study found the highest trust will limit the development of relational knowledge; therefore, the role of trust will deserve further exploration.

The results reveal that relationship learning activities between customers & suppliers will facilitate customers' relational knowledge stores, including interactive, functional, environmental, & interpersonal knowledge. However, the relationship with environmental knowledge is the weakest. The reason may be that although environmental knowledge is related with dyadic task environment, it focuses on the secondary & macro task environments such as competitive behavior, market conditions, & variation in laws & regulations, about its external operating environment. Some of the environmental knowledge acquisition does not need dyadic relationship learning activities. If the individual firms have organizational learning capability, they can acquire related knowledge. With regard to interactive, functional, & interpersonal knowledge, they are related with dyadic partners. If the dyadic partners did not want to make information sharing, joint sensemaking, & development of shared relationship memories, they would be hard to accumulate relational knowledge to manage interfirm relationship. Therefore, the relationships between relationship learning & the three kinds of knowledge are more significant.

With regard to the moderating effect of trust, we found trust had no moderating effect on the relationship between relationship learning & environmental knowledge stores. According to the discussion in the above paragraph, some of environmental knowledge does not need to be completed by the cooperation between suppliers & customers. Therefore, trust can not exert its influence.

However, trust did play the moderating role on the other three knowledge stores. The positive effects of relationship learning on interactive, functional, & interpersonal knowledge stores strengthens under medium levels of trust; the effects are reduced under conditions of high or low trust. The results are consistent with the argument of Selnes & Sallis (2003). That is, under the high level of trust, the hidden costs will appear to reduce

the relationship learning effect. We argue both low level & high level of trust are not good for the effects of relationship learning on relational knowledge stores. Under low levels of trust, the partners will not want to share information, not to mention relationship learning. The effect of relationship learning on relational knowledge stores will also be reduced. However, under medium levels of trust, the partners will intend to make relationship learning & the hidden costs of high levels of trust will not appear. That will increase the effects of relationship learning on relational knowledge stores. Therefore, the customers should develop medium-trust relationship with their supplier to enhance their capabilities of interfirm relationship management.

Implications

The accumulation of relational knowledge can facilitate the relationship management capabilities. In order to accumulate relational knowledge, the customers should cooperate with their supplies to engage in relationship learning activities. That is, the partners have to share information, create constructive sense making of information they share, & develop shared relationship memories. However, trust will moderate the relationships. We find that medium levels of trust are benefit for developing relational knowledge. However, How to avoid high levels of trust in customer-supplier relationship? Narayanas & Rangan (2004, p.72) propose that 'in buyer-seller relationships in mature industrial markets, trust is mainly built between individuals across the dyad, & commitment is formed & formalized at the firm level.' Therefore, trust exists in interpersonal, not interorganization. The focus is how to avoid high levels of trust between key contact employees, for example, the trust between purchaser & representatives of supplier. Bendapudi & Leone (2002) point out that the vendor firm can use rotation or teams of key contact employees & multiple contact points with different areas of a customer's business to mitigate the impact of the loss of the key contact employee. We argue these alternatives can also be applied to avoid the hidden costs of highest trust between key contact employees of customer & supplier.

Limitations & future research

There are several avenues for future research in this field. First, our study takes Top 2613 manufacturing firms as our object; the results may be limited to small & medium business or services industry. The future research can use the framework to investigate interfirm relational knowledge in small & medium business or services industry. Secondly, the scenario in this study is manufacturer vs. manufacturer; our research does not consider the other type of relationships. For example, if the supplier is a wholesaler, will the relationship learning activities or the content of relational knowledge be different? Thirdly, the influence of relationship learning should investigate the dyadic parties. This study assesses only the unilateral perspective of customer. Subsequent research could measure dyadic perspectives to make the measurement more elaborate. Finally, whether the hidden costs problem of highest trust only exists in our study or it also appear in other condition, this will deserve further research.

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THE ROLE OF ONLINE INTEGRATED MARKETING COMMUNICATIONS {IMC} IN SUPPLY-CHAIN MANAGEMENT {SCM} – THE CASE FOR THE SMALL PACKAGE INDUSTRY

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ABSTRACT

Today marketing managers strive to create lifetime customer value. A vital aspect of creating value is the synergistic blending together of the four P's of marketing. Two important part of the mix is Supply-Chain Management (SCM) and Integrated Marketing Communications (IMC). SCM will be looked at with an emphasis on online promotion and how it is used by carriers specializing in the movement of small shipments throughout the supply-chain. Several package delivery carriers who are the market share leaders were selected {UPS, USPS, FedEx, and DHL} and their Web sites were evaluated.

MARKETING

Some of the early approaches to marketing were based on the flow of goods, e.g., how wheat moved from the fields to the grocery store. The major tools used to carry out marketing were structured years ago by E. Jerome McCarthy around the four P's, i.e., Product, Price, Place, and Promotion. (Perrault, McCarthy, Cannon, 2006) We focus here on two P's: Integrated Marketing Communications (IMC) and Supply-Chain Management (SCM).

Place - SCM

Manufacturers may use both direct and indirect channels, and some use two or more channels. Effective channel management calls for SCM including selection, training and motivating intermediaries. SCM is concerned with building long-term profitable relationships among channel members. There are vertical, horizontal, and multichannel marketing systems. E-commerce has grown in importance as companies have moved to a “brick-and-click” operating mode. SCM must increasingly recognize the importance of online markets including marketing through cell phones and PDA's.

Supply-Chain Management has been defined as *a set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses and stores, so that merchandise is produced and distributed in the right quantities, to the right locations, and at the right time, in order to minimize system wide costs while satisfying service level constraints.* (Samchi-Levi, Kaminsky, and Samchi-Levi, 1) If long term value is going to be developed and nurtured, SCM must be efficiently managed in a systems approach. It is important for SCM to work with the other three P's, but the focus here is on the interplay between SCM and Promotion, online.

Promotion-IMC

Promotion communicates the value proposition to the customer. The promotional mix includes advertising, direct, sales promotion, public relations, publicity, and experiential contact like events, sponsorships and trade

shows. Advertising is a paid-for form of non-personal communications by an identified sponsor. Business firms, politicians, non-profit, and government agencies all engage in advertising. Part of that challenge relates to creating long term relationships with many consumers who have rarely if ever used anything but a cell phone. Strategies in IMC must be planned in an Interactive Era. This new and exciting era is controlled by those in the target market who are, in some ways, masters of their own fate. If nothing else, they are active participants in the IMC process. (Lane, 12)

Historically, the development of Integrated Marketing Communications (IMC) followed the same pattern of sub-optimization as was found in SCM. Advertising was a field of its own as was personal selling, direct, public relations, outdoor, etc. As global marketing became more important, and systems thinking became important, and new technology arrived and old technology changed, more and more marketing managers began to think and act in terms of IMC. This new systems approach called IMC can be defined as *A communications process that entails the planning, integration, and implementation of diverse forms of marcom (Marketing Communications, i.e., advertisements, sales promotions, publicity releases, events, etc.) that are delivered over time to a brand's targeted customers and prospects.* (Shimp, 604)

A growing and important part of IMC is the development and use of online promotion. This is a world of iPhones and Blu-Ray's; a world where newspapers are read online and tickets for the Ringling Brothers circus are purchased and delivered online. The presidential election in 2008 presents a classic example of the new IMC medium. President Obama's campaign used online promotion as never before and was extremely effective in reaching new, young target markets. Without a doubt, online marketing has become an important part of IMC. Advertising Agencies have grasped the importance of online. Clark Kokich, CEO of Razorfish.com, says, *Ten years from now, all agencies will be digital agencies.* (Kokich, 1)

Interactive promotion has become a very important ingredient in the marketing mix. As mentioned before, the world is changing and marketing and SCM managers need to be aware of this new interaction between promotion and SCM in an interactive environment. A new and significant way of building long-term customer value is through the efficient use of interactive media. Belch and Belch define interactive media as a variety of media that allows the customer to interact with the source of the message, actively receiving information and altering images, responding to questions, and so on. (Belch and Belch, 775) Interactive promotion provides an amazing opportunity for both IMC and SCM to work more smoothly as a team leading to better and more efficient marketing thus creating that sought after long-term value for all those concerned.

SMALL-PACKAGE DELIVERY INDUSTRY

The package delivery service industry is made up of four main competitors. These are UPS, FedEx, DHL, and the U.S. Postal Service. In 2001, Alan Robinson (2003) estimated that American consumers have spent more than 50 billion to ship parcels, packages, and overnight letters. New distribution patterns developed as U.S. manufacturing and other companies have changed their SCM operating processes. The Internet has expanded the reach of direct marketing, particularly at the retail level, requiring home delivery. The new technology has increased globalization which also created the need for parcel shipping and delivery carriers to expand worldwide. (Robinson, 2003)

United Parcel Service (UPS)

United Parcel Service (UPS) is the world's largest and strongest company in air and ground package-distribution. UPS was formed by Jim Casey and Claude Ryan in 1907 in Seattle. The teenage founders started the business with two bicycles and a phone, promising the "best service and lowest rates." By 2007 UPS delivers more than 14.1 million parcels and documents daily throughout the US and over 200 other countries and territories. The firm has maintained its leadership by investing heavily in advanced information technology. When competition was heating up in the mid 80's UPS started to invest billions into technology to boost customer service while keeping costs low and streamlining its overall operations. (Laudon & Laudon, 2007)

The investment in the Delivery Information Acquisition Device (DIAD) technology paid dividends early on. Using a handheld computer, UPS drivers are able to capture customers' signatures along with pickup, delivery,

and time-card information. The drivers are able to then place the DIAD into their truck's vehicle adapter, an information-transmitting device that is connected to the cellular telephone network. Package tracking information is then transmitted to UPS's computer network which can be accessed worldwide to respond to customer queries and provide proof of delivery to the customer. UPS customers can access this information via the Internet from the company's Web site. (Laudon & Laudon, 2007).

UPS has also changed the number of customer service centers from 50 (one per state) to a dozen. UPS used to run its 50 service centers with UPS employees; in 2008, eight of the 12 centers are outsourced to third parties. UPS moved all contact with the customers from the phone to the Internet. (Krause, 1998) The investments in technology changed how UPS works, but also changed how customers interact and work with UPS. The UPS Website has about 11 million U.S. hits per month on their website, tracking 18.5 million packages daily (UPS, 2008).

The United States Postal Service (USPS)

The United States Postal Service (USPS) handles cards, letters, and packages sent throughout the United States and its territories. USPS delivers more than 210 billion pieces of mail a year to nearly 150 million addresses. An independent government agency, with a monopoly on delivering the mail the USPS relies on postage and fees to fund its operations. The USPS faces competition for most of its delivery services – both document shipping and package delivery. In 2000, the USPS changed its Internet address from usps.gov to usps.com ostensibly reflected the agency's decision to better deal with its challenges (including competition). The site began with business-to-business applications for traditional shipping customers and more recently evolved to include support for online communications. (Staff, 2000).

The move to compete created an outcry with critics charging USPS with overstepping its bounds by moving into online communications. The Postal Service has an unfair advantage by having a multibillion-dollar revenue base in first-class mail, from which it can fund its "New Economy" initiative. **On the other hand**, USPS was forced to pay its operating costs since it was recast as an independent agency in 1971. USPS must run itself like a business despite the fact that its charter still requires the USPS to provide "universal access" to mail delivery, which forces it to provide services even when these services are not economical. No other business competitor is saddled with such mandates. (Staff, 2000)

In October 2008, the Postal Service released its *Vision 2013*, a new five-year strategic plan. The plan acknowledges that postal customers are at the center of all of USPS' efforts and offers a broad perspective of what it will take for the Postal Service to succeed in the future. For example, the USPS will continue to invest in the its barcode system and other service improvement initiatives that promise new gains in service efficiency and customer value, while listening to the customers. (USPS, 2008)

Federal Express (FedExp)

FedEx Express was founded in 1973 by Frederick W. Smith, reportedly based on a paper written in business school. He believed there was a need for a system designed especially for airfreight that could accommodate time-sensitive shipments, without having to rely on airline schedules. Frederick Smith named the company Federal Express so as to have the patriotic term "Federal" to the company name, in the hope that the name would help obtain governmental contracts and attract public attention and name recognition. To achieve speed, all packages used private fleet of aircraft and a single hub. The business was launched from the Memphis International Airport, With 14 small aircrafts. FedEx is one of the leading global shippers today, handling package delivery, e-commerce, and supply chain management services. The company offers integrated transportation and logistics solutions through a network of subsidiary companies that collectively compete under the worldwide FedEx name. The family of companies includes FedEx Express, FedEx Ground, FedEx Freight, FedEx Custom Critical, FedEx Trade Networks and FedEx Services. FedEx handles 3.3 million packages nightly, employs over 200,000 people, and connects customers to 215 countries within 24 to 48 hours. (Alghalith, 2007)

One of the FedEx's focuses is to differentiate itself from the competition by offering an outstanding customer experience. In a speech given by FedEx's CEO and founder, Frederick Smith, he discussed this concept by explaining how his company creates a competitive advantage within the industry. He explained that FedEx's first focus is that the customer is at the "heart" of everything the company does and that every decision is based on how it will affect the customer. According to Smith, "FedEx measures every point of customer contact, from beginning to end of the customer experience" (Smith, 2003). The company attempts to align all of its internal

processes so that they add value to the customer's experience. Moreover, FedEx measures its progress externally through recognition by outside organizations that routinely measure consumer peer and industry satisfaction. "Finally," Smith explains, "we try to deliver a positive experience not only to our customers but to our other audiences as well: our employees, our shareholders, and our communities" (Smith, 2003). With its strong commitment to customer satisfaction, FedEx has built relationships with its customers which helped FedEx to position itself in a way that was most effective for the customer.

One example of building customer relationships is the investment in Digital Automated Dispatch System (DADS) to help drive the company's daily operations. The DADS system allows FedEx to track truck locations using GPS, improve route efficiency, and provide delivery data and customer information to each truck. The DADS network is one of the world's largest private mobile data with Bluetooth-capable handheld devices, named PowerPads. That provides access to more information about customers, delivery, and package identification. Optical pens which record customers' signature and handwriting avoid mistakes caused by illegibility (Alghalith, 2007).

FedEx's recent diversification drive created different businesses that concentrate on various segments of the package delivery market. A resulting consequence involves increasing competition with competitors like USPS, DHL, and UPS who enjoy extensive financial resources. On the other hand FedEx tried to rely on information technology early on. In 1995 FedEx began to use the Internet and created a portal with few options for customers at the time. That site expanded its choices, functionality and services over time. FedEx has been an innovator in using IT as an integral part of their businesses, and has successfully implemented and deployed IT. (Alghalith, 2007)

More recently FedEx acquired Kinko in 2004, and renamed it FedEx-Kinko. Since then Kinko's profits have fallen by more than \$100 million in 2004 to \$45 million in 2007. Revenues stagnated at \$2 billion. In 2008, FedEx announced an \$890 million write-off on the purchase, naming third CEO to head Kinko's in four years. FedEx stopped reporting Kinko's financial results separately in September 2007 and will be dropping the Kinko's brand name in favor of the new name: FedEx Office. (Palmeri, 2008)

DHL

DHL was founded in 1969 by Adrian Dalsey, Larry Hillblom, and Robert Lynn whose last name initials D, H, and L formed the DHL name. The company began as a service shuttling bills of lading between San Francisco and Honolulu. Acquired by Deutsche Post World Net, DHL now operates a global system of 4,400 local offices, 238 gateways, and more than 450 hubs, warehouses, and terminals. The company employs over 170,000 people. The company offers 4.2 million customers worldwide fast, reliable, and cost-efficient package delivery service around the world. More than 400 aircraft operate for or on behalf of DHL. Servicing over 140,000 destinations in over 220 countries with overnight and express package deliveries poses a unique problem: how do you work in very unique local environments, with different languages, cultures, and local knowledge, while at the same time deliver this service on a global, time-intense platform. Keeping track of its own operations, in addition to customer packages, was a major challenge for DHL. (Laudon & Laudon, 2007)

By 2006, DHL completed a major consolidation and resulting in 40 percent cost reduction while increasing efficiency. Beginning in 2000, DHL concentrated its global infrastructure into three regional global centers located in low cost areas: Cyberjaya (Malaysia), Prague, and Scottsdale, Arizona. Design work is now done in the U.S. while implementation and execution work is done in India. New applications are built and deployed to customers in hours rather than months.

DHL acquired Airborne Express in 2003, and lost an aggregate \$3 billion in the past five years, dragging down the rest of the DHL Express global network results. DHL Express reported that excluding the U.S., earnings before interest and taxes rose 11 percent year over year in the first nine months of 2008. Revenues outside of the United States grew 7.3 percent, and shipment volumes over four percent. DHL Express decided to pull out of the U.S. domestic express delivery market with ground services to be terminated in early 2009. All of the express carrier's 18 U.S. ground hubs and about 80 percent of its U.S. stations will close. DHL will continue to offer international service to and from the United States, maintaining a network of 103 service centers and local

ground services to shuttle airfreight from airports to customers. The company currently is in talks with rival UPS Inc. to fly DHL's shipments within the United States. (Solomon, 2008)

DHL Express had been operating more than 20,000 delivery and line haul vehicles, plus 450 ground hubs, service centers, and other facilities in the United States. The company has dismissed over 5,000 employees and begun shutting down some stations. DHL Express expects to lay off another 9,500 people retaining some 3,500 to serve international customers. Over a million domestic daily shipments will be up for grabs. With DHL abandoning its domestic U.S. business, rivals such as UPS, FedEx Corp., the U.S. Postal Service, and expedited truckers are gearing up for market-share gains. Based on 2007 estimates, DHL generated about \$2.8 billion in domestic air express revenue and controlled 12 percent of the overnight air delivery market. UPS and FedEx are expected to divide about 80 percent of DHL's U.S. domestic air business, 70 percent of its ground business, and 5 percent of its U.S. import and export traffic thereby expecting UPS and FedEx to "...benefit materially over the long term." (Solomon, 2008)

MARKETING AND SMALL-PACKAGE DELIVERY INDUSTRY

Rating the Marketing Mix: Place

Consumer Reports tried to rate the best shipping company. Consumer Reports mailed 48 packages from Yonkers, N.Y., to 16 consumers in 12 states, using regular next-day delivery (Standard Overnight for FedEx, Express Mail for the Postal Service, and Next Day Air Saver for UPS.) All of the packages got there the next day.

The Report determined that the Postal Service was the least expensive by far for local and long-distance deliveries; letter-size envelopes, and ones used for sending the books USPS charges a flat rate of \$16.50. Flat rates for slower delivery times are lower. The other two shippers base their prices on weight and distance traveled. UPS charged \$62.87 to send a book next-day to Oregon and \$29.55 to Manhattan. FedEx charged \$54.57 and \$27.48, respectively. When asked how the Postal Service, an independent part of the U.S. government's executive branch, can deliver overnight shipping for less, a spokeswoman, said: "We have an infrastructure in place and letter carriers everywhere. We're simply adding package delivery to a network that already exists." (Marco, 2008)

Rating the Marketing Mix: Promotion

Name Recognition, Logo Identification, Brand Awareness, and Message Retention are all are very important elements in the constant cycle of advertising by today's top companies. We see ads on television and cable, in newspapers, magazines, listen to them on the radio, see them on billboards and even "experience" them in the theatres. In the Parcel Shipping industry that advertising holds as much weight as any other competitive market.

With the United States Postal Service, one could argue that they don't need to advertise because of their monopoly on letter mail and is a highly recognizable name brand. However, they do, the most notable advertisement is the sponsorship of Lance Armstrong in his Tour de France run. The debate is not about the money, since the amount spent on Lance Armstrong is a tiny fraction of the agency's \$66 billion annual budget. Nor should it be about the need to advertise since they face stiff competition from Federal Express and the United Parcel Service, among others in the parcel industry. Moreover, an Office of the Inspector General report revealed that the agency spent \$48 million over six years (1997-2003) on its sponsorships, which included not only the cycling team but also a baseball team (about \$3.5 million for the New York Yankees), a few football teams (among them the New York Giants) and two golf tournaments. (Goldway, 2003)

UPS has a rich history of advertisement, with an overhaul of sponsorships and advertising it no wonder that UPS is the leading company in the shipping industry. After the award winning slogan "What can brown do for you?" UPS invested \$35 million in its new advertising campaign called "Whiteboard" that was launched in 2007. The new UPS ad campaign by The Martin Agency, in Richmond, VA has a great concept, quality execution,

energizing music. The ad displays a whiteboard that has drawn images come to life to display UPS logistics at work. (Fresh, 2008)

For almost 30 years ago, FedEx has continued to drive their core business message of “delivering peace of mind to its customers” by using entertaining sketches of humorous office situations and caricatures of the business world in their advertising. Since, 2003 FedEx has used “Relax, its FedEx.” The slogan was evolved from previous advertising, but remains true to both the humorous tone and core message that the FedEx brand represents “peace of mind”. The advertisements were created by BBDO New York, show how FedEx solves problems for businesses, both large and small, using the full range of FedEx air, ground, freight and international delivery services. (Editors, 2003) In 2007, FedEx again paired up with BBDO and launched a new global advertising campaign “Access – Success – Growth.” These concepts are the creative force behind a new advertising campaign launched by FedEx today in key markets around the world, including. The new ads take you “behind the scenes,” communicating some of the ways FedEx helps customers’ access opportunities in the marketplace, whether those prospects are in their local communities or around the globe. (FedEx news, 2008)

In 2007, DHL Express launched their “Capabilities” advertising campaign. With new placements in print, television and on-line, DHL aim was to steps toe-to-toe with UPS and their popular 2007 “white board” campaign as well as ongoing advertisement by FedEx. FedEx has taken major positions especially in sports marketing with launch of the US PGA FedEx Cup in professional golf. DHL's ad focus was on products, international services, Major League Baseball and services in the Fashion vertical. (Joiner Jr, 2007)

With the constant bombardment of traditional advertising messages, many companies are often underestimating the power that alternative methods like search engine marketing can have. With the internet being a key component in the Parcel Shipping industry, companies are looking for innovating techniques to give them market edge. As it stands, search engine marketing is quite possibly the most affordable and dependable form of marketing a company could put in place.

Discussion

In conclusion, the industry is constantly adding and improving features of current products/services. Companies need to strive to continuously harvest the possibilities for e-commerce options. Moreover, companies need to search out competitors’ weaknesses and exploit them to gain market share. For example, FedEx is continually competing for customers with UPS. In the past, UPS was known for its poor service, and thus anyone looking for guaranteed package delivery was sure to use FedEx. However, UPS quickly stopped the leak and has implemented large-scale improvements on its service offerings. FedEx must respond with its own service enhancement. If a specific service is currently very successful, that does not mean that it will be so in the future. Increasingly demanding customers and aggressive competitors are a continual threat to this industry and thus it needs to focus on enhancing all of its products and not just the less profitable or less successful ones. Further enhancement could be achieved by finding better ways to leverage current technology. Companies need to adopt cost-cutting techniques before it begins to implement new projects.

There is still a lot of room for to expand in this industry. The industry has only just begun entering geographic markets outside of the U.S. and there are still many possibilities for foreign growth. Once a company has established brand recognition and customer loyalty, it is definitely primed to continue and expand upon its international involvement. Transportation and supply-chain management services are currently in high demand as the beauty of ecommerce is being discovered across the globe. Supply-chain management is a perfect candidate for expansion because it generates such high customer loyalty. To effectively manage the growth of its international presence, a company should enter new markets where it believes it can benefit from economies of scope. The global internet usage is increasing as low-tech countries start to adapt to make the move into the digital age. Digital marketing can provide a cost effective way to reach large scale global audience. With the help of the Internet, companies need to expand to new markets before the opportunity to secure initial foreign presence is gone.

APPENDIX

Partial Table of Website Data: Front Page Information

	United Parcel Service	U.S. Postal Service	FedEx	DHL
Website Title:	<u>UPS Global Home</u>	<u>USPS - The United States Postal Service (U.S. Postal Service)</u>	<u>Shipping, Logistics Management and Supply Chain Management from FedEx</u>	<u>DHL Global</u>
Load Speed:	Fast (72% of sites are slower), Avg. Load Time: 1.5 Seconds	Average (50% of sites are slower), Avg. Load Time: 2.5 Seconds	Fast (71% of sites are slower), Avg. Load Time: 1.6 Seconds	Very Fast (81% of sites are slower), Avg. Load Time: 1.1 Seconds
Title Relevancy:	0%	57%	87%	100%
Meta Description:	n/a	Get shipping rates, buy stamps, print postage, track a package, and look up a ZIP Code? - Find the mailing products and services you need at USPS.com.	Shipping - Logistics Management - Supply Chain Management from FedEx Corporation: FedEx.com offers a complete suite of online services for shipment preparation, package tracking, shipment rates and tools tailored to the needs	n/a
Description Relevancy:	n/a	75% relevant.	37% relevant.	n/a

Source: Alexa.com and Whois.domaintools.com both accessed on December 7, 2008

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GAP ANALYSIS AS A PERFORMANCE MEASUREMENT TOOL IN BUSINESS INCUBATORS: ISSUES AND OPPORTUNITIES

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ABSTRACT

Traditional measures of performance in incubators do not adequately assess performance nor accurately measure inputs and outputs, as perceived by administrators and tenant-customers. Tenant-customers' perceptions of the services provided, and their participation and input are an important component of service quality and effectiveness. This paper describes a gap analysis framework for evaluating and measuring incubator service performance. This paper presents a preliminary report on the application of the gap analysis framework to evaluate incubator performance.

INTRODUCTION

Attempts to improve Incubator Performance (IP) and Tenant Satisfaction (TS) underlie the basic gap between the efficiency required of IP and the effectiveness desired for TS. Processes like gap analysis, customer relationship management (CRM), total quality management (TQM), continuous improvement, sigma 6, and ISO 9000 are some of the management methods and techniques used by business and other organizations to facilitate and address this dichotomy.

The need to simultaneously improve incubator performance (IP) and tenant satisfaction (TS) complicates the management task in incubators. For business incubators, IP and TS are critical determinants of long-run performance, and their mutual pursuit often requires significant trade-offs in the short run, especially when there is no systemic process for evaluating gaps in perceptions. Currently incubator performance is assessed using measures such as occupancy rates, dollars spent per tenant customer, and tenants' graduation rates. Adding customer satisfaction dimension to the above measures is essential if incubators are to increase IP in both efficiency and effectiveness. This linkage is critical because tenant-customers' input to the incubation process is critical to the overall successful performance of incubators, thus increasing both IP and TS.

In this paper, we first explore issues concerning IP and TS, and we then proceed to a gap analysis framework. Next, we apply the gap analysis to business incubators. Propositions for future research conclude the paper.

MEASURING IP AND TS

The marketing concept asserts that increasing customer satisfaction leads to customer retention which can result in developing an on-going relationship with customers; these should be encouraged by management (Kotler and Lane, 2009). Customers' input to facilitating service transactions affects IP and therefore their perspectives should be explicitly included in IP measurement.

Since incubator services are often provided and consumed simultaneously, IP is affected by variations in customer inputs which, in turn, are a function of their expectations. The alignment of incubator service with

customer expectations is a critical dimension of both IP and TS. Inability of customers (potential tenants of the incubator) to examine and experience incubator services prior to entering the incubator (Chadwick, 2000) complicates TS by introducing subjectivity into their expectations. Potential tenants must therefore rely on the incubator's reputation, perceived attributes, and verbal and visual cues to serve as a proxy of IP evaluation. Consequently, the incubator manager's skill in public relations may determine tenant-customer perceptions regarding IP as much (and at times, more) than actual services provided, imparted knowledge and experience shared.

Prior to entering an incubator, tenants sign a contract for the space to be rented and the accompanying services. Tenants sign a contract based on reputation and a 'promise' to provide TS. Thus, for a given level of service rendered, tenant-customers may have different levels of expectations, leading to variations in performance perceptions and with it, to different levels of TS. We incorporate these issues and concepts into the gap analysis framework.

GAP ANALYSIS FRAMEWORK

The definition of relevant inputs and outputs in incubators must incorporate both IP and TS perspectives. The traditional efficiency measure (an input/output ratio) must be extended to include effectiveness by incorporating tenants' perceived satisfaction (TS). Adding effectiveness to efficiency measures requires a customer oriented concept of performance assessment and measurement which extends the incubator management concerns. Such performance measures encourage consideration of IP efficiency with TS dimensions (e.g., by determining how "good" the service quality is).

IP efficiency is determined mainly by the ratio of inputs to outputs, reflecting capacity utilization on both quantitative (e.g. rents) and qualitative (e.g. services rendered) dimensions. This level of utilization depends upon the incubator's capability (in this context, a term which emphasizes both quality and quantity of the incubator's space availability and service provision capacity.) These would ideally be based on estimates of demand for the incubator's services, the political and community support (and the resources available) as input to creating the incubator. Creation of the incubator assumes that a strategy for certain levels of services and IP was planned for. Some excess capability is essential if incubators' management anticipates successful performance and wishes to meet future growth in demand, or avoid lost 'rentals' due to lack of space.

The gap analysis framework can also be used to portray the tradeoffs between strategic and tactical planning concerns. The strategic alignment is concerned with correct alignment of beginning investment in the incubator (e.g., space and facilities' capabilities) with the expectations of target tenant-customers. Both are long-term concerns for incubator management. The fine tuning of capacity utilization with perceived IP is a tactical dimension of primary concern to incubator management. A careful monitoring of day-to-day operations is necessary for alignment of the levels of service provided to short-term shifts in demand. The need to possibly rent more space and enlarge existing capabilities is a strategic decision, which must take into account tenant-customer needs and expectations. Both the strategic and tactical decisions require an assessment of tenant perceptions, and a system for continually monitoring these perceptions. We offer, and apply, such a tool next.

GAP ANALYSIS

The gap analysis technique is often used in continuous improvement initiatives to identify any performance gaps so that appropriate steps can be taken to attain the desired improvement by closing those gaps. It can also be used as a means for classification of how well a product or service meets a targeted need or a set of expectations. Significant gaps between customer expectation and perception of actual service delivered could lead to customer discontent. In general five gaps are identified in the literature which include the following:

Gap 1: The gap between what customers expect about the service and the manager's understanding of their expectations, (i.e., does the manager fully understand the expectation of customers)

Gap 2: The gap between management’s understanding of what customers expect, and the service quality standards that have been developed, (i.e., given his/her understanding of customer expectations, has the manager developed appropriate quality standards?)

Gap 3: The gap between the established standards and the actual delivery of the service, (i.e., are the established standards met?)

Gap 4: The gap between what the customer is led to believe about the service and the actual service provided, (i.e., are the services provided consistent with the publicized service?)

Gap 5: This is the overall perception-expectation gap and is itself the outcome of the four sets of gaps in the service delivery process (Fitzsimmons & Fitzsimmons, 2008.) It indicates if the actual service delivery meets or exceeds the customer’s expectations. This last gap is the most important indicator of service quality from the customers’ perspective, and studies indicate that customers determine service quality in terms of the gap between expectations they have for the service (ES) and their perception of the service actually provided (PS). Expectations about the service are based on previous experience with the service, word of mouth and personal needs. Both in forming expectations for the service and in assessing the quality of the service provided, customers consider all five dimensions of service quality explicitly and/or implicitly.

It is well known that service quality is multi-dimensional. Parasuraman, Zeithmal and Berry (1985b) have identified five dimensions of service quality—*Tangibles, reliability, responsiveness, assurance* and *empathy*. The authors also developed a multi-scale quality service quality assessment approach called SERVQUAL that links customer expectations with the perceptions of the quality of service provided (Parasuraman, Zeithmal and Berry, 1988). SERVQUAL has been widely used to assess customer satisfaction in different types of industries by measuring expectation-perception gap.

The PGM framework used in this paper is an adaptation of the SERVQUAL method. In our gap analysis framework application we compare perception of administrators, employees and tenants of an incubator on the five dimensions of service quality. For this purpose, a questionnaire has been developed with a focus on incubators and the survey instrument was distributed to three groups of respondents: incubator administrators, incubator employees and incubator tenants. Several questions were included in the survey for each of the five dimensions of service quality. Respondents were asked to indicate their perception of the quality being rendered for each question on a 7-point Likert scale with 1 indicating lowest level of satisfaction and 7 indicating highest level of satisfaction. The following section presents preliminary results of the study.

PRELIMINARY RESULTS AND CONCLUDING REMARKS

Table 1 below summarizes the mean scores on each of the five dimensions of service for the incubator as perceived by incubator administrators, employees and tenants. It can be noted that on the Tangibility and Reliability dimensions, the incubator tenants rated the quality of the service even better than the incubator administration and the employees. It can also be seen that the employees perceive the quality of services provided to tenants lower than the administrators. For Responsiveness, Assurance and Empathy dimensions, however, tenants rate the quality of services received lower than the administrators and employees at the incubator. This offers an important opportunity to the incubator to identify the specific areas of concern that tenants seem to have in these categories and take appropriate corrective steps.

Table 1: Summary of the five dimensions

	Tangibles	Reliability	Responsiveness	Assurance	Empathy
Administrators	5.30	5.75	7.00	6.00	6.33
Employees	5.05	5.00	5.00	4.38	4.07
Tenants	5.51	5.99	6.07	5.89	6.02

As the incubator administration strives to close the gaps, it must also look into the specific components within each dimension. For example, for Tangibles (Table 2), tenants rated two of the elements lower than the administrators—the adequacy of the incubator facility and the neatness of the facility. Similarly, most of the

elements under Reliability (Table 3), Assurance (Table 4) and Empathy (Table 5) as well as all four elements under Responsiveness (Table 6) are rated lower by the tenants compared with the administrators. (). The gaps between the perception of administrators and tenants on important service dimensions offer opportunity for further investigation and launching of continuous improvement initiatives for the incubator. This preliminary data suggests that while the tenants are happy about many of the services they receive at the incubator there are still opportunities for further improvement. This should provide valuable information to the incubator administration in its effort to strengthen the quality of services it provides its tenants. While this limited study will be of interest to the incubator in this study, future research should include an expanded pool of participants from all three groups of respondents (i.e., administrators, employees and tenants) and also include different incubators in order to obtain more generalizable results.

GAP ANALYSIS FOCUS GROUP DISCUSSION WITH INCUBATOR MANAGERS

Based on the preliminary results several questions were developed for focus groups with incubator managers. Some of the likely recommendations to be discussed based on preliminary informal discussions with incubator managers include:

- Is there a need for building a management team with business experience?
- Do incubators need to mobilize investments and working capital so as to develop seed or venture capital sources for tenants to improve?
- Should incubators develop a ‘brand’ and image of success by enhancing partnerships (universities-research facilities, businesses, local associations, etc.?)
- Is there agreement on a need to monitor and assess progress of tenants and towards self sufficiency and sustainability to improve overall efficiency and effectiveness?
- Is there a need to create a one-stop facility to receive counseling, training, and information, under one roof to improve IP (efficiency) and TS (effectiveness)?
- Is there a need to select entrepreneurial tenants with growth potential to improve IP?
- How about a need to have a stable of potential tenants, to provide the incubator with the most rental income, and a smooth transition for graduates to improve IP?
- Should ‘brick and mortar’ incubators be supplemented by “Virtual Incubators” so as to maximize space utilization by creating a affiliated “virtual” tenants?

Table 2: Tangibles

Relationship with Incubator		Incubator has made adequate physical facility	Up to Date Equipment	Professional Admin Services	Facilities are Neat	Materials are Appealing	Total
Administrator	Mean	7.00	3.000	6.50	6.50	3.50	5.300
	N	2	2	2	2	2	2.000
	Std. Deviation	.000	4.2426	.707	.707	4.950	2.121
Employee	Mean	5.00	4.250	6.00	5.25	4.75	5.050
	N	4	4	4	4	4	4.000
	Std. Deviation	1.633	2.8723	.816	.957	.957	1.447
Tenant	Mean	5.76	4.881	6.62	6.00	4.33	5.519
	N	21	21	21	21	21	21.000
	Std. Deviation	1.578	2.2798	.498	1.549	2.008	1.583
Total	Mean	5.74	4.648	6.52	5.93	4.33	5.433
	N	27	27	27	27	27	27.000
	Std. Deviation	1.559	2.4330	.580	1.439	2.057	1.614

	Deviation						
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Table 3: Reliability

Relationship Incubator	with	Promises are kept	Incubator is sincere	Incubator performs service correctly	Incubator provides services on time	Incubator keeps interviews and meetings	The incubator provides services as promised	Total
Administrator	Mean	7.00	7.00	6.50	7.00	3.50	3.50	5.750
	N	2	2	2	2	2	2	2.000
	Std. Deviation	.000	.000	.707	.000	4.950	4.950	1.768
Employee	Mean	5.25	5.00	5.00	4.75	4.25	5.75	5.000
	N	4	4	4	4	4	4	4.000
	Std. Deviation	3.500	3.367	3.367	3.202	2.986	.500	2.820
Tenant	Mean	6.48	6.67	5.67	6.33	4.50	6.29	5.988
	N	21	21	21	21	20	21	20.833
	Std. Deviation	.814	.577	2.033	.730	2.524	.784	1.244
Total	Mean	6.33	6.44	5.63	6.15	4.38	6.00	5.823
	N	27	27	27	27	26	27	26.833
	Std. Deviation	1.468	1.396	2.151	1.406	2.639	1.414	1.746

Table 4 Responsiveness

Relationship Incubator	with	Incubator tells exactly what is being performed	Incubator provides prompt service	Incubator is willing to help tenants	Incubator is never too busy for tenants	Total
Administrator	Mean	7.00	7.00	7.00	7.00	7.000
	N	2	2	2	2	2.000
	Std. Deviation	.000	.000	.000	.000	0.000
Employee	Mean	6.25	4.75	4.75	4.25	5.000
	N	4	4	4	4	4.000
	Std. Deviation	.500	3.202	3.202	2.872	2.444
Tenant	Mean	5.81	6.33	6.05	6.10	6.073
	N	21	21	21	20	20.750
	Std. Deviation	1.569	0.658	1.627	.788	1.161
Total	Mean	5.96	6.15	5.93	5.88	5.980
	N	27	27	27	26	26.750
	Std. Deviation	1.427	1.379	1.880	1.423	1.527

Table 5: Assurance

Relationship	with	Incubator	Tenants	Incubator is	Incubator staff	Total
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Incubator		instills confidence in tenants	feel confident in transactions	consistently courteous	is knowledgeable	
Administrator	Mean	4.00	7.00	7.00	6.00	6.000
	N	2	2	2	2	2.000
	Std. Deviation	4.243	.000	.000	.000	1.061
Employee	Mean	3.25	4.25	6.00	4.00	4.375
	N	4	4	4	4	4.000
	Std. Deviation	2.217	2.872	.816	2.708	2.154
Tenant	Mean	5.81	5.86	6.05	5.86	5.893
	N	21	21	20	21	20.750
	Std. Deviation	1.632	1.558	1.572	1.682	1.611
Total	Mean	5.30	5.70	6.012	5.59	5.677
	N	27	27	26	27	26.750
	Std. Deviation	2.072	1.815	1.423	1.866	1.794

Table 6: Empathy

Relationship with Incubator		Incubator gives individual attention	Incubator has convenient operating hours	Incubator staff gives tenants personal attention	Incubator has tenants best interests at heart	Incubator understands tenants specific needs	Incubator understands tenants needs and expectation of facility	Total
Administrator	Mean	7.00	6.50	3.50	7.00	7.00	7.00	6.333
	N	2	2	2	2	2	2	2.000
	Std. Deviation	.000	.707	4.950	.000	.000	.000	0.943
Employee	Mean	3.67	5.00	4.00	4.25	3.75	3.75	4.069
	N	3	4	4	4	4	4	3.833
	Std. Deviation	3.215	.816	2.944	2.872	2.986	2.630	2.577
Tenant	Mean	6.19	5.81	6.05	6.05	5.86	6.19	6.024
	N	21	21	21	21	21	21	21.000
	Std. Deviation	.981	1.632	.973	1.627	1.590	.680	1.247
Total	Mean	5.96	5.74	5.56	5.85	5.63	5.89	5.771
	N	26	27	27	27	27	27	26.833
	Std. Deviation	1.536	1.509	1.888	1.875	1.925	1.423	1.693

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AN INTERGRATED MODEL FOR PRODUCT DESIGN: A CASE OF TFT-LCD

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ABSTRACT

The topic of improving competitive edge to meet rapidly changing technological innovations and dynamic customer needs is important for the survival and success of the companies in the globally competitive markets. Successful new product development (NPD) may lead to a source of new sales and profits; therefore, the development and manufacturing of new products that deliver the quality and functionality customers demand becomes an important task for generating a decent profit for the manufacturers. In this paper, an integrated model for product design is constructed for facilitating the product design process. Through literature review and interview with domain experts, lists of customer attributes (CAs) and engineering characteristics (ECs) for TFT-LCD are prepared first. Fuzzy Delphi method (FDM) is used to select CAs and ECs, and interpretive structural modeling (ISM) is adopted to determine the interdependences among CAs and among ECs. The results are then used to construct a house of quality (HOC) for quality function deployment (QFD), which is incorporated by fuzzy analytic network process (FANP). A case study of the product design process of thin film transistor liquid crystal display (TFT-LCD) in Taiwan is carried out to verify the practicality of the proposed framework.

INTRODUCTION

Successful introduction and acceleration of new product development (NPD) is an important source of competitive advantage, survival and renewal for many organizations (Howell et al. 2006; Lin and Lee, 2008). Product conceptualization is the first and probably the most critical step to the final success of a product, and quality function deployment (QFD) is a well-known tool to consider customer requirements starting from product conceptualization. Currently, there have been a few works that adopted fuzzy set theory and ANP in QFD, such as Büyüközkan et al. (2004), Ertay et al. (2005) and Kahraman et al. (2006). Nevertheless, the product design process is rather complicated, and a simple FANP-QFD model may not be adequate in real practice. Thus, this research proposes a comprehensive product design process that applies fuzzy Delphi method (FDM) to select the more important CAs and ECs, interpretive structural modeling (ISM) to determine the interdependences among CAs and among ECs, and FANP with QFD to complete the process.

TFT-LCD industry is one of the most brilliant industries in Taiwan these days, and its global market share is remarkable. However, the competition of the global market is becoming extremely fierce. Therefore, NPD is essential for a firm to maintain a competitive edge and to make a decent profit in a longer term. A case study is done to apply the proposed model to a TFT-LCD manufacturer in Taiwan to help facilitate its product design process.

The rest of this paper is organized as follows. Section 2 reviews the methodologies adopted in this research. Section 3 proposes an integrated model for product design. A case study of TFT-LCD product design is presented in section 4 to examine the practicality of the proposed framework. Some concluding remarks are made in the last section.

METHODOLOGIES

Quality Function Deployment (QFD)

In a QFD system, there are four phases: product planning, part deployment, process planning and production planning (Zhang et al., 1999; Chen et al., 2004). Each phase contains a matrix, called house of quality (HOQ). The systematic procedure for the first HOQ contains seven steps (Chan et al., 1999; Wang, 1999; Ramasamy and Selladurai, 2004; Lin and Lee, 2008):

1. Obtain customer attributes (CAs). CAs or customer needs can be collected from questionnaire, claim and complaint information, focus groups or individual interviews.
2. Develop engineering characteristics (ECs). ECs are also called design requirements, product features, product technical requirements, engineering attributes, engineering characteristics or substitute quality characteristics (Karsak et al., 2002).
3. Build relationship between CAs and ECs. A relationship matrix is prepared to indicate how much each EC affects each CA, and such a relation can either be presented by a number or a symbol.
4. Complete competitive survey and calculate relative importance of CAs. The product performance of the company and its main competitors is rated so that the competitive positions of the company's product in terms of the CAs can be assessed (Chan et al., 1999).
5. Perform the competitive technical benchmarking. The performance of the company and its main competitors is rated with respect to each EC..
6. Determine the relationships among ECs. A correlation matrix, or "roof", is used to show the positive and negative relationship and the degree of relationship among the ECs. A desirable change in one EC may result in a positive effect, a negative effect, or no effect, on another EC. The correlation facilitates the detection of a resource that can be used for multiple purposes.
7. Calculate the importance of ECs and additional goals. The importance and ranking of ECs are established from the results in step 5 and step 6.

Interpretive Structural Modeling (ISM)

The ISM is applied to understand the interaction among CAs and among ECs,. The procedures are as follows (Warfield, 1974a; Warfield, 1974b; Sage, 1977; Huang et al., 2005; Kannan and Haq, 2006; Lee et al., 2009):

1. List CAs (ECs) considered for the problem, and define each CA (EC) as x_i , $i=1,2,3,\dots,n$.
2. From the CAs (ECs) identified in step 1, establish relation matrix which shows the contextual relationship among the CAs (ECs). Let x_i be the i_{th} CA (EC), x_j be the j_{th} CA (EC), and π_{ij} be the relation between i_{th} and j_{th} CA (EC). If x_i influences x_j , then $\pi_{ij}=1$; otherwise, $\pi_{ij}=0$. If x_j influences x_i , then $\pi_{ji}=1$; otherwise, $\pi_{ji}=0$. The relation matrix D is presented as follows:

$$(1) \quad D = \begin{matrix} & x_1 & x_2 & \dots & x_n \\ \begin{matrix} x_1 \\ x_2 \\ \vdots \\ x_n \\ x_n \end{matrix} & \begin{bmatrix} 0 & \pi_{12} & \dots & \pi_{1n} \\ \pi_{21} & 0 & \dots & \pi_{2n} \\ \vdots & \vdots & 0 & \vdots \\ \pi_{n1} & \pi_{n2} & \dots & 0 \end{bmatrix} \end{matrix}$$

3. Develop reachability matrix and check for transitivity. The initial reachability matrix M is calculated by adding D from step 2 with the unit matrix I :

$$(2) \quad M = D + I$$

The transitivity of the contextual relation means that if a CA (EC) x_i is related to x_j and x_j is related to x_p , then x_i is necessarily related to x_p . The reachability matrix M^* is under the operators of the Boolean multiplication and addition (i.e., $1 \times 0 = 0 \times 1 = 0$, $1 + 0 = 0 + 1 = 1$), and a convergence can be met:

$$(3) \quad M^* = M_b = M_b + 1, \quad b > 1$$

4. Determine the levels and relationships between the CAs (ECs) (Huang et al., 2005). The reach ability set and the priority set are calculated next by the following equations:

$$(4) \quad R(t_i) = \{ x_i \mid m^*_{ji} = 1 \}$$

$$(5) \quad S(t_i) = \{ x_i \mid m^*_{ij} = 1 \}$$

where M_{ij} is the value of the i_{th} row and the j_{th} column.

The levels and relationships between the CAs (ECs) can be determined using the following equation, and the structure of the relationships can be expressed using a graph.

$$(6) \quad R(t_i) \cap S(t_i) = R(t_i)$$

Fuzzy Analytic Network Process (FANP)

After the ISM is used to determine whether there is interrelationship between two CAs (ECs) and the direction of the relationship, FANP is applied to analyze the degree of relationship. The procedures for the FANP can be summarized as follows:

1. Decompose the problem into a network.
2. Prepare a questionnaire based on the constructed network, and ask experts to fill out the questionnaire.
3. Transform the scores of pairwise comparison into linguistic variables, and aggregate the results of the experts' questionnaires.
4. Obtain crisp numbers by defuzzifying the synthetic triangular fuzzy numbers.
5. Calculate the maximum eigenvalues and eigenvectors.
6. Check the consistency property of the matrix.
7. Form an unweighted supermatrix.
8. Form a weighted supermatrix.

9. Obtain the limit supermatrix and the priority weights of the alternatives.

AN INTEGRATED MODEL FOR PRODUCT DESIGN

A systematic process that incorporates FDM, ISM and FANP into QFD is proposed here. The procedure is as follows:

1. Form a committee of decision makers to define the product design problem in a TFT-LCD manufacturer. List all possible CAs and ECs in the product planning phase through interview, questionnaire or brainstorming.
2. Apply fuzzy Delphi method (FDM) to extract CAs and ECs from the candidate lists. Questionnaire is prepared to evaluate the importance of CAs (ECs), and customers, designers and related personnel are invited to fill out the questionnaire. FDM is applied to select the most important CAs and ECs from the candidate lists
3. Use ISM to determine the inner dependence among CAs and among ECs. Note that only the adjacency matrix and reachability matrix are used to construct the relationships of CAs and of ECs. Network structures for CAs and for ECs are plotted.
4. Determine the relationship among CAs and ECs. Since we are interested in whether the satisfaction of a CA may need the achievement of an EC, a questionnaire needs to be sent out to the experts in order to understand whether there is or is not a relationship between each CA and each EC.
5. Construct a HOQ. A HOQ is constructed, as shown in Figure 1. (Hauser and Clausing, 1988; Karsak et al., 2002). Use the inner dependence among CAs and among ECs from step 3 to fill in the left-hand and top triangles by entering an arrow for the influence of one CA to another CA or one EC to another EC. Use the relationship among CAs and ECs from step 4 to fill in the "Relative Importance of the Customer Attributes" in Figure 1. Note that a check is entered if there is a relationship between a CA and an EC.
6. Prepare questionnaire and receive feedback from experts. A questionnaire using Satty's nine-point scale pairwise comparison for ANP is prepared, and related personnel are asked to fill out the questionnaire. In the questionnaire, the relationships between CAs and ECs, the inner dependence among CAs and the inner dependence among ECs based on the HOQ from figure 6 are asked.
7. Implement FANP-QFD. Using the feedback from each expert, matrices are prepared, and the consistency property of each matrix is checked first to ensure the consistency of judgments in the pairwise comparison. The scores of pairwise comparison are transformed into linguistic variables, and fuzzy positive reciprocal matrices are formed next. Eigenvector of each crisp-valued aggregate positive reciprocal matrix is calculated, and is entered into the right position in the unweighted supermatrix. After the unweighted supermatrix is weighted, the weighted supermatrix is then raised to limiting powers to generate a limit supermatrix, which captures all the interactions and obtains a convergence outcome. The priorities of ECs are obtained at last.

TFT-LCD CASE STUDY

With an increasing global demand of information technology, more and more consumers desire TFT-LCD panels with low weight, slender profile, low power consumption, high resolution, high brightness and low radiance. At the same time, the production value of the TFT-LCD industry increases tremendously with many manufacturers expanding their production capacity. An extremely competitive and cost-cutting war is foreseeable as the global TFT-LCD industry enters the mature stage.

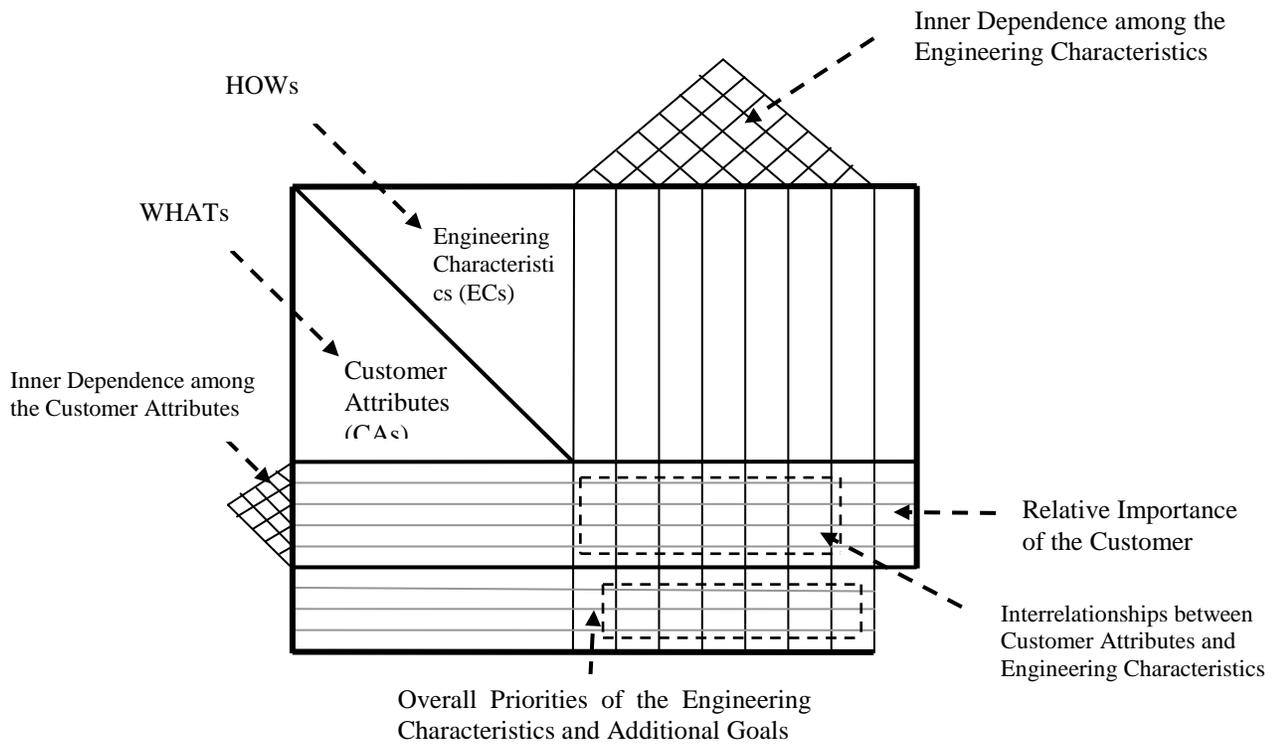
This research, through literature review and interview with experts, focuses on the perspective of consumers to collect CAs and the perspective of manufacturers to collect ECs for TFT-LCD new product development. Since there are numerous CAs and ECs, it is not worthwhile and possible to include all the factors in the NPD process. Therefore, the FDM is applied first to collect the opinions of the experts and to select the most

important factors for further analysis. The procedure and the results of the FDM are presented in Lin and Lee (2008). To limit the number of CAs and ECS, only 6 CAs and 7 ECs are selected as shown in Table 1.

Table 1: Customer attributes and engineering characteristics for TFT-LCD

Customer attributes (CAs)		Engineering characteristics (ECs)	
CA ₁	Low power consumption	EC ₁	Glass cutting technology
CA ₂	Product quality and stability	EC ₂	Backlight module integrated design
CA ₃	High-quality display	EC ₃	Quality control of raw materials
CA ₄	Small variations structure	EC ₄	Quality control process
CA ₅	Rapid delivery	EC ₅	IC power-saving design
CA ₆	Reasonable prices	EC ₆	Power consumption control
		EC ₇	Information Management System

Figure 1. House of Quality (Lin and Lee, 2008)



ISM is applied to determine the inner dependence among CAs and among ECs. Using the CAs (ECs) selected from FDM, relation matrix which shows the contextual relationship among the CAs (ECs) is established for each expert. A questionnaire is prepared to ask the contextual relationship between any two CAs (ECs), and the associated direction of the relation. For example, a relation matrix for CAs formed based on an expert's opinions is as follow:

$$D_i = \begin{matrix} & \begin{matrix} CA_1 & CA_2 & CA_3 & CA_4 & CA_5 & CA_6 \end{matrix} \\ \begin{matrix} CA_1 \\ CA_2 \\ CA_3 \\ CA_4 \\ CA_5 \\ CA_6 \end{matrix} & \begin{bmatrix} 0 & 1 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 & 1 \\ 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 1 & 0 & 0 \end{bmatrix} \end{matrix}$$

The geometric mean of experts' opinions on the relationship between a pair of CAs (ECs) is calculated. A threshold value of 0.5 is used to determine whether the two CAs (ECs) are dependent or not (Yang et al., 2008). That is, a relation matrix is prepared for each expert first, and a mean relation matrix is calculated using the geometric mean method to combine relation matrices from all experts. If the geometric mean value between two CAs (ECs), i. e. $\bar{\pi}_{ij}$, in the mean relation matrix is higher than the threshold value, x_j is deemed reachable from x_i , and we let $\bar{\pi}_{ij} = 1$ (Yang et al., 2008). The integrated relation matrix between CAs is calculated and is as shown in Table 2.

Table 2: Relation matrix among CAs

	CA ₁	CA ₂	CA ₃	CA ₄	CA ₅	CA ₆
CA ₁	0	0.5	0.6	0	0.2	0
CA ₂	0.3	0	0.2	0.6	0.3	0.8
CA ₃	0.6	0.6	0	0.7	0.2	0.2
CA ₄	0.2	0.3	0.2	0	0.3	0.3
CA ₅	0.4	0.7	0	0.3	0	0
CA ₆	0.2	0.4	0	0.2	0	0

$$D = \begin{matrix} & \begin{matrix} CA_1 & CA_2 & CA_3 & CA_4 & CA_5 & CA_6 \end{matrix} \\ \begin{matrix} CA_1 \\ CA_2 \\ CA_3 \\ CA_4 \\ CA_5 \\ CA_6 \end{matrix} & \begin{bmatrix} 0 & 1 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 1 \\ 1 & 1 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix} \end{matrix}$$

The initial reachability matrix M for CAs is:

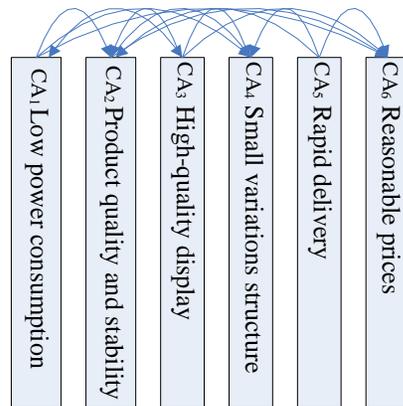
$$M = D + I = \begin{bmatrix} 0 & 1 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 1 \\ 1 & 1 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix} + \begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{bmatrix} = \begin{bmatrix} 1 & 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 & 1 \\ 1 & 1 & 1 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{bmatrix}$$

The final reachability matrix M* for CAs is:

$$M^* = M^3 = M^4 = \begin{bmatrix} 1 & 1 & 1 & 1 & 0 & 1 \\ 0 & 1 & 0 & 1 & 0 & 1 \\ 1 & 1 & 1 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 1 & 1 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{bmatrix}$$

Based on M^* , the inner dependence among the six CAs can be depicted as in Fig. 2. The same procedure can be carried out for determining the inner dependence among ECs.

Fig. 2: Inner dependence among CAs



CONCLUSION

In this research, a systematic process that incorporates FDM, ISM and FANP into QFD is proposed for new product development. Through comprehensive literature review and interview with experts, a list of CAs that customers perceive as important for a TFT-LCD panel and a list of ECs that may be necessary for TFT-LCD panel were prepared. The most important factors from the CA and EC lists were selected by the FDM. The ISM was applied to determine the inner dependence among CAs and among ECs. The results were used to construct the HOQ. In the future, the priorities of CAs and ECs will be generated through FANP so that the inner dependence among CAs and among ECs and the linguistic uncertainty of experts can be incorporated in the calculation. The proposed model can help designers to systematically consider relevant NPD information and effectively determine key CAs and ECs for designing and manufacturing of new products.

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COMMUNICATION AND BRAND KNOWLEDGE AS DETERMINANTS OF RETAIL SERVICE BRAND LOYALTY- AN EMPIRICAL TEST IN A MULTIPLE RETAIL SERVICE BRAND CONTEXT

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ABSTRACT

Retail service brands as a powerful differentiate identity in retail landscape. The study examined retail service retail service competing brand model of the influence of competition on brand equity formation process in consumers' consideration set. Among the responses were refusals and unusable responses, resulting in 173 and 91 usable responses in convenience and cosmeceutical store, respectively. And the data was examined through PLS (Partial Least Square) structural equation analysis to test the hypotheses.

Planned communication brought negative influence on brand loyalty to a competitor brand in retail format of convenience store. In the retail format of cosmeceutical store, only when strong brand knowledge was established in the minds of consumers and they identify with the brand value of the retail service store, they reduce their loyalty with a competitor brand.

INTRODUCTION

The power of a brand lies in the minds of consumers, and the added value enjoyed by a retailer as a result of the role played by its brand - in the thoughts, words, and actions of consumers - is known as retail service brand equity. A strong retail service brand can generate a range of benefits, including: (i) the ability to leverage a retailer's name by launching a private label (Ailawadi and Keller, 2004); (ii) increased revenue and profitability, relative to competitors (Woodside and Walser, 2007); (iii) value to investors who seek to extract financial value from the brand name (Ailawadi, Lehmann, and Neslin, 2001); and (iv) perceptions of reduced cost and risk among customers (Berry, 2000; Lee, Hui and Hsu, 2007).

Consequently, a better understanding of retail service branding, such Starbucks and Mcdonald's strategy is essential for retailers and researchers alike. In recent years, retailers facing an increasingly competitive marketplace are finding it more difficult to distinguish their stores from others (Baker, Grewal and Parasuraman, 1994), in a challenging market environment with increasingly demanding consumers (Pappu and Quester, 2006).

The competing effects that exist between retail service brands is an important phenomenon in the branding process. A strong retail service brand can be communicated to establish, maintain and enhance relationships with consumers (Kim et al., 2008). Previous studies have acknowledged the influence of competition in explaining loyalty intentions and behaviors (Laroche and Toffoli, 1999; Laroche et al., 2005), but relatively few studies actually have incorporated the viewpoint of dynamic competition in a formal way (Laroche et al., 2005; Tversly, 1969; Woodside and Cloket, 1974;), especially with respect to retail service brands. The motivation of the present study, therefore, concentrates on competing retail service brands to present a real marketing phenomenon that can always be ignored, and to explore competitive comparisons in consumers' brand-choice process.

This paper attempts to analyze and understand the process through which consumers become loyal to a retail service brand. First, the paper identifies the key constructs that play a role in the basic consumer-brand relationship. Next, the theoretical foundation established in the first section is used to build a conceptual

framework and specific hypotheses. The methodology used to examine this framework is described. Lastly, results of the research are reported and discussed. The paper closes with a discussion of the findings and its implications for the brand manager, researcher and the opportunities that remain for further research.

CONCEPTUAL BACKGROUND AND HYPOTHESIS

Competitive Effect

Consumers receive many retail service brand messages. Some brands send a strong message and invoke vivid awareness in consumers' minds; whereas others have little impact. Laroche (2002) noted that competition among retail service brands is present at all stages in the consumer decision-making process, and Keller (1993) contended that the process is continuous and sequential during the formation of loyalty intentions. However, several authors have pointed out that consumers focus on comparisons of only a few brands to reduce cognitive complexity (Bettman, 1979; Lussier and Olshavsky, 1979; Brisoux and Laroche, 1980).

A competitive situation thus exists among retail service brands in the consumer's consideration set (Laroche, 2002; Laroche et al., 2005). Given two different retail service brands in a retail landscape, the consumer is more likely to choose the brand that is communicated well and perceived to have greater retail service brand equity than the competing brand (Laroche et al., 2005).

Processed among all salient store attributes, consumers generally hold brand image and awareness and brand loyalty toward retail service brands within their consideration set (Macdonald and Sharp, 2003). A *consideration set* is that set of brands that are considered at a prior stage in the choice process, often portrayed as having its origins in the retrieval of information from memory (Biehal and Chakravarti 1986; Nedungadi, 1990; Lehmann and Pan, 1994). A consideration set also is a relatively effortless process aimed at simplifying the more burdensome final task of choosing (Bettman, 1979; Huber and Kline, 1991). Thus, brands in the consideration set tend to satisfy the minimum needs of the consumer for the intended use (Lehmann and Pan, 1994). Furthermore, those alternatives that obviously is not acceptable or not worth considering are excluded from further consideration in the choice process (Chakravarti and Janiszewski, 2003).

HYPOTHESES DEVELOPMENT

Relationship between Communication and Retail Service Brand Knowledge

Several scholars have noted that a retailer's planned communication of the store attribute, retail mix, plays an important role in the construction of retail service brand equity (Becker-Olsen and Hill, 2006; Berry, 2000; de Chernatony, Cottan, Segal-Horn, 2006; Duncan and Moriarty, 1998; Sjödin and Törn, 2006). *Planned communication* can make positive brand evaluations readily accessible in the memory of a consumer (Farquhar, 1989); but Herr and Fazio (1992) noted that favorable brand evaluations only guide perceptions and behavior if those evaluations can be instantly invoked. Planned communication can create overall brand image and awareness of the retail service brand and increase the probability that the brand is included in a given consumer's consideration set (Cobb-Walgren et al. 1995).

The contention that a consumer's perception equity toward a particular brand depends on the retailer's communication strategy of that brand and her/his perceptions of the competing brands finds support in numerous studies (Laroche et al. 2005; Laroche and Toffoli 1999). Woodside and Clokey (1974) were the first to propose that a consumer's beliefs toward competing brands partially impact her/his perception toward a focal brand and in turn determine her/his intention to buy that brand. The study, therefore, argued that evaluations of the focal brand through focal brand planned communication might affect the consumer's brand knowledge and loyalty toward that brand, while resulting of reduce amount of purchase toward competing brands. For example, consumers will shop to a focal brand instead of competing brands because of sales promotion. No brand message exists in a vacuum: it competes with other brands. Thus, that one consumer's general perceptions of other communication messages may have effects on her/his brand image and awareness toward the focal brand. Therefore,

H₁: Consumers' perceptions of effective and appropriate planned communication regarding a focal retail service brand have a positive impact upon their brand knowledge and brand loyalty of the focal brand; and a negative impact on brand loyalty upon their competing brands.

Unplanned communication means information customers received about retailer service brand that essentially is uncontrolled by the retailer. Friend/family recommendation and non-paid social responsibility are the most common channels that consumers can receive the messages of retail service brand (Berry, 2000; Grace and O'Cass, 2005). Although consumers may have brand knowledge and loyalty from retailer's planned communication, from friends/family of publicity (unplanned communication) was the other important source to receive brand message (Berry, 2000).

In the competitive retail landscape, the consumption advantages that he/she will acquire, such as more convenience, saving more time or money, will influence consumers' conversion behavior among stores. If consumers can not perceive the benefit instantly, they will change their attitude instead of purchase behavior. Therefore, unplanned communication of retail service brand will strengthen their brand knowledge and brand loyalty of focal brand and decrease brand knowledge of competing brand. The related hypothesis is:

H₂: Consumers' perceptions of effective and appropriate unplanned communication regarding a focal retail service brand have a positive impact upon their brand knowledge and brand loyalty of the focal brand; and a negative impact upon their competing brands.

Relationship between Retail Service Brand Knowledge and Brand Loyalty

Consumer perceptions of retail service brand equity represent a key factor in their loyalty intentions (Keller, 1993). Bowen and Shoemaker (1998) noted that loyal consumers make more frequent purchases than non-loyal consumers, because of specific associations with brand image of retail service brand. Brand knowledge, brand awareness and brand image, plays a crucial role in determining the consideration set to which a consumer pays serious attention when making a purchase (Howard and Sheth, 1969; Narayana and Markin, 1975). High levels of brand knowledge increase the probability of the retail service brand being chosen, generate greater consumer retail service brand loyalty, and reduce vulnerability to competitive marketing actions (Keller, 1993).

Laroche and colleagues (2005) have proposed a model of intentions in which different brands compete, in accordance with their overall brand evaluations, to determine a consumer's intention to choose a specific brand. According to the model, a consumer's intention to buy a focal retail service brand is determined not only by her/his formed knowledge with respect to the focal retail service brand, but also by her/his perceived equity with respect to other retail service brand brands (Berry, 2000). Therefore, a consumer's choosing behavior of a retail store depends upon their level of brand knowledge. The following hypothesis is generated:

H₃: Consumers' positive brand knowledge of a focal retail service brand have a positive impact upon their brand loyalty, with respect to the focal retail service brand; and a negative impact upon their brand loyalty, with respect to competing retail service brands.

METHOD

Sample Retrieval

As last chapter discussed, the survey questionnaire was requested executive of stores to invite 1,000 and 300 consumers to fulfill in the convenience store and cosmeceutical store. To avoid demand effects, lengths were taken to make sure that participants did not know the researcher personally. In total, 482 responses of convenience and 130 responses of cosmeceutical store were returned for a 48.2%, 43.3% response rate. The respondents who indicated only the first two popular brands in the consideration set measure were included in the analyses for the two-retail service brand case. Among the responses were refusals and unusable responses, resulting in 173 and 91 usable responses in convenience and cosmeceutical store, respectively.

More than half of the customers who responded was female (64.7% in convenience store, 84.4% in cosmeceutical store), most were range from 18 to 25 years of age (52.3% in cosmeceutical store and 18 to 30 years old in convenience store. Those who had a collage degree were 61%(convenience store) and 79.3%(cosmeceutical store). And the disposal income per month is NT\$10, 000 to 30,000 near to 60% in these two retail formats.

Consideration Set

In the competitive retail service brands questionnaire, the consideration of retail service brands was measured by the following two questions: (1) if you were to select a convenience store/cosmeceutical store, which one would be?, and (2) suppose, for whatever reason, your choice in the question above was not available, indicate the other convenience stores/cosmeceutical store which you would consider selection.

Assessing The Measurement Model

The study chose partial least squares (PLS) structural equation analysis to test the hypotheses. The adequacy of the measurement model is determined by examining internal consistency and convergent and discriminant validities (Hulland, 1999). Internal consistency is assessed by examining the loadings of the measures with their respective constructs. A generally accepted rule of thumb is to accept items with loadings of 0.5 or above, which suggests that there exists more shared variance between the construct and its measures than error variance (Barclay, Thompson and Higgin, 1995). The loading value in both retail service brand A and retail service brand B was shown to have good results (all above 0.5). An internal consistency of component reliability is developed by Fornell and Larcker (1981). It is similar to Cronbach's alpha (Barclay et al., 1995), and can be similarly interpreted. As the composite reliability coefficients range from 0.73 to 0.87, in all cases, are appreciably higher than the recommended value of 0.7 (Bagozzi and Yi, 1998) and the value of AVE for each construct is larger than 0.5. Therefore, all measures of reliability exceed, and thus are deemed to be reliable.

The square root of each construct's average variance extracted (AVE) is larger than its correlations with other constructs demonstrated the discriminant validity. Thus, the constructs in sample of retail service brand A or retail service brand B were both well defined (Bagozzi and Yi, 1988; Gerbing and Anderson, 1988).

ANALYSIS AND RESULTS

Hypotheses And Model Testing

The explanatory power of the structural model is evaluated by looking at the R^2 value in the final dependent construct. Because the study measures retail service brand equity in two retail formats. The study first represents results for retail service competitive brands in convenience store. Next, the study represents results for retail service competitive brands in cosmeceutical store. To examine the specific hypotheses, the study assessed the t-statistics for the standardized path coefficients and calculated p-value based on a two-tail test.

Table 1 outlines the results of the retail service competitive brands in convenience store model. If consumers select a retail service brand in convenience store as a priority, the brand is focal brand (FB) in consumer's mind, the second choice of retail service brand is competing brand (CB). No matter in convenience store or cosmeceutical store, the estimates of the structural parameters show that the planned communication of the focal brand positively impacts her or his brand knowledge and brand loyalty toward that brand. Although one would expect the planned communication of the focal brand to negatively influence her or his brand loyalty toward the competing brand, the competitive relationship were significant in convenience store but not in cosmeceutical store. Hence, the results of H_1 were supported in convenience store, but partially supported in cosmeceutical store.

In convenience store, brand loyalty in the focal brand increased while she or he received unplanned communication of the same brand increases. On the contrary, the brand knowledge did not decrease while she or he received unplanned communication of the focal brand increases. Therefore, H_2 was partially supported in convenience store. In cosmeceutical store, there is no significant effect between unplanned communication of focal brand and brand knowledge both focal brand and competing brand, brand loyalty of focal brand. Thus, H_2 was not supported in cosmeceutical store.

No matter in convenience store or cosmeceutical store, as expected individual's brand loyalty vis-à-vis the focal brand is positively influenced by her or his brand knowledge toward that brand. However, a consumer's brand knowledge in one brand negatively influences her or his brand loyalty toward the competing brand is happened in cosmeceutical store. The results partially support H_3 in convenience store and support H_3 in cosmeceutical store.

Table 1: The results of retail service brand competing model

	Constructs		Expected direction	Path coefficient	t-value	Results	
	From	To					
H₁	Planned communication (FB)	Brand knowledge (FB)	+	0.76	14.07***	Supported	
		→ Brand loyalty (FB)	+	0.61	6.21***		
		Brand loyalty (CB)	-	-0.13	-1.84*		
	Planned communication (CB)	Brand knowledge (CB)	+	0.72	14.30***		
		→ Brand loyalty (CB)	+	0.44	4.37***		
		Brand loyalty (FB)	-	-0.11	-1.86*		
Convenience store	Unplanned communication (FB)	Brand knowledge (FB)	+	0.06	1.53	Partial Supported	
		→ Brand loyalty (FB)	+	0.09	1.67*		
		Brand knowledge (CB)	-	-0.07	-1.56		
	Unplanned communication (FB)	Brand knowledge (FB)	+	0.06	1.08		
		→ Brand loyalty (FB)	+	0.24	2.90**		
		Brand knowledge (CB)	-	-0.07	-1.56		
H₃	Brand knowledge (FB)	→ Brand loyalty (FB)	+	0.18	1.98**	Partial Supported	
		Brand loyalty (CB)	-	-0.03	0.77		
	Brand knowledge (CB)	→ Brand loyalty (CB)	+	0.22	2.54**		
		Brand loyalty (FB)	-	0.05	0.93		
Cosmetical store	H₁	Planned communication (FB)	Brand knowledge (FB)	+	0.73	12.53***	Partial Supported
			→ Brand loyalty (FB)	+	0.50	3.39***	
		Planned communication (CB)	Brand loyalty (CB)	-	0.04	0.36	
			Brand knowledge (CB)	+	0.85	15.31***	
	H₂	Unplanned communication (FB)	→ Brand loyalty (CB)	+	0.37	1.78*	Not supported
			Brand loyalty (FB)	-	0.04	0.37	
		Unplanned communication (FB)	Brand knowledge (FB)	+	0.08	1.23	
			→ Brand loyalty (FB)	+	0.09	1.37	
	H₃	Brand knowledge (FB)	Brand knowledge (CB)	-	-0.07	-1.32	Supported
			→ Brand loyalty (FB)	+	0.06	1.04	
		Brand knowledge (CB)	→ Brand loyalty (FB)	+	0.13	1.12	
			Brand knowledge (CB)	-	0.04	0.69	
H₃	Brand knowledge (FB)	→ Brand loyalty (FB)	+	0.73	12.53***	Supported	
		Brand loyalty (CB)	-	-0.22	-1.77*		
	Brand knowledge (CB)	→ Brand loyalty (CB)	+	0.26	1.73*		
		Brand loyalty (FB)	-	-0.22	-1.65*		

Note: ***p<0.01, **p<0.05, *p<0.1; value in parentheses are t-value.

DISCUSSION AND IMPLICATIONS

Theoretical Contribution

Brand has always been regarded as an important asset of an enterprise, and retailers do everything they can to convey the meaning of their stores to consumers. In spite of this effort, in the free market environment, free competition between businesses has made such 'noises' a challenge for marketers who are trying to

communicate with consumers. As a consequence, this study, different from former investigation of only a static environment in related studies of retail service brands, has included in its model the factor of dynamic competitive environment. The results show that competition between retail service brands does exist and the effects of loyalty behavior vary in different contexts. This finding enriches the results of related studies in the past and helps verify the theory of dynamic competition on the market. Simultaneously, the consumer choice between retail service brands and an accumulation of brand knowledge also becomes clearer.

PRATICAL CONTRIBUTION

For Convenience store chains

Competition affects between brands only when they appear in the consumer consideration set. With the convenience store chain, the questionnaires filled by inquiring consumers on the focal and competing retail service brands under their consideration set revealed the top or second choice. Planned communication from a convenience store would have positive influence on consumer brand knowledge and in turn have a positive effect on consumer brand loyalty. Other than that, planned communication can influence consumer brand loyalty both positively and directly.

Interestingly enough, planned communication brought a negative influence on brand loyalty to a competing brand. In other words, whether the retail service brand was the first or second choice of a convenience store, the planned communication of a retail service brand would determine consumer switching behavior between brands. This finding may be attributed to the fact that the objective of a retail service brand is to meet the immediate needs of consumers. As long as the commodities a store provides are acceptable to consumers, consumer shopping behavior is directly affected. Nevertheless, when a certain product is available only at a certain convenience store or when there is a differentiated promotion in progress, consumers will be attracted to that convenience store to make purchases and the likelihood of their shopping with a competitor store is also then reduced. Therefore, for convenience store chains, convenience, unique merchandise items of merchandise and attractive promotions are factors that can affect consumers' choice of retail service brands.

For Cosmeceutical chains

The questionnaire filled in by inquiring consumers about the top and second choices of cosmeceutical brands in their minds (focal or competing brand choice), planned communication would have a positive affect on consumers' brand knowledge and in turn their brand loyalty. Likewise, planned communication could also have direct, positive influence on consumers' brand loyalty.

Different from the convenience store chain, however, the cosmeceutical brand was unable to reduce consumer shopping for a competing brand through planned communication. Only when strong brand recognition was established in the minds of consumers and they identified with the brand value of the retail service store, would they reduce their shopping of a competing brand. Therefore, for cosmeceutical brands, brand knowledge build-up is even more important. This aspect may be because their products deal with the health and safety of consumers; consumers, therefore, are more likely to develop strong reliance on such products. Once they have a good impression of a certain brand and are able to distinguish it from its competitors, their loyalty to the brand they trust and their rejection/refusal of other brands will naturally develop and be sustained.

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THE DIMENSIONAL DEVELOPMENT OF TAIWANESE MATERIALISM

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ABSTRACT

This study attempts to understand Taiwanese materialists' attitudes, and find the key factors influencing Taiwanese materialism development. Materialism is always regarded as the western cultural value, and there is no research to discuss the cultural difference of materialism in the Chinese society. This study reviewed the construct and tried to clarify the concept of materialism in the Taiwanese culture. Quantitative analysis was used to find the dimensions of materialism in Taiwan. The results found that Taiwanese materialists place possession and acquisition as the nature of their lives. The results also indicated that the original concept "material possession" is still the basic assumption of Taiwanese materialists. It influences Taiwanese materialists' internal values and external behaviors. Internal values include "confirmatory", "money-Orientation", "possession pleasure", and "material satisfaction." External behaviors contain "over-consumption", "opinion leadership", "show-off", "impulsive buying", and "opportunistic investment."

INTRODUCTION

"Materialism" is often used to describe one's vanity and the pursuit of wealth and social position; all of his or her behavior depends on "money". The Oxford English Dictionary defines materialism as "the tendency to consider material possessions and physical comfort as more important than spiritual values." The well known Confucian spirits of diligence, saving and simplicity have been faded away in Taiwan for the strong invasion of the western concept materialism. A recent survey of "labor's sense of well-being" by 104 Human Resource Agency, the biggest job searching website, (2008) indicated that "money" represents worker's happiness index mostly. Up to 69.2% workers defines "well-being" by their own financial condition. Unlike the previous research mentioned that Chinese major care is on interpersonal relationships, Zhan (2005) found that what Nexter Generation concern is money and it has dominated their life quality. Under the prevalence of over-consumption, the problems of credit card debt arise which resulted in increasing rate of commit suicide and crimes. All of them waste numerous social resources (Chen, 2005). Nan (2004) analyzed the above phenomenon and considered that "over-consumption", the product of "materialized" value, is just personal problem at first. However, once the custom popularizes, it is developed a social-economic crisis in Taiwan. Apparently, the above description shows that the western Materialism has been popular in the Taiwanese society. After reviewing the previous research, the researcher found that it is a lack of related researches on the phenomenon and the comparison of the cross-cultural materialism. Furthermore, consumption-oriented societies exist all over the world. The impact of the strong western culture on Taiwan has been apparent in recent years due to the media communication and the rapid invasion of the western culture. In addition, some scholars pointed out that the western superior culture has formed capitalism in Taiwan and invade the traditional Chinese values. Therefore, it is very important to explore the profile of materialism in Taiwan.

Yang (1993) suggested that traditional and modern values co-exist in the current Taiwan. Bindley (1989; 1990) viewed “materialism” as one of the four impact source of Taiwanese modern values, even though Confucian ethics is attributed to be the success of East Asian economics (King, 1992), Huang (1993) considered that the traditional Confucian nature has transformed to be the mean. He explained that under the East Asian society has shifted from agricultural system to industrial and commercial systems, modern Chinese individual may use traditional ways of “being fond of learning, practicing with vigor, and possessing the feeling of shame” which were used to cultivate one's character to acquire Western technique or knowledge. In this way, what he or she is for is not the morality but career achievement. Such multi-values caused Chinese general concern on individualism, materialism, utilitarianism, and pragmatism. As mentioned above, Chinese society has been westernized by globalization.

While the concept and scale of materialism were developed in the west, yet they are not investigated well in Taiwan. Excluding Lin and Hsu (2008) explore the concept the local materialisms in Taiwan, most related research still follow the western concept directly (Huang & Wu 1988), and discussed the relationship between materialism and impulsive purchase behavior only (Chang, 1999; Yang, 2001; Zheng, 2003; Wang, 2004). Although Chang (2004) had contributed to more aspects on Taiwanese incline to materialism such as he discussed the influences of young consumer family communication patterns on materialism and compulsive buying (1999) and also the relationship among trait of vanity, materialism and price perception among college students (2004), the overall integration of the important concept: *the existed Taiwanese Materialism* is absent so far.

Actually, the western concept of materialism applied in Taiwan is questionable cross- culturally. Chang (2004) used the materialism scale developed by Richins and Dawson (1992) for Taiwanese college students. He found that the result is quite different from the original one. The primitive scale has three dimensions, acquisition centrality, possession-defined success, and acquisition as the pursuit of happiness. However, the Taiwanese version only has two dimensions, acquisition centrality and possession-defined success. The group characteristics and cultural differences may influence the measure testing as taking the western scale. Thus, it is necessary to develop a Taiwanese Materialism scale.

In sum, the generous inclination of money-orientation, over-consumption, and credit card debt has proved that western materialism has been strongly impacting on individual values and social development in Taiwan. However, the current literature related to materialism is insufficient for understanding the prolife and comparing and contrasting in analysis between the west and Chinese values. As mentioned above, materialism is under the cultural context. Further, the related materialism scale for Taiwan has not developed well. Most of scholars still adopted the western version and scale directly and ignored the effect of the Chinese cultural values on the Taiwanese materialism. Therefore, this study attempts to investigate the possible dimension and context of materialism, and construct an adequate Taiwanese materialism.

THEORETICAL BACKGROUND

The Definition of Materialism

The socio-economic reality is continuously and rapidly updated and as a consequence the concept of materialism has become of great interest to those in marketing and consumer research (Belk, 1995; Muncy & Eastman, 1998). Oxford English Dictionary defines “materialism” as “a tendency to consider material possessions and physical comfort as more important than spiritual values.” Belk (1984) defines that materialism is the consumer tendency which “reflects the importance a consumer attaches to possessions.” A materialist is fascinated by possessions which determinate their satisfaction of life. Seeking material leads his or her beliefs and behaviors. In the other words, materialists pay too much attention on the thoughts and behaviors of getting and possession. Rokeach (1973) considered materialism is the value which reflects a view of possessing materials and is a form guiding to the necessary and satisfied goal. Chang (1999) believed that a materialist sets the acquirement of materials as their first goal and an important life style. Material itself is the most superior and the most valuable. In short, a materialist does not only focus on the eventual concrete material but also the

abstract process of getting them. The occupation of materials is materialistic person's life purpose and the source of life satisfaction.

The Development of Materialism in Taiwan

There have been few direct points related to materialism in Chinese society historically. The result comes from the popular Confucian norm of “rightness is better than benefits.” However, it does not prove that the shortage of materialism. In the discussion of “Confucian mentality”, Weber (1964) mentioned that Chinese emphasis on fortune existed actually. They even consider wealth is sacred. Chinese is the only one which paralyzes material and exceeding kindness among all the civilized countries. Weber considered that materialism has emerged in the Chinese society roughly, yet their virtue of saving, tendency of greed, and concern on riches do not lead the spirit of capitalism as the west (King, 1983).

According Lin and Hsu’s (2008) study of materialism in Taiwan, they found that the differences between Taiwanese materialism and the western Materialism are because of cultural, geographical and some reasons. Taiwanese history of immigration and unstable politics so that they have stronger desires on material possession compared to outside Chinese. Pervious rapidly economic growth and current financial recession caused Taiwanese to develop the unique values of materialism. On the other hand, under the influence of the western values of individual achievements, Taiwanese had focused on individualism and materialism. Brindley (1990) and Huang (1993) considered such westernized trend and traditional international relationship bring Taiwanese values to “Chinese individualism.” Present materialism in Taiwan corresponds to the above theories while consuming and possessing materials have become dominant social values (Lin, 2006). Thus, the affect of materialism is beyond the imagination. However, the ground of Taiwanese materialism is unlike the western countries since the latter came from the prosperous economics.

DIMENSIONAL DEVELOPMENT

The purpose of developing initial scale is for purification and testing the dimensions of Taiwanese materialism. Self-administered questionnaire with rating on five-point Likert scale were sent 983 pieces. The response rate is around 89.6% with the 881 copies of scales. Responses from these representative samples of Taiwanese were analyzed. This section intends to develop the initial items of Taiwanese materialism. Two professors in the fields of marketing and psychology were invited to develop and judge the linguistic expressions of each statement about materialism. The initial 127 scale items represented the nature of Taiwanese materialism. The criteria for item reduction are factor loading, item-total correlations, and interitem correlation. All above items were examined by Kaiser-Meyer-Olkin (KMO) test of sampling adequacy and the Bartlett test of sphericity. First, items that failed to load significantly, below .40 on one factor are deleted. Next, if the item-total correlation is above .70, the item will be deleted. Finally, according to the factor analysis, items failed to exhibit simple structure on any factor and were deleted. Furthermore, a greater of the interitem correlation is sought. 48 items are remained in the phrase. 48 items were examined by factor analysis.

Table 1: Factor Analysis Results

Variable	Factor Loading									
	1	2	3	4	5	6	7	8	9	10
Factor 1 (Alpha= .906)										
134. I feel happy when I buy products.	.818									
36. I am full of energy when I buy products.	.793									
118. I enjoy the process of buying products.	.770									
60. Buying products make my life full of pleasure.	.752									
86. My desires to buy products are infinite.	.513									
Factor 2 (Alpha= .768)										

98. I love luxury things.	.801
114. Luxury products make me feel confident.	.771
99. Owning luxury products is always my main concern.	.760
117. I always focus on the information about luxury products.	.624
35. I only focus on the pleasure from possess the products.	.594
*2. Luxury products mean nothing to me.	.548
Factor 3 (Alpha= .840)	
45. I always buy things that I have no chances to use.	.733
79. I always feel regretted after shopping.	.674
126. I usually do not use things I bought.	.612
75. I usually purchase things without thinking.	.596
139. I buy things without following my original plan.	.498
115. I am always out of control when I buy things.	.463
Factor 4 (Alpha= .800)	
84. Materialistic satisfaction means life quality.	.663
63. Sufficient material represents happiness.	.634
23. Good material life is more important than other things.	.631
34. Life full of materials means a high quality life.	.594
47. The happiness in my life mainly comes from materials.	.453
Factor 5 (Alpha= .776)	
16. I use money without any limitations.	.719
*102. I will consider my economic conditions into consideration while buying products.	.673
14. I always spend over the maximum amount of credit cards easily.	.599
70. My spending exceeds my budgets.	.567
Factor 6 (Alpha= .772)	
9. When I have new things, I will try to let others notice them.	.735
66. I like to show my own stuff to others.	.702
50. I feel satisfied while I show up something I bought.	.612
40. I hope things I own can catch others' attention.	.573
29. I will show something to others but pretend to be nothing.	.550
Factor 7 (Alpha= .729)	
78. I like to make big money in a short period.	.752
105. I like to make money through the way of the high profit return.	.735
18. I hope to accumulate the wealth quickly.	.630
128. I think opportunistic investment is a good way to make money.	.458
Factor 8 (Alpha= .712)	
32. I teach others how to purchase products.	.670
68. Other people ask me before making buying decisions.	.663
93. I can guide other people's purchasing decision.	.634
133. Other people will follow what I bought.	.600
15. I know where I can buy the best products.	.420
Factor 9 (Alpha= .769)	

120. I feel security with having money.											.798
119. I only feel happy when I have money.											.576
17. I am willing to do anything if I can get money in the end.											.527
125. Money is everything.											.526
Factor 10 (Alpha= .647)											
49. I am worried about buying things that others do not like.											.685
95. I feel sad when others criticize things I bought.											.564
89. I take others' opinion into consideration while I purchase things.											.563
21. I want to buy things conformed to others' values.											.515
Variance Explain (%)	19.406	7.173	6.308	4.953	4.631	3.646	3.126	2.816	2.684	2.504	
Accumulated Variance Explain (%)	19.406	26.579	32.887	37.84	42.471	46.117	49.243	52.059	54.74	57.23	

After the above process for selecting ten factors, two researchers, one professor in marketing and one graduate student majoring in psychology read through the data together. They began to identify categories based on the research questions. These categories included context, defining and naming of materialism. As identifying each dimension, they also wrote detailed explanations about what these dimension meant and continued adding to these explanations and previous literatures as they made through the original data. The above ten factors were named and then classified into three categories. The brief resultant dimensions and categories are introduced in Figure 1.

Basic Assumption

Material possession

Materialists quite concern material possession so that their emotional arousal of materialists is much stronger than others on the process of seeking materials. They eager to products with an urge and excitements easily compared to others in the shopping process. However, human's desire never ends. Therefore, materialists' dream of sufficiency does not come true.

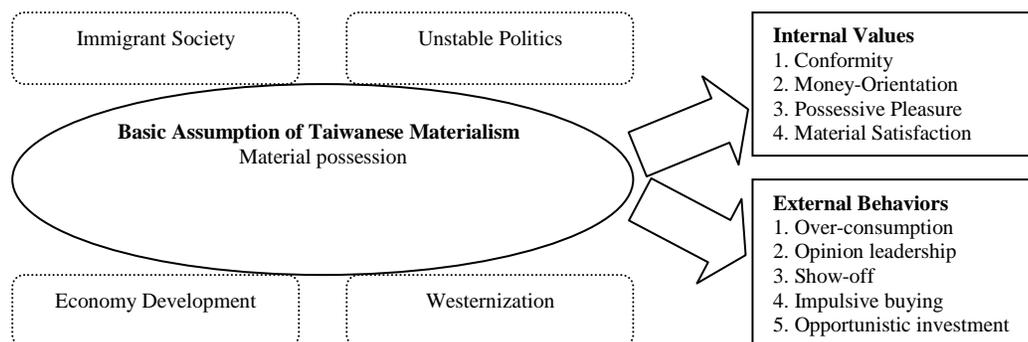


Figure 1: The Conceptual Framework of Taiwanese Materialism

Internal Values

1.Conformity: Materialists concern others' evaluation and material possession excessively. Like an old Taiwanese says that “In spite of owing the inferior talents or abilities, one has to have superior imposing manner”, materialists have conformity inclination to avoid others' contempt. What they go after is an equal foothold which guarantees to their confidence. On the one hand, materialists always addict to the comparison of the amounts of materials and regard the behavior as their source of happiness and self-esteem. Such motivation

drives them to care about current fashion; otherwise, they would feel that they fall behind others. On the other hand, they spend much time and energy seeking for the objects as others have owned.

2. Money-Orientation: Money is a social prototype of general equivalence in the society. It is an inevitable contingency factor of getting and accumulating social resources (Ye, 1993). Therefore, money is a means of material acquirement in the surface, but it also implies the characteristics and meaning of material on its own. It even could be seen as an access to other materials. While materialists are under the spell of materials, they can not ignore money, “a symbolically generalized medium of interchange”, naturally. The status of money is as high as materials in materialists’ mind since they believe that “money talks”. The satisfaction from money causes their endless pursuit of money.

3. Possessive Pleasure: As go after materials, the emotional arousal of materialists is much stronger than others for their extravagant concern on the possessions of materials. Therefore, materialists are eager to occupy objects rather than others.

4. Material Satisfaction: Materialists’ cares about materials influence their perception on life. Their “happiness of life” depends on the amounts of material. Strictly speaking, what materialists want is a rich life. The quality and quantity of materials dominate their life satisfaction.

External Behaviors

1. Over-consumption: Materialists spend extravagantly and make budget unbalanced for their unsatisfied material desires or impulsive purchasing behaviors.

2. Opinion Leadership: Materialists enjoy dominating materials and collecting product information. Gradually, they are familiar with data of materials and like to share them to others.

3. Show-off: Materialists’ achievement is in the basis of materials which bring them satisfaction.

4. Impulsive Buying: Materialists consider owning and buying materials as their life focus. They care their strong purchase needs and desires.

5. Opportunistic investment: Materialists’ money attitude is risky. They incline to the industry of high profit to gain extortionate profits. Investment is like gambling for them. Materialists take all available measures for money.

GENERAL DISCUSSION

Materialism is always regarded as the western cultural value, and it is no research to discuss the cultural difference of materialism in the Chinese society. This study reviewed the construct and tried to clarify the concept of materialism in the Taiwanese culture. The results found that Taiwanese materialists place possession and acquisition as the nature of their lives. The results also indicated that the original concept “possession” is still the basic assumption of Taiwanese materialists. It influences Taiwanese materialists’ internal values and external behaviors. Internal values include “confirmatory”, “money-Orientation”, “possession pleasure”, and “material satisfaction.” External behaviors contain “over-consumption”, “opinion leadership”, “show-off”, “impulsive buying”, and “opportunistic investment.” From the above findings, the researcher found that there are some similar dimensions between the Taiwanese and western countries. These dimensions are as follows: (1) Money-orientation; (2) Possessive Pleasure; (3) Material Satisfaction. Conversely, the Taiwanese materialism is also different from the western materialism under the unique Chinese cultural context. For example, “conformity” is absent in the western literature. The reasons may come from Chinese value about “face” (mian zi), which is the product of collectivism and traditional culture. It causes Chinese highly acumen of external evaluation. While the materialist often judges one’s status by the external materials, they emphasize others’ appraisal inevitably.

IMPLICATION AND CONTRIBUTION

This study makes an important contribution to materialism literally. It provides a theoretically derived definition of a construct, Taiwanese materialism, which has not been formally defined before. The definition provides a linkage with the traditional Chinese value on and westernization on consumers' materialistic behaviors. Prior to this research, no clear constructs or measurements existed to explore the materialism in the Chinese society. The development of a measure of Taiwanese consumer materialistic attitudes with excellent psychometric properties provides consumer behaviorists with an opportunity to empirically examine this important consumer characteristic, especially under the Chinese context. Finally, over-consumption and cash card debtor have become big problems in Taiwanese society. Public security and household problems occur in a large amount because of these. Many consumers are under the status of over-consumption, impulsive buying, and speculative investing. These are the core of the study of materialists' behaviors. Materialists also emphasize the importance of material possessions which is the basic value. The result of this paper can let the government and companies understand the people's value of over-consumption and money-orientation. It will make them have a deeper understanding toward the context of materialistic behaviors. By doing these, government can provide appropriate solutions for these consumers and prevent social problems from over-consumption.

FUTURE RESEARCH SUGGESTIONS

The differences in political system and subculture among Taiwan, China, and Hong Kong make people's consumption attitudes and values different. If following researchers can magnify the objects of study to Taiwan, Hong Kong, and Mainland China, the results will be very different. Furthermore, each generation has its unique values. It will be interesting to discover people's values and differences toward materialism in different ages by separating them from ages and groups.

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A SCALE DEVELOPMENT FOR CHINESE CONSUMER'S AESTHETIC JUDGMENTS ON PRODUCT DESIGN IN TAIWAN

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ABSTRACT

Aesthetic consumption is an important issue today. The study attempts to develop a scale for Chinese consumer's aesthetic judgments (CCAJ). SEM was used in this study. 725 samples proved the CCAJ scale's seven dimensions: utility, conformity, simplicity, appeal, westernization, rarity, and originality. 30 items were developed for CCAJ. The examination demonstrated that CCAJ has appropriate reliability and validity: (1) The Cronbach Alpha of CCAJ is .883; (2) The stability reliability is .896; (3) The high correlations of CCAJ and the other related three scales showed CCAJ has stable criterion-related validity. Finally, this study found that today Chinese consumer's aesthetic attitudes reflect the mixed values of Chinese traditional values and western cultural influences.

INTRODUCTION

Aesthetic consumption is concerned increasingly for its determination of consumer intention and behavior, such as aesthetic responses are focused on both academic and practical fields in recent years (Olson, 1981; Veryzer, 1995). Due to the improving living standard, consumers have been taken eyes on product aesthetics gradually (Eckman & Wagner, 1995). The phenomenon that consumers prefer hedonic products in the postmodern society represents their intention to show their personalities or pursuit of exciting experiences (Lagier & Godey, 2007). Aesthetics allows people to express their taste and lifestyle undoubtedly.

The stress on aesthetics could be reflected by the universal prevalence of the design industry. Take Taiwan as example, design marketing, the indicator of fashion and aesthetics, has been raised in the past half decades increasingly. In 2004, the total number of workers in design service industries was 1.7 thousands, and its sales amounted to 425 millions. In the next year, the total number of workers in design service industries was 1.9 thousands, and its sales amounted to 503 millions. Until 2006, the total number of workers in design service industries was 2.3 thousands, and its sales amounted to 557 millions. Apparently, the index presented that the design labors and their output have been grown (Council for Economic Planning and Development, 2008). In the meanwhile, a special issue in Taiwanese magazine *30* (2007), called "Mei Li Xue (a subject of aesthetic competence)," stressed that aesthetic taste is capable for individual to improve their life quality. Also, aesthetics makes a business to refine its brand images. One book called *Welcome the Coming of the Aesthetic Society* by Xiao and Liu (2001) deliver the present importance of aesthetics as well. Therefore, the study attempts to cover three elements: consumer, product and Chinese consumer in all, since none of previous study explore the specific field. On the basis, a reliable and valid scale is developed.

THEORETICAL BACKGROUND

Aesthetics

The Oxford English Dictionary (2008) defines "aesthetics" as "a set of principles concerned with the nature of beauty, especially in art", and "the branch of philosophy which deals with questions of beauty and artistic

taste.” Aesthetic judgment is the eventual result of the aesthetic experience. Leder, Belke, Oeberst, and Augustin (2004) illustrated that the function of “aesthetic judgment” includes pleasure and self-rewarding of for their explanation of their model of aesthetic appreciation and aesthetic judgments. Yu (1992) indicated four characteristics of the Chinese aesthetics: spiritual, united, decorative, and primitive. Besides, one Chinese scholar Zhu (2003) mentioned that aesthetics with features on abstraction and being far from practical needs, such as physical satisfaction, presents to the scarcest value and human spirits in life. Csikszentmihalyi and Robinson (1990) pointed that when human draws on more attention on something with a clear and conscious mind, then he or she accesses the moments of “heightened state” and have such experiences. It is difficult to define the experience belongs to cognitive side, affective side, or emotional side (Maybe all of them are involved). In short, aesthetic experiences involve several aspects: (1) affection; (2) emotion; and (3) cognition. Aesthetic judgment is the eventual result of the aesthetic experience.

The previous research on aesthetics covers two directions. First one is the question of “*what is beauty?*” A stimuli (either an artwork or non-artwork or a product) was used. Participants’ personal background (sex, age, personality or art training years) were often used to be the moderators. Examples are Esthetic Sensitivity (Child, 1964; Götz, Borisy, Lynn, & Eysenck, 1979) Aesthetic Judgment Ability (Bamossy, Johnston, & Parsons, 1985). On the other hand, some studies focused on “*how do they appreciate...*” or “*what are behind the appreciating experiences*” Examples are Csikszentmihalyi and Robinson (1991) explored the art professional workers’ aesthetic experiences; Bloch, Brunel, and Arnold (2003)’s investigation on Individual Differences in The Centrality of Visual Product Aesthetics (CVPA), Lagier and Godey (2007) tested Aesthetic Style in the Field of Luxury and Art Products.

In short, **aesthetic judgment** indicates to individual’s mental process to distinguish or choose what he or she thinks an external object is beautiful. Furthermore, **customer aesthetic judgment** refers to customer’s perceived aesthetic preferences to evaluate those product attributes and consequences arising from use that facilitate achieving the customer’s goals and purposes.

Aesthetic Consumption

Although aesthetics had considered cultural field, many scholars argued that product is qualified for discussing with aesthetic view due to its aesthetic elements. For example, Leder et al. (2004) mentioned that “There is no doubt that art is the prototypical domain for questions of aesthetic research but other objects may also be treated as aesthetically relevant...considerable progress in understanding which faces are found aesthetically pleasing or what design in everyday objects such as cars is aesthetically appreciated.” Similarly, Veryzer (1999) consider that consumers themselves have the rights to determine the level of product aesthetics. Patton (1999) mentioned that consumers’ aesthetic judgments are filled with the power of promotion and persuasion for marketing. Thus, it is practical to involve aesthetic issues in the consumer research.

The Importance of Understanding Local Aesthetics

Culture is an important source of people’s values (Kluckhohn, 1951; Hoebel, 1960; Hofstede, 1980), which may influence their aesthetic experience as well. Cultural impact is able to change one’s aesthetic preferences since human is social animal. Many study results supported the view point (refer to Kim & Markus, 1999; Furnham & Alibhai, 1983; Rowland, 1964; Sullivan, 1989). Lin (2001) argued that cultural differences should be considered in aesthetic research. The term and the concept of “aesthetics” may not apply to non-Western cultures, such as Chinese, Indian, African, and other countries. Peng (adopted from Song, 2004) also indicated the differences between the aesthetics in the West and the East clearly. First, the Western aesthetics concerns on logic and dialectics; Chinese aesthetics is undefined and ambiguous. Secondly, the Western aesthetics separates the subjects from the objects; Chinese aesthetics stresses on the union of the subjects and objects. That is why it is hard to find the aesthetic stages such as romanticism or expressionism as the former. Thirdly, Western aesthetics cares for the contradiction sides as Chinese aesthetics favors of harmonizing with the conflicts.

Actually, a single vision on aesthetics is doubtful. We could see the case of the upswept eaves, a peculiar architectural form in China. Its function of linking the substance (roofs) and the abstraction (the sky) may be incomprehensible for foreigners.

SCALE DEVELOPMENT PROCEDURE

The procedure contained both qualitative and quantitative approaches. According to the interview data and related literatures, the initial 132 scale items, represent Chinese consumer aesthetic judgments. The items include six dimensions: utility (27 items), conformity (26 items), simplicity (23 items), appeal (18 items), westernization (12 items), uniqueness and creativity (26 items). Three graduate students majoring product design judged the content validity, and 23 items are reduced for the inconsistency of these dimensions. In sequence, three scholars in designs, psychology and consumption fields were invited to judge the linguistic expressions of each statement according to the six dimensions. 90 items were reminded in the step. Consequently, the researchers administered a small pilot sample (n = 30). After the further evaluation, 46 items were left.

Item Reduction and Reliability Testing

The purpose of developing initial scale is for purification and testing reliability and validity. The 300 respondents were Taiwanese college students, coming from convenient sample and participated voluntarily in regular class sessions. Self-administered questionnaires were conducted in classes, and all the respondents handed in immediately, the response rate is over 95% with the 286 copies of scales. Descriptively, half of respondents are female (59.8%); Ages are ranging from 18 to 24 (81.1%); Education is at college (99%); respondents' occupation is unrelated to art or design (97.9%) and their average personal monthly income is less than 10,000 New Taiwan Dollars, equals to 33 U.S. Dollars (70.3%) currently.

The 46 items of Chinese Consumer Aesthetic Judgment were input into an exploratory factor analysis (EFA) to examine the factor structure and disclose underlying latent factors. The sum of the Variance Explain is up to 50%, it means that the scale is acceptable. The items and their factor loadings are as below: (1) The first factor captured simplicity with the item 21(.823), item 22(.820), item 19(.817), item 20(.815), item 23(.813), item 18(.747) and item 24(.677); (2) the second factor is originality with the item 55(.883), item 54 (.854), item 56 (.802), item 52 (.752), item 53(.700), and item 51 (.694); (3) the third factor captures appeal with the item 37 (.866), item 36 (.806), item 35 (.741), item 39 (.707), item 33 (.700), item 34 (.692), and item 38 (.674); (4) the fourth factor captures westernization with the item 44 (.848), item 45 (.837), item 42 (.798), item 43 (.754), item 41 (.729), and item 40 (.695); the fifth factor is conformity with the item 15 (.725), item 12 (.716), item 11 (.703), item 14(.694), item 10 (.689), item 13 (.675), and item 9(.583); (6) the sixth factor captures utility with the item 2(.836), item 1 (.802), item 4 (.775), item 3 (.720), and item 5 (.676); (7) the final factor is rarity with the item 49 (.786), item 47 (.720), item 50 (.703), and item 48 (.691). Each Eigen-value (Variance Explained) of these factors are: 18.709 (18.709%), 11.709 (30.418%), 9.052 (39.470%), 7.415(46.885%), 6.941(53.827%), 4.971(58.798%), 3.411(62.209%), and 2.610(64.819%) respectively. The final four items fail to materialize.

These dimensions correspond to the interview data. Here, the original second factor uniqueness and creativity loaded separately, as the second and the seventh factor. The researchers labeled the second factor as originality and the seventh one as rarity. The items of originality are "A product with innovation is more beautiful," "Creative product design is more beautiful," "A product with new ideas is more beautiful," "Unusual product design is more beautiful," and "Unique product design is more beautiful." As to the items of rarity are "Uncommon product design is beautiful," "Rare product design is more beautiful," "Exclusive product is more beautiful," and "A limited edition product is more beautiful." Furthermore, the criteria for reduction are factor loading, item-total correlations, and interitem correlation (see Table 1). All items were examined by Kaiser-Meyer-Olkin (KMO) test of sampling adequacy and the Bartlett test of sphericity. First, items that failed to load significantly, below .40 on one factor are deleted. 4 items were deleted. Next, if the item-total correlation is above .70, the item will be deleted. 34 items are remained. Finally, according to the factor analysis, four items failed to exhibit simple structure on any factor and were deleted. Furthermore, a greater of the interitem correlation is sought. **30 items** are remained in the phrase.

Table 1: Item Reduction

Scale and item	Loading	Item- Total Correlation	Alpha if Item Deleted
Factor 1: Simplicity			

21. Product design with simple patterns is more beautiful.	.823	.845	.886
22. Product design with simple patterns is more beautiful.	.820	.842	.887
19. Product design with simple lines is more beautiful.	.817	.822	.890
20. Modest product design is more beautiful.	.815	.823	.890
23. Product design with simple style is more beautiful.	.813	.832	.888
18. <i>Simplicity is an important indicator of the product appearance.</i>	.747	.764	.899
24. <i>Product design with few or pure colors are more beautiful.</i>	.677	.706	.910
Factor 2: Originality			
46. A product with innovation is more beautiful.	.883	.875	.887
45. Creative product design is more beautiful.	.854	.849	.893
47. A product with new ideas is more beautiful.	.802	.800	.901
43. Unusual product design is more beautiful.	.752	.868	.889
44. <i>Novel product design brings a sense of beauty.</i>	.700	.793	.903
42. Unique product design is more beautiful.	.694	.814	.900
Factor 3: Appeal			
28. A beautiful product is pleasing.	.866	.849	.842
27. A beautiful product causes me want to touch.	.806	.791	.851
26. <i>A beautiful product is looked well.</i>	.741	.723	.862
30. A beautiful product gives me excitement.	.707	.768	.857
24. <i>A beautiful product makes me feel good.</i>	.700	.704	.864
25. A beautiful product speaks to me.	.692	.750	.861
29. <i>A beautiful product can touch my hearts.</i>	.674	.742	.842
Factor 4 :Westernization			
35. Product design with Western thoughts is more beautiful.	.848	.873	.858
36. A product imported from the Western countries is more beautiful.	.837	.848	.863
33. Most beautiful product design comes from the Western countries.	.798	.817	.871
34. <i>I think beautiful product design has Western characteristics.</i>	.754	.768	.879
32. <i>Product design that is popular in the Western countries is very good.</i>	.729	.788	.875
31. <i>I believe product design in the Western countries is more beautiful than domestic ones.</i>	.695	.752	.887
Factor 5: Conformity			
15. Product design that most people value is beautiful.	.725	.778	.800
12. I agree others' preferences on product appearances.	.716	.716	.812
11. Product design following fashion is beautiful.	.703	.720	.815
14. Product design, which most people like it, is more beautiful.	.694	.708	.814
10. <i>I will buy the product that most people think it beautiful.</i>	.689	.708	.816
13. My consideration for product appearances depends on most people's thoughts on product design.	.675	.728	.812
9. <i>I agree general preferences on product appearances.</i>	.583	.625	.830
Factor 6: Utility			
2. A beautiful product has practical values.	.836	.830	.782
1. A beautiful product has its functions.	.802	.801	.793
4. A beautiful product makes my life more convenient.	.775	.808	.794
3. A beautiful product can satisfy my needs in real life.	.720	.745	.819
5. <i>A beautiful product's operation is easy.</i>	.676	.728	.834
Factor 7: Rarity			
40. Uncommon product design is beautiful.	.786	.878	.762
38. Rare product design is more beautiful.	.720	.764	.840
41. Exclusive product is more beautiful.	.703	.836	.800
39. A limited edition product is more beautiful.	.691	.824	.803
Items failing to material as a factor			
<i>An easy-used product is more beautiful.</i>	.746		
<i>A friendly -used product is more beautiful.</i>	.727		

<i>In my opinion, utility is essential for product appearances.</i>	.562
<i>A beautiful product usually fits the public views.</i>	.534

Note: *Italics* denote items eliminated through purification.

Finally, the researchers reexamined the 30 items under the seven dimensions again. The above 30 items certainly fall into the seven factors. According to the above, the researchers defined the dimensions of **the Chinese consumer aesthetic judgments** (it will be abbreviated to CCAJ) as follows: (1) **Utility**, which means that a product has a nice quality, and makes one's life convenient; (2) **Originality**, which indicates a product is creative or innovative; (3) **Simplicity**, which refers to the product forms or visual elements on the product appearances, such as lines, pattern, and so on are neat or plain; (4) **Conformity**, which refers to the popularity among reference group; (5) **Appeal**, which indicates that a product is able to evoke hedonic and moving feeling and affection; (6) **Westernization**, which refers to a product has the Western images; and (7) **Rarity**, which refers to a product is unique or limited edition.

The Examination of Reliability and Validity

The purpose of obtaining and analyzing the initial validation sample was to examine and confirm dimensionality, reliability, and validity. 725 questionnaires were distributed. The respondents were college students. The response rate is over 95%. The raw data from the second data collection effort were assembled, coded and manually entered into a data file in SPSS 12.0 for Windows. The final sample size after data cleaning was $N = 704$. To make sure the quality of the CCAJ scale, the researchers examined the validity and reliability in the following.

Internal consistency is the extent to which tests assess the same quality. The total Cronbach Alpha of the 30 item scale was .883, demonstrating the excellent internal consistency for the items of the scale. The 30-item CCAJ scale was distributed to 30 college students and graduate students. Two weeks later, the same respondents were invited to test again as the above procedure. The result of the stability reliability of the item by item correlations and the overall scale correlations are with an excellent total stability reliability, .896, and it is also significant at the $p < .01$ level. Among these seven dimensions in the test-retest reliability, all correlations were significant at the $p < .01$ level as well, ranged from .606 to .896. The above is reported as a satisfactory reliability

As for the validity, the researchers carried out expert validity, construct validity, and the criterion related validity in the section. Three graduate students majoring product design judged the content validity, and examined items for the inconsistency of these dimensions. In sequence, three scholars in designs, psychology and consumption fields were invited to judge the linguistic expressions of each statement according to the dimensions and their definitions.

To evaluate construct validity, the constructed model was examined with Structural Equations Modeling (SEM). The items applied the above result scale of Chinese consumer's aesthetics are with the 30 items, seven dimensions: utility, conformity, simplicity, appeal, westernization, rarity, and originality, as the above mentioned. As Table 2 indicated that the fit indices of the model are acceptable level as follows: the $\chi^2 = 1618.81$ ($p < .05$); Comparative fit index (CFI) = .94; Incremental fit index (IFI) = .94; Non-normed fit index ($NNFI$) = .93; Root mean squared error of approximation ($RMSEA$) = .071; Standardized root mean residual ($SRMR$) = .05; and Parsimony Goodness of Fit Index ($PGFI$) = .71. The other fit indices are below the recommended cut-off as the previously notes: $GFI = .86$; $NFI = .93$; $PGFI = .71$. Excluding χ^2 , GFI , and $AGFI$, most indices fit the following overall model standards.

Table 2 : Fit Indices of the 30-item CCAJ

Fit Indices	χ^2	<i>df</i>	χ^2/df	<i>GFI</i>	<i>SRMR</i>	<i>RMSEA</i>
Model	1618.81	384	2.4	.86	.05	.071
Overall Model Fit Standard	$p > .05$		< 3	> .90	< .06	< .08
Fit Indices	<i>NFI</i>	<i>NNFI</i>	<i>CFI</i>	<i>IFI</i>	<i>PGFI</i>	<i>AGFI</i>
Model	.93	.93	.94	.94	.71	.83
Overall Model Fit Standard	> .90	> .90	> .90	> .90	> .50	> .90

The criterion related validity was evaluated according to concurrent and predictive validity. A survey was containing CCAJ in addition other three conceptually related scales: CVPA, Romanticism Index in the Romanticism—Classicism Index designated by Holbrook and Olney (1995) for consumer traits and Materialism Scale (Richins & Dawson, 1992) which is used to capture the consumer value with three constructs (acquisition centrality, acquisition as the pursuit of happiness, and also possession-defined success) as administered to college and graduate students (part-time students are involved). Their copy pieces were: 704, 158, and 260, respectively. The first related scale employed here was CVPA. The correlation between CCAJ and CVPA is supposed to be positive, since the higher aesthetic judge ability is scored, the higher the centrality of aesthetics is. Their correlation is $r = .405$ ($p < .01$). Secondly, the CCAJ scale was assessed relative to the Romanticism items from Romanticism-Classicism Index. It is expected that a consumer who scores high in the CCAJ scale, he or she has more romantic senses to enjoy beauty, since a romance- orientation leads to beauty preference. The result indicated that the correlations between CCAJ and Romanticism Index also reach acceptable level ($r = .203$, $p < .05$). It indicated that the correlations between CCAJ and Romanticism Index also reach acceptable level ($r = .203$, $p < .05$). The final related scale employed here was a measure of materialism developed by Richins and Dawson (1992). Bloch et al. (2003) assumed that consumers with high inclination on CVPA (the introduction as the above) should have more desires to get beautiful products, so that their desires of owning materials should be high. In the similar vein, in the study, it is supposed that the higher aesthetic sense, maybe the higher the desire to acquire and possess materials. It is shown that an acceptable level of reliability in the correlations between CCAJ and materialism, with .225. The result corresponds to our prediction that once a consumer has the higher the aesthetic senses, he or she wants more materials.

GENERAL DISCUSSION

According to a series of literature reviews and deep interviews the researchers found that there are six dimensions about their aesthetic judgments: utility, simplicity, conformity, appeal, westernization, uniqueness and creativity. Confirmatory factor analysis demonstrates the stability of the factor solution. Further, the validity is supported by the other three related scales. The purification identified 30 items which fall into seven dimensions: (1) utility; (2) originality; (3) simplicity; (4) conformity; (5) appeal; (6) westernization; (7) rarity. The above results imply that Chinese consumers' aesthetic judgments reflect their regional and historical cultural background, especially the factors in the CCAJ: utility, conformity, simplicity and appeal. Among these dimensions, only "simplicity" represents product surface on design, others come from psychological values. On the other hand, the dimensions, including westernization, originality, and rarity may be affected by the west. We could see the global media communication has invaded Chinese culture. Also, as the results showed that Chinese consumers considering simplicity and utility are important considerations of beautiful product design, it is worthy to consider that the opposite concept may also exists in their appreciating lists. Besides, the special purposes (e. g. gift-giving, ritual celebration, or festival affairs) and the concern on "face/mianzi," may also influence Chinese consumer's appreciation on product aesthetics. Finally, the pervasion of globalization may make the boundary between the eastern and the western aesthetics unclear. However, Chinese consumer's appreciation views may incline to the westerners, yet they must look back their old and traditional local aesthetic elements in the meanwhile. The re-creation of consumer's own rooted culture is an inevitable way as consumers' aesthetics has developed over a period.

Implication for Future Research

This study provides a solid fundament for a number of future research endeavors, yet the product design in the study only focused on limited visual elements, and ignored other related elements. People actually depend on their vision in life, such as shopping; however, different kinds of products and product attributions may influence consumers' aesthetic views, such as the brands, place, promotion, and price, as well. Schmitt (1999) indicated five experiential strategy models for consumers: sense, feel, think, act, and relate experiences. These concepts could be applied for consumer's aesthetic experiences, since consumers' evaluations form at the first moment as they get in touch in the shopping environment.

Contributions of the Research

This research makes a couple of important contributions to both practical and academic fields, especially in consumer behavior. First, the study provides a theoretically derived definition of Chinese Consumer Aesthetic Judgments, which offers theoretical clarity of Chinese appreciating concepts applied to product design under their social and historical background. For methodological contributions, prior to the study, there are no existing scales to measure this construct which prevented empirical examination of the construct and its relationship with other related constructs. The scale offers a concrete illustration and insight to the consumer researchers to examine this important consumer aesthetic tendency empirically. Finally, the theoretical development of this construct along with the construction of an empirical measure allows marketers and advertising agents to understand consumer preferences. Advertising strategy has already focused on consumer aesthetic levels, yet may not have figured out the full profiles of Chinese consumers. As the efforts on developing Chinese consumer's views on the aesthetic viewpoints of products, marketing practitioners enables to design and develop products or advertisements fitting to consumers' taste. Consumer is not a passive role but a subjective creator: they dominate the market direction and product value. This tells marketers that Chinese consumers' aesthetic judgments may involve both of the Eastern and Western aesthetic elements which mean that the business developers should be more creative to apply the mixed global elements.

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A PRELIMINARY STUDY OF THE PRODUCTION STRATEGY EVALUATION MODEL

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ABSTRACT

An ever-increasing trend in today's firms is to exploit various kinds of production strategies, such as joint venture and outsourcing, in the attempt to acquire reasonable profits and to be competitive in the market. The decision processes are complicated and with a high degree of uncertainty. Since every production strategy has its strengths and weaknesses, which one is the most suitable for a firm to carry out is a difficult decision the management needs to make. This research, thus, proposes a product strategy evaluation model that can facilitate such a decision making. Literature review and interviews with experts are done first to list the criteria under the benefits, opportunities, costs and risks merits, and fuzzy Delphi method (FDM) is applied next to select the most important criteria under each merit. A network is constructed to incorporate the selected criteria. Fuzzy analytic network process (FANP) is then applied to consider the interdependence and feedback among criteria, and group decision making is used to generate consensus of experts. Lastly, the proposed model is applied by a PCB manufacturer in evaluating production strategies.

INTRODUCTION

Firms, in order to be competitive, often needs to adopt new technologies, achieve economies of scale and scope, serve global markets, change product range regularly, and satisfy customers through high quality and timely delivery (Raiborn et al., 2009). Since very few firms have resources and competencies to meet all of these diverse needs, production strategies must be devised and carried out successfully. Outsourcing, the transferring of internal production functions of good or services to an external provider, has become an important approach, and competitive advantage may be gained if products or services are produced more effectively and efficiently by outside suppliers (Cao and Wang, 2007; Yang et al., 2007). In the past, outsourcing was adopted for non-core activities with the purpose of helping firms to reduce costs and concentrate on their core competency (Cao and Wang, 2007). To these days, outsourcing has become popular in every area of business, including manufacturing, engineering, research and development (R&D), information services, new product development and marketing (Cao and Wang, 2007; Kahraman et al., 2008). Strategic alliances, inter-firm cooperative arrangements aimed at pursuing mutual strategic objectives, have various types, including joint ventures, joint R&D, contracted R&D, joint production, product bundling, joint bidding, co-marketing, licensing, and code-sharing (Das and Teng, 2003; Lee, 2008). Many firms are looking to outsourcing or some kind of strategic alliance for a variety of benefits, such as cost savings, increased flexibility, reduced cycle time, improved service quality, improved information visibility, improved business focus, better access to the state-of-the-art technology, and shared risk (Cao and Wang, 2007; Kahraman et al., 2008; Whipple et al., 2009). On the other hand, there are shortfalls for the relationships, such as loss of control, loss of innovation, loss of organizational trust, deteriorated quality, degradation of service, lack of cost reduction, higher-than-expected transaction costs, and disagreement between parties (Cao and Wang, 2007; Raiborn et al., 2009).

The rest of this paper is organized as follows. Section 2 reviews the methodologies adopted in this research. Section 3 proposes a model for production strategy evaluation. A case study of PCB manufacturer is presented in section 4 to examine the practicality of the proposed framework. Some concluding remarks are made in the last section.

METHODOLOGIES

Fuzzy Delphi Method (FDM)

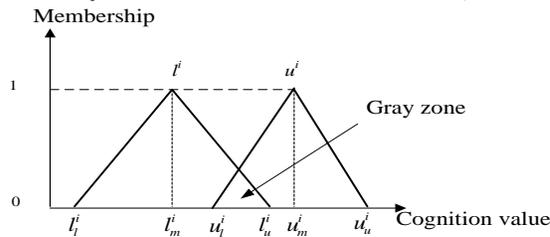
The Delphi method, proposed by Dalkey and Helmer in 1963, can facilitate forecasting by converging a value through the feedback of experts after several rounds. The method has some shortfalls (Chang et al., 2000; Chang and Wang, 2006), and the fuzzy Delphi method (FDM) can be applied to solve some of the problems. The procedures are as follows (Ishikawa et al., 1993; Chang et al., 1995; Chang and Wang, 2006; Hsiao, 2006; Lin and Lee, 2008):

1. Conduct a questionnaire and ask experts for their most pessimistic (minimum) value and the most optimistic (maximum) value of the importance of each factor in the possible sub-criteria set S in a range from 1 to 10. A score is denoted as:

$$(1) \quad c_i = (l_{ik}, u_{ik}), i \in S$$

2. Select the minimum and maximum values and calculate geometric mean of the group's most pessimistic (minimum) index and the values of the most optimistic (maximum) index for each factor. Determine the triangular fuzzy numbers for the most pessimistic index and the most optimistic index for each factor. The triangular fuzzy number for the most pessimistic index is $l^i = (l_i^i, l_m^i, l_u^i)$ and for the most optimistic index is $u^i = (u_i^i, u_m^i, u_u^i)$.
3. Inspect the consensus of experts' opinions and calculate the significance value for each factor. As shown in Figure 1, the gray zone, the overlap section of l^i and u^i , is used to inspect the consensus of experts in each factor and to calculate the consensus significance value of the factor, s^i .

Figure 1. Gray zone of l^i and u^i (Lin and Lee, 2008).



4. Extract factors from the candidate list. Compare consensus significance value with a threshold value, T , which is determined by experts subjectively based on the geometric mean of all s^i . If $s^i \geq T$, select factor i for further analysis.

Fuzzy Analytic Network Process (FANP)

Analytic network process (ANP) approach, proposed by Saaty (1996), is a generalization of the AHP. ANP has overcome some of the shortcomings of the AHP; however, it still cannot effectively handle problems with imprecise information (Ayağ and Özdemir, 2007; Chang et al., 2007; Lin and Hsu, 2007; Lin and Lee, 2008). Fuzzy set theory can be introduced to the conventional ANP to resolve this difficulty, and this new method is called the fuzzy ANP (FANP). An example of the procedures for the FANP is as follows:

1. Decompose the problem into a network.
2. Prepare a questionnaire based on the constructed network, and ask experts to fill out the questionnaire.
3. Aggregate the results of the experts' questionnaires. The scores of pairwise comparison can be transformed into linguistic variables by the transformation concept. Employ geometric mean approach to aggregate

multiple experts' responses.

4. Obtain crisp numbers by defuzzifying the synthetic triangular fuzzy numbers.
5. Calculate the maximum eigenvalues and eigenvectors. Use the defuzzified values to form pairwise comparison matrices first. Calculate the maximum eigenvalue, and the eigenvector for each matrix (Saaty, 1980).
6. Check the consistency property of the matrix. The consistency index (CI) and consistency ratio (CR) are calculated (Saaty, 1980). When a CR value exceeds the threshold, an inconsistent judgment is indicated. The experts would need to revise the original values in the pairwise comparison matrix.
7. Form an unweighted supermatrix. The eigenvectors from Step 5 are entered in the right positions to form an unweighted supermatrix.
8. Form a weighted supermatrix. A weighted supermatrix is obtained to ensure column stochastic, that is, every column in the weighted supermatrix needs to sum to one.
9. Obtain the limit supermatrix. By taking the weighted supermatrix to $2k+1$ powers, the supermatrix will converge into a stable supermatrix, the limit supermatrix. The priority weights of the alternatives can be obtained from the limit supermatrix.

Benefits, Opportunities, Costs, and Risks (BOCR)

The benefits, opportunities, costs, and risks (BOCR) concept is one of the general theories of the ANP and was also proposed by Saaty (1996). A network can be decomposed into four sub-networks: benefits, opportunities, costs, and risks. The priorities of the alternatives under B, O, C and R are combined to get a single outcome for each alternative. There are basically five ways to combine the scores of each alternative under B, O, C and R (Saaty, 2003; Lee, 2008):

1. Additive
Relative priority for alternatives = $bB+oO+c(1/C)+r(1/R)$
where B, O, C and R represent the synthesized results and b, o, c and r are normalized weights of B, O, C and R subnets, respectively.
2. Probabilistic additive
Relative priority for alternatives = $bB+oO+c(1-C) \text{ Normalized} +r(1-R) \text{ Normalized}$
3. Subtractive
Relative priority for alternatives = $bB+oO-cC-rR$
4. Multiplicative priority powers
Relative priority for alternatives = $B^b O^o [(1/C)\text{Normalized}]^c [(1/R)\text{Normalized}]^r$
5. Multiplicative
Relative priority for alternatives = BO/CR

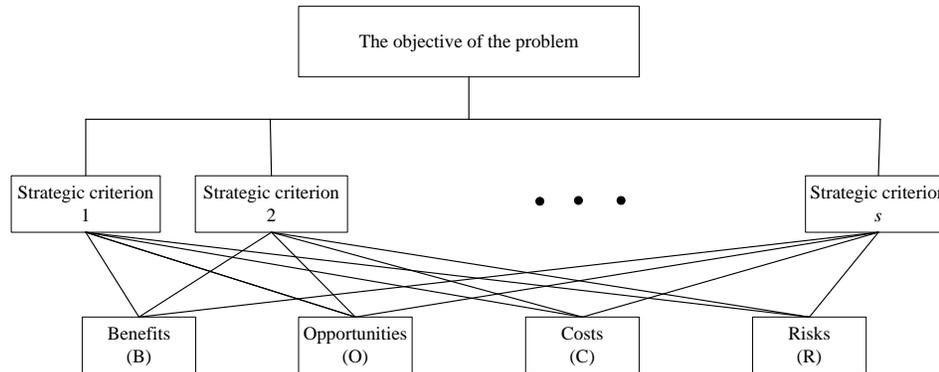
THE PROPOSED MODEL

A systematic model is proposed here to solve the production strategy problem. The steps are as follows:

- Step 1. Form a committee of experts in the industry and define the production strategy problem. List all possible factors of benefits, opportunities, costs, and risks of production strategies.
- Step 2. Construct a control network for the problem. A control network contains strategic criteria and the four merits, benefits, opportunities, costs and risks, as depicted in figure 2 (Saaty, 2005).

Step 3. Determine the priorities of the strategic criteria. A questionnaire with Saaty's nine-point scale is prepared to obtain pairwise comparison results of the importance of strategic criteria toward achieving the overall objective. The scores of pairwise comparison are transformed into linguistic variables, and a fuzzy positive reciprocal matrix is formed for each expert. Use the geometric mean method to form an aggregate fuzzy pairwise comparison matrix for all experts, and apply Centroid method to defuzzy the fuzzy numbers in the aggregate fuzzy pairwise comparison matrix. After a crisp-valued aggregate positive reciprocal matrix is formed, calculate synthesized priorities of the strategic criteria.

Figure 2: The control hierarchy (Lee, 2009).



Step 4. Determine the importance of benefits, opportunities, costs and risks to each strategic criterion. A five-step scale is used. Aggregate experts' opinions by the geometric mean method, and apply Centroid method to defuzzy the fuzzy numbers. The crisp weights of the strategic criteria are normalized.

Step 5. Determine the priorities of the merits. Calculate the priority of a merit by multiplying the score of a merit on each strategic criterion from step 4 with the priority of the respective strategic criterion from step 3 and summing up the calculated values for the merit. The calculated priorities of benefits, costs, risks and risks are b, o, c and r, respectively.

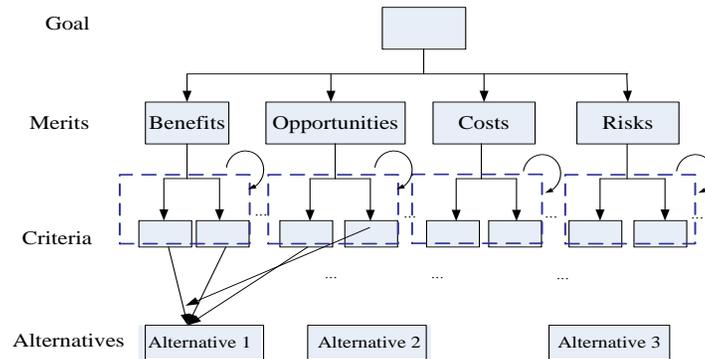
Step 6. Apply FDM to extract factors from the candidate lists of benefits, opportunities, costs, and risks. Questionnaire is prepared to evaluate the importance of factors, and experts are invited to fill out the questionnaire. By applying FDM, the factors with a consensus significance value greater than or equal to the threshold value is selected for each list.

Step 7. Decompose the product strategy problem into a network with four sub-networks. Based on the select factors for benefits, opportunities, costs, and risks from Step 6, a network in the form as in figure 3 is constructed.

Step 8. Formulate a questionnaire based on the networks to pairwise compare criteria with respect to the same upper level merit, the interdependence among the criteria, and the alternatives with respect to each criterion. Experts in the field are asked to fill out the nine-point-scale questionnaire.

Step 9. Calculate the relative priorities in each sub-network. A similar procedure as in Step 3 is applied to establish relative importance weights of factors.

Figure 3. The analytic network process with BOCR.



- Step 10. Form an unweighted supermatrix for each sub-network. The local priority vectors obtained from step 9 are entered in the appropriate columns of the unweighted supermatrix for each merit sub-network.
- Step 11. Calculate the weighted supermatrix for each merit sub-network. Transform the unweighted supermatrix into a weighted supermatrix so that supermatrix is stochastic.
- Step 12. Calculate the limit supermatrix and obtain the priorities of the alternatives for each merit sub-network. Raise the weighted supermatrix to the power of $2k+1$ to get the limit supermatrix. The priorities of the alternatives under a merit are calculated by normalizing the alternative-to-goal column of the limit supermatrix of the merit.
- Step 13. Calculate overall priorities of alternatives. By synthesizing priorities of each alternative under each merit from Step 12 with corresponding normalized weights b , o , c and r from Step 5, the overall priorities of alternatives can be generated.

THE CASE STUDY

A case study is presented here to examine the practicality of the proposed evaluation model. A committee of experts in the PCB industry was formed to define the production strategy problem. With a comprehensive review of literature and consultation of the committee, a list of criterion candidates was formed for each merit, i.e., benefits, opportunities, costs and risks. The opinions of the experts were collected through questionnaires, and the FDM was applied to select the most important criteria for further FANP analysis. Part of the results of the FDM is as shown in Table 2. In this research, Threshold T is set arbitrarily at 7.0, and 5, 6, 5 and 8 criteria are selected for benefits, opportunities, costs and risks merits, respectively. These selected criteria are listed in Table 3 and will be used in the construction of the network for the FANP analysis.

Table 2: Selection of criteria for benefits merit

Merits	Criterion candidates	Pessimistic value		Optimistic value			$d^i - g^i$	Consensus significance value (s^i)	
		l_l^i	l_m^i	l_u^i	u_l^i	u_m^i			u_u^i
Benefits	Focus on internal core competencies	4	6.38	9	8	8.75	10	1.37	8.22 a
	Bring in professionals and technologies	4	5.82	8	7	8.12	10	1.29	7.34
	Avoid price volatility	5	6.03	8	7	8.07	10	1.04	7.35
	Reduce cost of services	4	4.89	7	6	7.71	9	1.82	6.45
	Reduce personnel management costs	4	6.01	8	6	8.11	9	1.10	7.03
	Maintain smooth cash flow	4	4.74	6	6	6.76	8	----	5.75

	Reduce training costs	3	3.87	6	4	6.26	7	0.39	5.03
	Avoid labor problems	1	3.17	5	5	6.65	9	----	4.91
	Reduce regulation compliance costs	1	3.43	6	5	7.09	8	2.65	5.45
	Increase net product profit	5	6.24	9	8	8.56	10	1.33	8.17
Oppor- tunities	Enhance R&D capability	6	7.11	9	8	9.17	10	1.06	8.38
	Diversify business risk	6	6.71	9	8	8.96	10	1.24	8.29
	Increase overall flexibility	6	6.55	8	7	8.16	9	0.61	7.45
	Integrate internal R&D and manufacturing	5	6.32	8	7	8.14	10	0.83	7.41
	Improve product quality	7	7.76	9	8	9.36	10	0.60	8.52
	Balance capacity loading	5	6.72	8	7	8.16	9	0.44	7.48
	Develop new markets	4	5.30	7	6	7.47	9	1.17	6.47

a: Threshold value (T) is set at 7, and the values in the shades are greater than or equal to 7.

Table 3: Selected criteria for the four merits

Merits	Criteria	Merits	Criteria
Benefits(B)	Focus on internal core competencies	Costs (C)	Equipment costs
	Bring in professionals and technologies		Management costs
	Avoid price volatility		Inventory costs
	Reduce personnel management costs		Raw materials costs
	Increase net product profit		R&D expenses
Oppor- tunities (O)	Enhance R&D capability	Risks (R)	Poor inter-departmental coordination
	Diversify business risk		Information gaps
	Increase overall flexibility		Poor quality stability
	Integrate internal R&D and manufacturing		Q&D and manufacturing failure
	Improve product quality		Lack of flexibility in changes
	Balance capacity loading		Lack of professional technology
			Economic fluctuations and risk of increasing raw material costs
	Difficulties in maintaining patents and unique technologies		

CONCLUSION AND FUTURE RESEARCH

In this research, a preliminary study of the production strategy evaluation problem is done. Through comprehensive literature review and interview with experts, we prepared a list of criteria for each merit. FDM was used to select the most important criteria from the four lists. In the future, FANP with BOCR will be adopted based on the selected criteria. The priorities of criteria will be generated through FANP so that the inter-relationship among criteria and the linguistic uncertainty of experts can be incorporated in the calculation. Different types of production strategies can be evaluated with the consideration of the benefits, opportunities, costs and risks. The model can provide a general framework capable of helping management to systematically consider relevant production strategy information and effectively determine the key success factors for a good production strategy in a competitive market.

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A COLLABORATIVE MODEL OF TECHNOLOGY EVALUATION AND DECISION-MAKING FOR ORGANIC LIGHT EMITTING DIODE

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ABSTRACT

Technology evaluation, which influences the advantages of firms or countries, is a multi-criteria decision issue. This study suggests a hybrid approach integrating the fuzzy Delphi method and the analytic hierarchy process (AHP) to construct a technology evaluation and decision-making model for the emerging technology of organic emitting light diode (OLED). Taiwan is a research base in this study for its OLED display industry has occupied the third position in the global market since 2005. The purpose of this paper is to offer an example as to how a technology firm or even a country can evaluate or position certain emerging technology in the process of resource investment decision-making. Finally, some strategic and managerial suggestions according to the results are drawn in this research for related policy makers.

INTRODUCTION

Technology selection as well as evaluation is one of the most challenging decision-making areas that the management of a company encounters (Torkkeli & Tuominen, 2002). A company has to select and invest in a technology field with comparative advantage from various technology alternatives under multiple criteria and within a complicated environment (Yu et al., 1998). Technology-based enterprises rely on the renewal of existing technological resources and exploitation of new technologies to remain competitive and to sustain growth (McNamara & Banden-Fuller, 1999). This type of firm needs expert technological planning and strategizing to maintain its competitive advantages or to grasp new opportunities. Selection of key technologies helps these firms and countries to establish their advantage in a competitive environment (Clark, 1989; Morone, 1989; Torkkeli & Tuominen, 2002; Lee & Song, 2007). At the national level, selecting and supporting key emerging technologies helps countries to establish their strategic advantage in the international market (Khalil, 2000). These all need wise evaluation and decision-making.

However, technology evaluation is becoming more difficult due to the increasing complexity of technologies, convergence of technologies, abundance of technological options, rising costs of technological development, and the rapid diffusion of technologies (Berry & Taggart, 1994; Steensma & Fairbank, 1999; Lei, 2000). In addition, technology evaluation is a multi-criteria decision-making challenge (Lamb & Gregory, 1997). To engage this kind of challenge, the first step is to integrate the decision-makers' opinions with the technology evaluation criteria. Hence, an effective tool to integrate decision-makers' input is necessary. Fuzzy Delphi method is an effective, economical tool that helps completely express decision-makers' opinions (Ishikawa et al., 1993).

After integrating important technology evaluation criteria by fuzzy Delphi method, decision-makers have to evaluate each alternative against the set of criteria (Lamb & Gregory, 1997; Torkkeli & Tuominen, 2002). The analytic hierarchy process (AHP) is a widely used tool for analyzing this type of problem. AHP, which uses pair comparisons and matrix algebra to identify and weigh the criteria, is a multi-attribute decision analysis tool. The AHP provides a systematic approach to identifying criteria, their relationship, and their weights on which to carefully base decisions (Winebrake & Creswick, 2003).

Therefore, technology evaluation involves carefully appraising the technology fields with strategic importance and technological competitive advantage, while facing a brand new and emerging technology, such as organic light emitting diode (OLED). The OLED display is praised as the third generation display technology, after the cathode ray tube and the liquid crystal display. Since 2005, Taiwan's OLED display industry has occupied the third position in the global market, and has become increasingly competitive in the world (IEK, 2006). The original OLED patent, owned by Kodak, had been due for renewal in 2005. Kodak began to cross-license its key technology of OLED, thereby diminishing the technological barrier and attracting more competitors to this emerging technology.

OLED display has more advantages than numerous other display technologies. The features of the OLED display are: (1) self-illuminating (that is, it needs no backlight); (2) wide viewing angle; (3) fast response (about 1 μ s); (4) highly energy efficient; (5) low drive-voltage (3-10 V); (6) slim profile (smaller than 2 mm); (7) easy to use for a large area; (8) flexible; and (9) has a simple manufacturing process (Chen & Huang, 2005). These features meet the needs of both multimedia displays and portable communications products with a display component. The OLED display has the potential to become the next mainstream display technology. In 2006's International Meeting of Information Display, the CEO of Samsung Kim claimed that OLED is the ultimate display of the future (Chen & Huang, 2007). The development status of OLED can be illustrated by the driving, coloring, and manufacturing process.

We propose a hybrid approach integrating the fuzzy Delphi method and the AHP to construct a technology evaluation and decision-making model for OLED. Taiwan is a research base in this study. This is for the purpose of offering an example as to how a technology firm or even a country can evaluate or position certain emerging technology in the process of resource investment decision-making. In this sense the technology in question would be concerned with a larger scale of technology which may require vastly abundant capital inputs. Finally, some strategic and managerial suggestions according to the results are drawn in this paper for related policy makers.

TECHNOLOGY EVALUATION CRITERIA

As noted, technology evaluation is a core technology management process, where a company or a country has to make a choice between numerous distinct technology alternatives. However, it is more and more difficult to identify the right technology alternatives because the number of technologies is increasing and technologies are becoming more and more complex. Industrial enterprises are faced with complex and multi-criteria decision problems in technology assessment and selection (Torkkeli & Tuominen, 2002).

The selection model developed by Arbel & Shapira (1999) focuses on benefit and cost. Piipo & Tuominen (1990) emphasized the matching of alternatives to the capabilities and strategies of companies and risks as major factors in the selection, in addition to the benefits and costs. Yap & Souder (1993) emphasized the uncertainties of commercial and technical success, the funding history of technologies, the resource requirements to develop technologies, the degree to which the technologies contribute to established missions, and the current life-cycle stage of the technologies. Yu, Hsu, & Chen (1998) focused on the strategic importance, business effect, business opportunity, risk, present technology position, and the cost to obtain the technology to evaluate feasibility. Coldrick, Longhurst, Ivey, & Hannis (2005) considered the technical, corporate and strategic factors; as well as the regulatory, market, financial, and application factors of the R&D project selection. Huang, Chu, & Chiang (2008) emphasized the scientific and technological merit, potential benefits, project execution, and the project risk for the government-sponsored R&D project selection. Shehabuddeen, Probert, & Phaal (2006) proposed a technology evaluation process that consists of requirement filters, adoption filters, internal factors, and external factors.

This study concludes the technology evaluation criteria for OLED originally from the above-mentioned studies (Yu et al., 1998; Arbel & Shapira, 1999; Piipo, 1990; Yap, 1993; Coldrick et al., 2005; Huang et al., 2008; Shehabuddeen et al., 2006) to four scales: technological merit, business effect, technology development potential, and risk with eighteen criteria. These criteria are presented in Table 1 with a short description. We can also see these criteria as a general model of technology evaluation toward wiser technology project decision-making.

Table 1: General technology evaluation criteria

Criteria	Description
1. Technological merit	
Advancement of technology	Level of advancement of the proposed technology compared with existing technology.
Innovation of technology	Innovation level of the proposed technology.
Key of technology	Whether the proposed technology is critical for product or industry development.
Proprietary technology	Whether the technology project will generate a proprietary technology position through the intellectual property rights.
Generics of technology	Whether the proposed technology is a generic technology to industry.
Technological connections	Whether the proposed technology is applicable for many products; the more technological applications, the higher technological connections.
Technological extendibility	The extent to which the proposed technology has the potential for further technology development.
2. Business effect	
Potential return on investment	The potential return on investment in the technology.
Effect on existing market share	Whether the technology can enlarge the existing market share.
New market potential	Whether the technology has the potential to create a new market.
Potential size of market	The potential size of the market in which the products apply the technology.
Timing for technology	Whether this is the right time to develop the technology.
3. Technology development potential	
Technical resources availability	Access to which the technology can obtain technical resources.
Equipment support	Extents to technology that can be supported by necessary facilities.
Opportunity for technical success	Opportunity of success for proposed technology and whether there is any similar successful technology.
4. Risk	
Commercial risk	Potential commercial risk of the applications.
Technical risk	Potential technical risk of the technology development.
Technical difficulties	Whether the applications can be mass produced.

A COLLABORATIVE TECHNOLOGY EVALUATION MODEL: EMPIRICAL EVIDENCE FROM TAIWAN'S OLED

The fuzzy Delphi method integrates experts' opinions without modifying their original thought, processes the fuzziness within their thoughts and, moreover, lowers survey costs. AHP forces experts to consider the targeted issues systematically. This study proposes a hybrid approach integrating the fuzzy Delphi method and the AHP to construct a technology evaluation model for OLED.

Our hybrid approach is that after sifting through important technology evaluation criteria by the fuzzy Delphi method, decision-makers can evaluate the certain technology such as OLED within a hierarchical structure of the AHP and obtain the weighted results as a reference of their decision-making on important technology project investments. Comparing to other single technology evaluation tools the proposed joint approach should be more efficient, since the fuzzy Delphi method makes the AHP assessment more capable and proficient, while the multi-criteria decision-making for technology evaluation and consideration is conducted by the related policy makers.

Taiwan is a research base in this study for its OLED display industry has occupied the third position in the global market since 2005 and has become increasingly competitive in the world (IEK, 2006). The following deciphers our empirical analyses.

Step 1: Define the Technology Evaluation Objective

Defining the technology evaluation objective requires identifying the scope for which the technology will be assessed. This study focuses on the proper OLED technology fields for OLED panel manufacturers in Taiwan. The technology alternatives and the technology selection criteria both need to be carefully explored for this emerging display technology.

Step 2: Explore the Criteria of OLED Technology Evaluation

Explore the technology evaluation criteria for OLED. The OLED technology evaluation criteria induced from the previously discussed studies as shown in Table 1.

Step 3: Integrate the Important Criteria of Technology Evaluation

This study applies snowball sampling by inviting 6 technology experts and 5 industry research experts to evaluate the importance of the criteria explored in the previous step. The importance of the criteria is measured using the linguistic scales and their corresponding fuzzy numbers: (0.7, 0.9, 0.9) - extremely important, (0.5, 0.7, 0.9) - important, (0.3, 0.5, 0.7) - normal, (0.1, 0.3, 0.5) - unimportant, (0.1, 0.1, 0.3) - extremely unimportant. Table 2 shows the linguistic scale employed by this study.

Table 2: The linguistic scales

Linguistic scales	Triangular fuzzy number
Extremely important	(0.7, 0.9, 0.9)
Important	(0.5, 0.7, 0.9)
Normal	(0.3, 0.5, 0.7)
Unimportant	(0.1, 0.3, 0.5)
Extremely unimportant	(0.1, 0.1, 0.3)

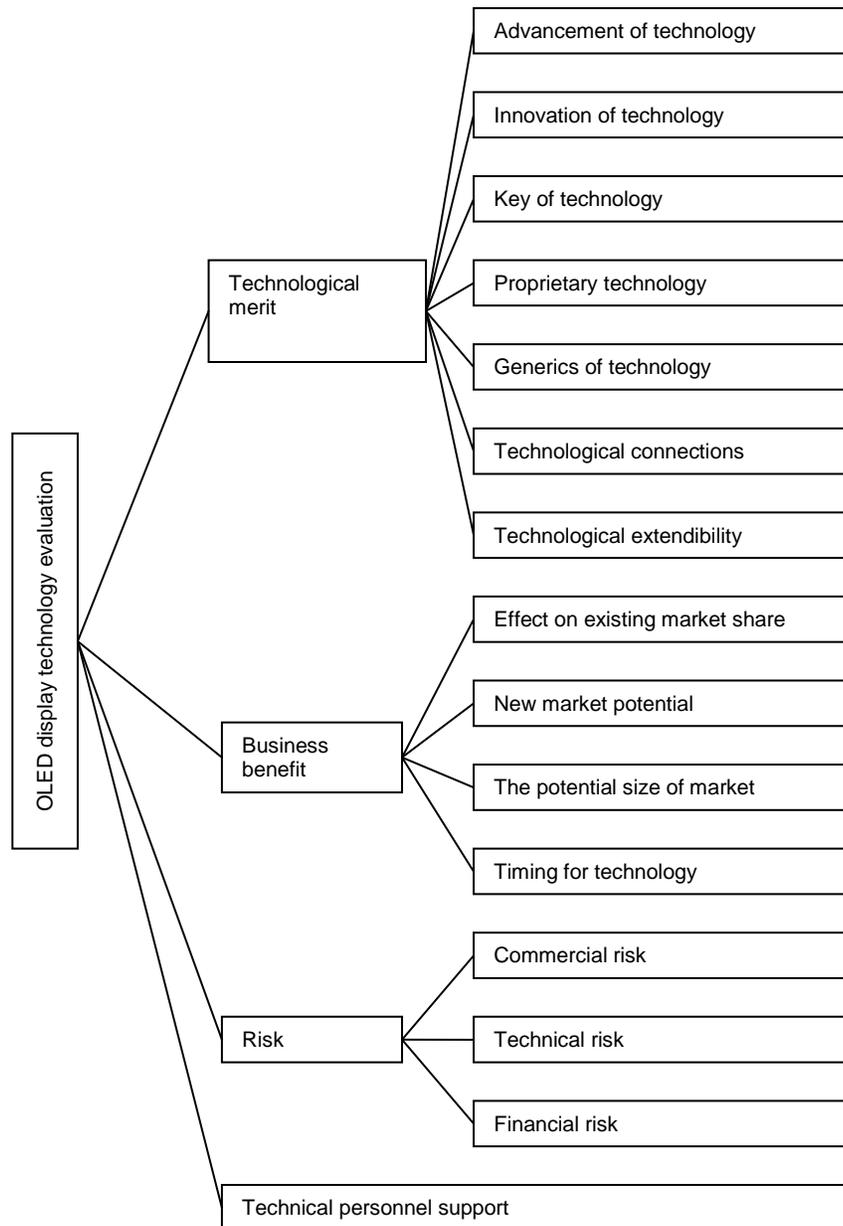
The important criteria are sifted from the evaluation result by employing the fuzzy Delphi method. The sifting threshold value will affect the number of criteria. If the threshold value is higher, there will be fewer remaining criteria so that the following research may be affected. Therefore, this study adopts 0.6 as the threshold value because it is the mean of the minimum value of “important” (0.5) and the maximum value of “normal” (0.7). The result is shown in Table 3:

Table 3: The fuzzy Delphi sifting result of OLED evaluation criteria

Scale	Criteria	S	Result
Technological merit	Advancement of technology	0.76061	
	Innovation of technology	0.66364	
	Key of technology	0.66970	
	Proprietary technology	0.76061	
	Generics of technology	0.63333	
	Technological connections	0.65152	
	Technological extendibility	0.66364	
Business effect	Potential return on investment	0.54242	Cancel
	Effect on existing market share	0.67576	
	New market potential	0.68182	
	The potential size of market	0.66970	
	Timing for technology	0.65758	
Technology development potential	Technical resource available	0.56061	Cancel
	Equipment support	0.57879	Cancel
	Opportunity of technical success	0.53030	Cancel
Risk	Commercial risk	0.74849	
	Technical risk	0.74242	
	Technical difficulties	0.58485	Cancel

Accordingly, after the confirmation of the fuzzy Delphi, the AHP hierarchy for evaluating the emerging technology OLED for Taiwan's government as well as industries, can be found in the following Figure 1. In this model, we then have 4 dimensions for technology importance evaluation and 15 criteria for technology prospect/problem assessment.

Figure 1: AHP hierarchy for evaluating OLED for Taiwan



Step 4: Obtain the Weight of Criteria by AHP

After verifying the importance of criteria, the OLED display technology evaluation hierarchy has been constructed as above. This survey is aimed to understand experts' perceptions regarding the weights of evaluation dimensions along with criteria while planning projects toward investing in OLED display technology

in the position of government or related industries. The snowball sampling employed 6 technology experts and 6 industry research experts, and the weights of criteria are obtained by adopting the AHP. The CI and CR for technological merit, business effect, risk, and the entire hierarchy are smaller than 0.1, indicating the experts' judgment with consistency. The result of the AHP survey is shown in Table 4:

Table 4: The weights of OLED display technology evaluation

Scale	Weight (Relative Importance)	Rank Of Scale	Criteria	Weight (Functioning of Criteria)	Within Scale Rank	Weight (Evaluation Product)	Overall Criteria Rank
Technological merit	0.16319	4	Advancement of technology	0.11656	6	0.02613	14
			Innovation of technology	0.12448	5	0.02791	13
			Key of technology	0.22781	1	0.05108	8
			Proprietary technology	0.19596	2	0.04394	10
			Generics of technology	0.06935	7	0.01555	15
			Technological connections	0.13014	4	0.02918	12
			Technological extendibility	0.13570	3	0.03043	11
			CI=0.01503, CR=0.01139				
Business benefit	0.36079	1	Effect on existing market share	0.23421	3	0.08450	5
			New market potential	0.20445	4	0.07376	6
			The potential size of market	0.24348	2	0.08785	4
			Timing for technology	0.31787	1	0.11469	2
			CI=0.00138, CR=0.00153				
Risk	0.20423	3	Commercial risk	0.27181	2	0.05551	7
			Technical risk	0.24869	3	0.05079	9
			Financial risk	0.47951	1	0.09793	3
			CI=0.00408, CR=0.00703				
Technical personnel support	0.21077	2	Technical personnel support	0.21077	1	0.21077	1
Overall CI=0.007651, Overall CR=0.008501							

As shown in Table 4, the dimension weight implies how the experts consider each evaluation dimension's relative importance; the criterion weight can be regarded as the individual evaluation product for each evaluation criterion. The discussions relating to the above survey results are as follows:

1. According to the investigation of weights (relative importance) of the OLED appraising dimensions in this research, "business benefit" ranked first in terms of importance or advantage, and the weight of dimension is 0.36079. "Technical personnel support," "risk," and "technological merit" were then evaluated as the second, third, and fourth contributory facets in terms of deciding whether to invest in the technology OLED, respectively. Indeed, from the perspective of R&D manufacturers and the government, future substantial commercial or economic benefits resulting from the new targeted technology are often considered one of the most critical decision-making factors in terms of whether it is worth investing in the new technology (LEE & SONG, 2007; LINK et al., 2002). OLED, as the third generation of display technology, following TFT-LCD (Chen & Huang, 2007), can be used in microdisplays of mobile phone

handsets and handheld devices as well as large-screen displays, such as in televisions. The expected economic and industrial benefits generated can be considerable. However, due to the fact that the key technology of the OLED display was licensed to domestic firms only after it was first launched by Kodak, there are a relatively lower number of domestic technical personnel in Taiwan, particularly those with mass production experience. Therefore, technical personnel support is the next important construct to be considered while evaluating OLED.

2. As for business benefits, “timing of technology” is currently the most advantageous factor because OLED is classified as a newly-developing technical industry. Its total evaluation product is 0.11469 (= dimension importance percentage 0.36079 * criterion functioning percentage 0.31787 under the dimension). Many firms are now investing in R&D for OLED display technology, in order to accumulate R&D and manufacturing experiences for themselves, so they will be able to plunge into mass production when the OLED display technology matures in the future. “Potential size of market” is the second reason for investing in the OLED display technology. OLED display is now used in microdisplays, such as in the panels and sub-panels in mobile phone handsets and MP3 player and car dashboard displays. Moreover, in 2008, Sony launched the OLED television. The potential market for OLED readily exists as long as there is a need for displays.
3. In terms of risk, “financial risk” must be considered first in deciding whether to invest in R&D of OLED display technology. As examples, including Optotech shutting down operations of its loss-making OLED division and AUO and Teco’s decision to back out of OLED R&D and manufacturing, indicate, there are still significant financial risks in this sector that must be considered (IEK, 2008). “Commercial risk” is another factor affecting the launch of OLED display technology because OLED is not yet a mature technology and continues to face competition from the mature TFT- LCD technology.
4. In terms of technological merit, “key of technology” is the most gainful factor if deciding to invest in OLED display technology. For flat panel industry players in Taiwan who have spent their existence doing Original Equipment Manufacturing (OEM), the key of technology OLED is key for them to overcome the industry stereotype of OEM. Moreover, due to the fact that OLED display technology is still in its developmental stage, technically, there is plenty of room for improvement. The acquisition of patents, therefore, is relatively easy, and thus, “proprietary technology” is the next profitable factor to be considered in the dimension of technological merit. In addition to being display technology, with the features of luminescence and power-efficiency, OLED can also serve as a sort of illumination technology. Besides, its technological flexibility may make itself become possible technology making electronic paper. Related investments in OLED are therefore thought to help develop other related technology in the near future. In this sense, technological extendibility was assessed as the third beneficial criterion in the same dimension.
5. Overall, technical personnel support, timing of technology, and financial risk ranked first, second, and third in all criteria, respectively. With OLED an emerging technology area, the adequacy of technology professionals’ support directly determines the success of the technology development. Moreover, OLED technology, instead of OEM, is considered to be taking a chance to increase the margin for the flat display industry in Taiwan. Therefore, the R&D resources should be invested to make the essential first move, thereby creating an advantage when a technology is emerging. As such, timing with technology ranks second. Finally, the OLED technology is still in the emerging stage, so it is important for the manufacturers in this industry to carefully evaluate the financial risk involved.

MANAGERIAL IMPLICATIONS AND STRATEGIC SUGGESTIONS

Technology evaluation, which is a multi-criteria decision-making issue, influences an enterprise or a country’s technological advantages. An enterprise can waste its resources and lower its comparative advantages by investing in wrong technological alternatives at the wrong time or by investing too much in the right ones (Torkkeli & Tuominen, 2002). On the other hand, a firm/country can lift its competitive advantages by investing in emerging technologies offering bright prospects (Yu et al., 1998; Lee & Song, 2007). Therefore, research and development in emerging technologies should be planned through a carefully designed structural process.

This study suggests a hybrid technology evaluation approach integrating the fuzzy Delphi method and the AHP approach. When policy makers and R&D planners design R&D programs in emerging technology fields,

our proposed model can help to assess whether it is worth investing in the expected technology or not, for all concerned.

Besides, using Taiwan's OLED as an example, this study has generated a conclusion comprising several strategic suggestions and managerial implications as follows.

1. Technology evaluation involves decision making based on multiple criteria (Yap & Souder, 1993; Gerdssi & Kocaoglu, 2007). Based on literature, the evaluation criteria in the general technology evaluation model this research constructs can be used as the evaluation of technology R&D plan at the national level. Further research can extract more evaluation criteria through expert interviews, Delphi method, or fuzzy Delphi method to deliver technology evaluation models subject to specific technologies. Though this evaluation model applies best to emerging technology, it can still be considered a performance measure of technology when applied to more mature technology.
2. With the launch of OLED by Kodak more than 20 years ago, in 1987, firms in the industry now have different methods and know-how, no matter whether in aspects of organic material, device design, full-color method, driving method, or manufacturing process. Technically, because of a high level of uncertainty and variation, architectures still vary from firm to firm and thus a dominant design has not yet been established. According to our technology evaluation model, OLED has higher expectations of evaluation criteria such as proprietary technology and technology extendibility. To link with "Technology of Life Cycle" (Kaplan & Tripsas, 2008), this study concludes that OLED display technology is now in the stage of era of ferment.
3. Although OLED is superior to LCD in such characteristics as viewing angle, response, profile, and energy efficiency, at the moment it is limited to lower yield rates and a shorter life cycle, which results in a high price; however, according to this research, the analysis of OLED display device technology evaluation indicates that investing in R&D of OLED devices can be profitable industrially and economically; therefore, this is the best time to plunge into OLED development. Because mass production of large OLED display remains difficult and micro display still dominates the market, it is suggested that firms invested in OLED R&D acquire the ability to develop and produce micro display of TFT-LCD in order to input a thin film transistor (TFT) driver and large display AMOLED. The higher commercial risk of OLED, on the other hand, is the result of competitive technology, TFT-LCD, which has been widely accepted by consumers because of its low price. One feasible strategy for micro display manufacturers in Taiwan is to enter into strategic alliances with mobile phone handset companies and provide those companies with AMOLED display devices for their high-value products in order to raise consumer perceptions of product value. In fact, the AMOLED display device has better performance in screen display and energy savings than TFT-LCD products; in this way firms can introduce the superior display technology of OLED in order to increase customer willingness to pay a higher price for OLED display products.
4. Moreover, according to analysis of the OLED display technology evaluation model addressed by this research, investing in R&D of OLED still faces the problems of training of related technical personnel as well as of high financial risk. Since the inventor of OLED, C. W. Tang, is a non-Chinese citizen of Chinese origin, this research suggests that a research organization sponsored by the Taiwanese government can hire him to be chairman of the domestic research organization in order to improve the domestic technological ability of OLED with his professional knowledge. On the other hand, domestic LCD manufacturers can also enter into strategic alliances with downstream branding firms to produce OLED displays for them. By doing this, LCD manufacturers can not only continuously develop their technology, but also gain some mass production experience. Government should also provide assistance such as loans and development funds for OLED manufacturing firms in order to reduce their financial risk.
5. Past papers related to technology evaluation are mostly economic value based models (Chan et al., 2000; Lederer & Mehta, 2005; Small, 2006) evaluating the expected technology itself. The technology evaluation model delivered by this research applies to large-scale and national level technology development plans, which provide a nice reference for deciding whether to invest in the R&D of a new technology based on suggestions from industry, government, and experts during the era of ferment when technical uncertainty is still high and estimation of traditional cash flow evaluation remains difficult.

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MAKING INVISIBLE VISIBLE: THE ROLE OF PRODUCT EXPERIENCE IN NEW PRODUCT DESIGN

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ABSTRACT

New product design regards such elements as aesthetics, style, form, function or ergonomics. Acknowledging how these elements create product benefits and customer value is considered the core of successful new product development. Products in many ways communicate and interact with their buyers creating emotional value which is why the question of how to grasp and possess such knowledge becomes topical. The results of this study show that depending on the quality of product experience the perception of a given product design changes a lot when measured along emotional value creation. Statistically significant differences occur in transferring from pure visual to bodily experience having an impact on purchasing intentions too. Exposing in advance a qualified value proposition could also change the status quo of the perceived product design but did not come up to the level of purchasing intentions. No evidence regarding the interaction between the value proposition and bodily experience was nevertheless found

INTRODUCTION

New products are the means by which firms can respond to competition and sustain their market position. More frequently than in the past this seems to take place at the cost of innovation, given that firms increasingly tend to prefer fast-follower or imitation NPD strategies (PDMA, 2004). The accompanying accelerated commodization of products (e.g. Starr, 1992) may however turn out to be a disadvantage which is due to the possibility of resulting price wars and lower profit levels (e.g. Kim and Mauborgne, 2005). There is also some evidence indicating that being first in the market and having a fast product development cycle is not basically the key of NPD success (Lambert and Slater, 1999). In this respect Ohmae (1988) has long noted that there are good reasons to apply “going back to the basics”-strategy, implying that the factors which drive customer needs and preferences become the key issue. A genuine strategy means to Ohmae that there exists a clear understanding of what a product is all about and can do for a customer.

New product development can be considered an evolutionary process where the necessity of understanding and learning of customer needs and preferences becomes the core of the proper customer knowledge (Joshi and Sharma, 2004). This applies to technology-oriented industrial products in particular given that customer needs and what technology makes possible are tightly intertwined. When new technological knowledge is applied the end result may be a product, the final new product characteristics and workability of which cannot be confirmed and tested otherwise than with close customer involvement, by starting the use of the planned product or testing it in the actual user context through experimental activities (e.g. Lindman, 1997; Lynn *et al*, 1996; Rosenberg, 1982). The impetus of this study is that the same basic state of affairs applies to design-oriented consumer products too due to the plurality of individual perception of product design and the difficulty of its measurement (Creusen and Schoormans, 2005; Dutra *et al*, 2004; Groth, 1994). A tough management problem is basically faced because design is increasingly applied to create competitive advantages and because determining what customers want in a product is the key of formulating a value statement (DeSarbo *et al*, 2001). There is also clear evidence indicating that by investing in design firms are

capable of launching more profitable products and have a better financial performance (e.g. Hertenstein *et al*, 2005; Gemser and Leenders, 2001). Understanding how does consumers response to design become hence a strategic issue which is approached here by considering design as emotional value creation as Noble and Kumar (2008) suggest. The impact of product experience on perceived product design is focused a profound understanding of the emotional basis of the product design as the managerial target.

THE BASICS OF NEW PRODUCT SUCCESS

In new product design a market opportunity is transformed into a new product offer which under given market circumstances is capable of attracting existing and/or potential customers. Successful transformation by definition implies two fundamental tasks: firstly, one has to identify and acknowledge which factors drive customers' needs, wishes and expectations and, secondly, one has to find out how one's new product offer can be differentiated from the competitive ones. Extensive literature in this matter indicates that there exist a bundle of simultaneous performance factors which form the basis of successful NPD (e.g. Page and Schirr, 2008). Defining clear NPD focus and goals, having long term commitment and top management support, establishing a business culture which favours innovation, investing reasonably to NPD efforts or having a high-quality new product process are continuously identified as the key strategic factors of a successful NPD (e.g. Cooper and Kleinschmidt, 2007; Cooper *et al*, 2004; Cooper, 1999; Zien and Buckler, 1997). At the business unit level identifying the right projects via thorough up-front homework, early product definition, having an ability to identify and create products with superior product performance or listening the voice of the customers are typically considered the key to new product success (e.g. Cooper and Edgett, 2006; Ernst, 2002; Cooper, 1999). Despite the fact that numerous tools and procedures can be applied to collect corresponding information (e.g. Shieh *et al*, 2006, Ozer, 1999; Green *et al*, 1997) a considerable risk of mismatch is faced in any case (e.g. Hippel and Katz, 2002). As Zhang and Doll (2001) put it, most projects fail in the beginning of a project and not vice versa. The underlying problem is that even if customers know exactly what they want they cannot transfer this information to manufacturers. In fact, finding good new product solutions are costly and time-consuming (Thomke and Hippel, 2002).

As to the development of new product designs, specification of design parameters, assembly demands and definition of components (Krishnan and Ulrich, 2001) or defining the product form (Bloch, 1995) are typically regarded the key tasks which has to be managed during the development process. Further aspects referred to are planning, decision making and the management of activities through which the functions and characteristics of finished products become determined (Trueman, 1998). Product design may also be considered as the choice and configuration of elements, materials and components along which the performance, appearance or usability becomes visible (Roy and Riedel, 1997). A considerable diversity of definitions in other words is faced (Gemser and Leenders, 2001) implying the risk that product design is defined in terms of product forms only and aesthetic and style become emphasized (Verganti, 2008). However, many other things create customer value through the meanings and symbolic nature of the products and, besides, are often much more important than the basically functional value of the physical product itself (e.g. Dell'Era and Verganti, 2007; Dutra *et al*, 2004; Shim and Eastlick, 1998; Groth, 1994).

COMPATIBILITY OF PRODUCT DESIGN

Product conceptualization is the phase during which the essential characteristics of the new product are defined (e.g. Duke, 1994). Converting any foreseen new product opportunity into a new product concept raises the question of how identified new product ideas are concretized up to the level of desired product forms (e.g. Peters *et al*, 1999; Rochford, 1991). A critical question according to Wind and Mahajan (1997) is if the current marketing research and modelling approaches can enhance new product success? As a creative activity design is always risky from the marketing point of view because the end result may be difficult to forecast (Bruce and Bessant, 2002). Despite a number of largely applied new product evaluation models like focus groups, expert opinions, multi-attribute or scenario analysis (Ozer, 1999) development of a winning product concept remains an effort which is hard to control. E.g. Ziamou and Ratneshwar (2003) show that an explicit comparison of a new functionality can take place effectively only against an existing physical product having a typical functionality. A further risk they consider is that consumers discount the value of innovation in any case. The underlying

problem is that what consumers are aware and can reveal may be dependent on what has been available before (Ciccantelli and Magidson, 1993).

There is some evidence indicating that customer interaction may increase new product success in certain stages of new product development (e.g. Gruner and Homburg, 2000). In the user oriented design in particular deeper understanding of customers is searched by applying different visualization tools like mock-ups and prototypes through which a more tangible product can be developed (e.g. Veryzer and Mozota, 2005; McDonagh *et al*, 2002). A further step is that visual prototypes are made available to customers via internet under the expectation that such visual prototypes offer a low-cost methodology for concept testing (e.g. Dahan and Srinivasan, 2000). As the authors note further, the methodology has its limitation because there may be products the design characteristic of which impact on customer choice but cannot be properly communicated other than through physical prototypes only. Given that individuals cannot necessarily articulate the basis of their choice simply because they know more than they can tell, the management of tacit knowledge becomes topical (e.g. Mooradian, 2005; Fahey, 1988; Foos *et a.*, 2006). As Hänninen and Kauranen (2006) note, development of new product concepts may be impossible without the conceptualization of tacit knowledge. Because the origin of tacit knowledge lies in personal experiences (e.g. Insch *et al*, 2008) the possibility of experiencing physical product designs govern the quality of feedback consumers may offer and hence can be argued to impact on the formula of new product design.

In generating value product design has a considerable impact on how customers perceive and response the product either consciously or non-consciously (e.g. Dell'Era and Verganti, 2007; Veryzer, 1999). In this respect emotional value creation in particular is subject to visual, auditory or sensory clues (Rintamäki *et al*, 2007). Value which is driven by design comprises according to Noble and Kumar (2008) two different facets: design as functional differentiation and design as emotional value creation. In the first case conventional attribute-based preferences are in question. In the latter case kinaesthetic design which emphasizes the interaction with the product and visual design which emphasizes the product form become topical forming holistic impressions which stand as the basis of emotional value creation.

Given that value expectations and experiences drive consumers' purchasing behaviour, knowledge of corresponding customer value becomes the core of a successful marketing (e.g. Smith and Colgate, 2007; Woodruff, 1997; Thompson, 1998). An ability to understand what customers want in a product or service is crystallized through a firm's value proposition (Hughes and Chafin, 1996). By definition corresponding value-based communication becomes an essential part of the new product compatibility in making new products known and stating what kind of products are in question. Value-based communication forms in other words the tool along which unique benefits and utility of the product can be differentiated from the competitive offers (e.g. DeSarbo *et al*, 2001; Webster, 1994). This applies to branding as well in the sense that brands are considered cognitive constructs which refer to a given product offering (Kreutzbauer and Malter, 2007). Brands may even evolve lovemarks, certain kind of super brands, which in creating strong loving-like emotional bonds between the consumers and brands are associated with higher consumption and positive attitudes (Pawle and Cooper, 2006).

THE RESEARCH SETTING

Based on the discussed limitations and the difficulty of capturing emotional-based customer knowledge in an early phase of new product development, a research setting focusing perceived product design was established. Given the targets of this study - to identify how and to which extent new product design creates emotional value and can be made visible through personal product experience - a design awarded upholstered arm chair was selected as the focal unit. In order to predispose the product to customer experience and/or customer proposition four different respondent sets were organized as it is presented in Table 1. Students on a voluntary basis were targeted from three different departments in a local polytechnic.

Group (AI) considered students to whom the product was displayed visually in a neutral, separate space. They were allowed to watch the product in peace from different angles but not allowed to touch or try the product. In order to measure the emotional value creation of the perceived product design a given set of

Table 1: The sampling base

Group	I Visual experience	II Bodily experience
A	No value proposition 50 respondents	No value proposition 50 respondents
B	Domestic product endures 50 respondents	Domestic product endures 50 respondents

consumption emotion indicators based on Richin's work (1997) were applied. Once the visual inspection was over students were asked to fill a questionnaire employed for the measurement along a scale from 1 to 4. Students in the test Group (AII) were instead definitely asked to try the product, touch and smell it by giving a piece of texture and wood for this purpose. The effect of bodily experience on emotional value creation was measured in a similar manner as before but now just after the product was tried.

The effect of the value proposition on perceived product design was tested in both cases of product interaction against separate test groups of 50 students each (BI and BII) by expressing a statement that domestic product endures. For illustration a picture of the size of A4 presenting the arm chair in question with the statement was shown to each respondent at first. They were given a couple of minutes to consider the matter before repeating the same procedure of either visual or bodily experiencing of the product as was made in case of AI and AII. Behind the selection of the applied value proposition was the knowledge that domestically-made goods in general have a certain value loading because consumers tend to prefer domestically-made goods and have positive attitudes towards the products made in their own country (e.g. Knight, 1999). Ethnocentrism and patriotic attitudes may even be stronger drivers of purchasing behaviour than the product quality which has conventionally played a major role (Vida and Reardon, 2008). Now an argument indicating both domestic origin and product quality were applied in the same illustration. The link between product experience and value proposition regarding new product adoption was tested through relevant questions in order to identify to which extent the bodily experience and/or exposed value proposition may effect on the probability of purchasing of the product and willingness to recommend it to friends. For controlling purposes the same effect was finally tested by asking to which extent the country of origin was important to the respondents and if they in general favoured domestic products in their buying.

THE RESULTS

Applying emotional value creation as the indicator of the perceived product design, the effect of the quality of product experience between the Groups AI / AII and BI / BII are presented in Table 2. Statistically significant differences occur when the quality of product experience moves from visual to bodily experience (AI versus AII) and no value proposition is exposed. Such value creation dimensions as being passionate, surprising, lonely, contented or exciting are activated and their intensity increases. In case of BI and BII where respondents were subject to value proposition the acknowledged differences disappear and only two new dimensions, happy and encouraged, emerge as influential variables. Given the exposure of the value proposition, the foreseen change of value creation suggests that value proposition in a way absorbs some part of the perceived product design. However, worth noticing is that the mean values of statistically significant value indicators in general become higher when the quality of product experience changes. The measured response of lonely is an exception but means simply that bodily experience in general has the quality of reducing loneliness.

Differences of emotional value creation between visual and kinaesthetic product design was measured by establishing a larger data base (AI + BI / AII + BII). As it is indicated in Table 3, statistically significant differences emerge regarding now such dimensions as passionate, surprising, sentimental, encouraged, envious, exciting and relived. Higher mean values which result from bodily experience indicate as before that emotional value creation becomes highly intensified when the product is sensed kinaesthetically.

Table 2: Emotional transfer towards bodily experience

AI - AII				BI - BII			
Value indicator N= 48-50	No value proposition		Mann -Whitney test significance	Value indicator N= 48-50	Value proposition exposed		Mann -Whitney test significance
	Mean Visual	Mean Bodily			Mean Visual	Mean Bodily	
passionate	1,380	1,820	0,004	happy	2,320	2,673	0,034
surprising	1,640	2,102	0,007	encouraged	2,000	2,327	0,048
lonely	2,260	1,840	0,038				
contented	2,520	2,880	0,022				
exciting	1,633	1,980	0,044				

Table 3: Impact of bodily experience on perceived visual product design

Value indicator N= 97-100	Mean Visual	Mean Bodily	Mann -Whitney U	Asymp. Sign.
passionate	1,590	1,890	3796,000	0,002
surprising	1,850	2,220	3633,000	0,001
sentimental	2,280	2,470	3848,000	0,004
encouraged	1,890	2,130	3982,500	0,016
envious	1,840	2,000	4098,500	0,026
exciting	1,790	2,040	4150,000	0,047
relieved	2,660	2,760	4104,500	0,026

As to the impact of exposing the value proposition more specifically, the results in Table 4 indicate that some effects can be found in the context of pure visual experience (AI – BI). Value creation is intensified through such dimensions as passionate, surprising, sentimental, and exciting. In a similar manner value proposition has a certain effect inside bodily experience (AII – BII) but now a different set of dimensions, encouraged, surprising, enthusiastic and relieved are in question. It is accordingly obvious that value propositions in both cases are capable of intensifying emotional value creation but in a different manner.

Table 4: Impact of value proposition on perceived product design

Visual experience				Bodily experience			
Value indicator N= 48-50	AI BI		Mann -Whitney test significance	Value indicator N= 48-50	AII BII		Mann -Whitney test significance
	Mean No proposition	Mean Proposition			Mean No proposition	Mean Proposition	
passionate	1,380	1,800	0,002	encouraged	1,940	2,327	0,015
surprising	1,640	2,060	0,004	surprising	2,102	2,333	0,099
lonely	2,260	1,837	0,028	enthusiastic	2,060	2,367	0,038
sentimental	2,080	2,480	0,015	relieved	2,540	2,980	0,013
exciting	1,633	1,940	0,034				

The statistical significance of the main effects of the proposition exposure and product experience (two levels in both cases; no value proposition/proposition exposure and visual/bodily experience) and their interaction were determined by analysis of variance. The results are presented in Table 5 in the next page indicating that as to the probability of the purchasing the main effect of bodily experience was statistically significant ($p= 0.011$). The group with bodily experience indicated higher probability of purchasing (mean 3,59) compared with the group of visual experience only (mean=3,01). As to the effect of value proposition on the probability of purchasing, the exposure produced a higher mean value (mean= 3,41) than in case of no exposure (mean = 3,19). As a whole the p-value of the exposure ($p=0,335$) indicate however that value proposition did not effect significantly on the probability of purchasing. The same basic state of affairs applies to the probability of recommending the product, given the p-value of the main effect ($p=0.001$) and the bodily and visual experience means of 3,88, and 3,16 respectively. As to the exposure of the value proposition, the means of exposure/no exposure were correspondingly 3,63 and 3,41 but the overall effect of proposition exposure on product recommending was not statistically significant ($p=0,319$). As a whole p- values of P*B ($p=0,465$, $p=0,927$, $p=0,058$ and $p=0,246$) indicate that no interaction can be found between proposition exposure and product experience. No statistically

significant effects could be found either as to the country of origin and favouring domestic products, indicating that pre-knowledge of the domestic product and its endurance did not play any significant role in terms of emotional value creation.

Table 5: Effect of proposition exposure and depth of product experience on purchasing intentions

Dependent variable	Source	Mean Square	F	p-value
Probability of purchasing	Proposition exposure	2,324	0,934	0,335
	Product experience	16,512	6,6634	0,011
	P*B	1,336	0,537	0,465
Probability of recommendation	Proposition exposure	2,403	0,998	0,319
	Product experience	25,774	10,703	0,001
	P*B	0,02	0,008	0,927
Importance of country of origin	Proposition exposure	0,284	0,085	0,771
	Product experience	0,379	0,113	0,737
	P*B	12,163	3,637	0,058
Favouring of domestic products	Proposition exposure	0,025	0,012	0,914
	Product experience	0,858	0,398	0,529
	P*B	2,914	1,354	0,246

IMPLICATIONS AND FURTHER RESEARCH

The original aim of the study was to challenge if there are design-based furniture products the perceived product design of which cannot be grasped otherwise than through bodily experience only. In this respect some support from the results of this study can be found given that bodily experience led clearly to a change of emotional value creation when applied as the indicator of the perceived product design. The results emphasize the role of kinaesthetic design in particular and corresponds the views of Keuzbauer and Malter (2005) who also acknowledge the importance of physical interaction. As it has turned out to be, an interaction of this type effects up to the level of purchasing intentions implying that in furniture sales a decisive first step is to get the customer to try the product. Given that products create positive emotional response when products exceed consumer expectations in important benefit dimensions (e.g. Chitturi *et al*, 2008), the results of this study indicate that corresponding information may be lost if one trust to feedback which is of visual origin only. The results are also in line with views of Creusen and Schoormans (2005) who demand that because product appearance may impact in many ways on product choice new products should be tested with consumers in order to make sure if a positive influence is in question. From managerial point of view, it is concluded here that in order to manage the kinaesthetic design properly furniture manufacturers should apply experimental new product strategy which is based on rapid prototyping. In case one does not target radical new design innovations or new design languages (cf. Verganti, 2008), development of ready like prototypes and testing them immediately with customers may not be necessarily the more costly than to collect customer feedback via marketing research and/or product planning tools. As it has been found out elsewhere, collecting customer data which is based on conventional marketing research is not easy, it cannot be done cost free either and it takes time too. One should also note that rapid prototyping has certain advantages independent of the degree of product newness in the sense that prototyping forms an important part of creative activities and makes it understandable what is possible and what is not (e.g. Evans and Campbell, 2003)

As to the terms of new product adoption, the results indicate that expressing value propositions which emphasize the domestic origin of the product and its endurance, a certain change of perceived customer value takes place inside the visual and bodily experience. However the effect does not keep up to the purchasing intentions which may be simply due to the fact that the illustration was quite modest compared to any commercial ads and there was no repetition of the exposure either. In this respect further research with more extensive exposure of value propositions is highly desirable. One should also be cautious with the results therefore that polytechnic students are in question. Even if focusing students is a popular means to collect some desired research data quickly and economically, students are not necessarily in the same consumption position as the people who already have entered into a regular working life, have established their families and most probably have more experience as furniture buyers.

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ASYMMETRIC ADJUSTMENT IN LONG-RUN PURCHASING POWER PARITY: EVIDENCE FROM G-7 COUNTRIES

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ABSTRACT

This study employs the asymmetric error-correction models to research the mechanism of asymmetric adjustment in long-run purchasing power parity (PPP) for G-7 countries. One of the most important policy implications of our study is that PPP is able to determine the equilibrium exchange rate for these G-7 countries, with the exception of Canada, and what this implies is that for the government of France, Italy, and Japan may prefer to use the nominal exchange rate to protect any gains in competitiveness following a negative shock to PPP, or may be wary of allowing a nominal depreciation following a positive shock to PPP.

INTRODUCTION

During the past several decades, considerable effort has been put into testing the validity of purchasing power parity (PPP) hypothesis as it has important implications in the international macroeconomics. The basic idea behind the PPP hypothesis is that since any international goods market arbitrage should be traded away over time, we should expect the real exchange rate to return to a constant equilibrium value in the long run. Studies on this issue are critical not only for empirical researcher but also for policymakers. In particular, a non-stationary real exchange rate indicates that there is no long-run relationship between nominal exchange rate, domestic and foreign prices, thereby invalidating the purchasing power parity (PPP). As such, PPP can not be used to determine the equilibrium exchange rate and invalid PPP also disqualifies the monetary approach to exchange rate determination, which requires PPP to hold true.

The theory of PPP remains the cornerstone of modern international macroeconomics and thus there have been a number of studies attempts to test the validity of PPP in the theoretical and especially the empirical literature. Details about previous studies see the work of Taylor (1995), Rogoff (1996), MacDonald and Taylor (1992), Taylor and Sarno (1998), Sarno and Taylor (2002), Taylor and Taylor (2004), and Lothian and Taylor (2000, 2008) who have provided in-depth information on the theoretical and empirical aspects of PPP and the real exchange rate.

A number of studies have also provided solid empirical evidence for the non-linear and/or asymmetric adjustment of the exchange rate. Reasons for the asymmetric adjustment are the presence of transactions costs that inhibit international goods arbitrage and official intervention in the foreign exchange market may be such that nominal exchange rate movements are asymmetric (see, Taylor (2004); Taylor and Peel (2000); Juvenal and Taylor (2008)). Kilian and Taylor (2003) also suggest that nonlinearity may arise from the heterogeneity of opinion in the foreign exchange market concerning the equilibrium level of the nominal exchange rate: as the nominal rate takes on more extreme values, a great degree of consensus develops concerning the appropriate direction of exchange rate moves, and traders act as accordingly.

The present empirical study contributes significantly to this field of research because, first of all, by using the threshold cointegration test of Enders and Siklos (2001), it determines whether long-run PPP exists in these G-7 countries. Although empirical studies of similar design have previously been conducted for both Asian and African countries, this is not the case for G-7 countries. This study fills this gap in the literature. Secondly, to

the best of our knowledge, this study is the first of its kind to utilize the threshold cointegration test for long-run PPP in G-7 countries. Precisely what we find is that long-run PPP holds true for these G-7 countries, with the exception of Canada case, but that the adjustment mechanism is asymmetric.

The organization of the remainder of this paper is as follows. Section II presents the data we use in the study. Section III briefly describes the threshold cointegration test of Enders and Siklos (2001), and Section IV shows our empirical results. Section V concludes the paper.

DATA

Our empirical analysis covers G-7 countries: Canada, France, Germany, Italy, Japan, UK, and USA. Monthly data are employed in this study, and the time span is from January 1980 to September 2008 period. All consumer price index, CPI (based on 2000 = 100) and nominal exchange rates relative to the U.S. dollar data are taken from the International Monetary Fund's International Financial Statistics CD-ROM. Each of the consumer price index and real exchange rate series was put into natural logarithms before the econometric analysis.

A summary of the statistics of bilateral real exchange rate is given in Table 1. The Jarque-Bera test results indicate that, but for that of Japan case, for all other five country pairs, the bilateral real exchange rate data sets are approximately non-normal.

Threshold Cointegration Tests Based on Enders and Siklos' (2001) Approach

In this study, we employ the threshold cointegration technique advanced by Enders and Siklos (2001) to test for long-run PPP with asymmetric adjustments for the G-7 countries. This test involves a two-stage process. In the first stage, we estimate a long-run equilibrium relationship in the form:

$$e_t = \alpha_0 + \alpha_1 p_t^* + \alpha_2 p_t + u_t \quad , \quad (1)$$

where e_t is the logarithm of the foreign exchange rates in the domestic currency; p_t^* and p_t represent the logarithm of foreign and domestic price levels, respectively, and u_t is the stochastic disturbance term. Equation (1) is more appropriate for a floating exchange rate regime. For a fixed exchange rate regime, the nominal exchange rate e_t should be replaced by the domestic price level p_t as the dependent variable in that equation so that e_t now constitutes a regressor. The second stage pertaining to the OLS estimates of ρ_1 and ρ_2 is based on the following regression:

$$\Delta u_t = I_t \rho_1 u_{t-1} + (1 - I_t) \rho_2 u_{t-1} + \sum_{i=1}^l \gamma_i \Delta u_{t-i} + \varepsilon_t \quad , \quad (2)$$

where ε_t is a white-noise disturbance and the residuals, μ_t , in (1) are substituted into (2). I_t is the Heaviside indicator function such that $I_t = 1$ if $u_{t-1} \geq \tau$, and $I_t = 0$ if $u_{t-1} < \tau$, where τ is the threshold value. The necessary condition for $\{\mu_t\}$ to be stationary is: $-2 < (\rho_1, \rho_2) < 0$. If the variance of ε_t is sufficiently large, it is also possible for one value of ρ_j to be between -2 and 0 and for the other value to be equal to zero. Although there is no convergence in the regime with the unit-root (i.e., the regime in which $\rho_j = 0$), a large realization of ε_t will switch the system to the convergent regime. Enders and Granger (1998) and Enders and Siklos (2001) share the view that in either case, under the null hypothesis of no convergence, the F-statistic for the null hypothesis of $\rho_1 = \rho_2 = 0$ has a nonstandard distribution since the critical values for this non-standard F-statistic depend on the number of variables used in the cointegrating vector. In this study, we follow Enders and Siklos (2001) to calculate the critical values for the three-variable case. These critical values are not reported here but are available upon request. Enders and Granger (1998) also show that if the sequence is stationary, the least square estimates of ρ_1 and ρ_2 have an asymptotic multivariate normal distribution.

The model using equation (2) is referred to as the Threshold Autoregression (TAR) Model, while the test for the threshold behavior of the equilibrium error is termed the threshold cointegration test. If we assume the system is convergent, $\mu_t = 0$ can be considered the long-run equilibrium value of the sequence. If μ_t is higher than the long-run equilibrium, the adjustment is $\rho_1 \mu_{t-1}$, but if μ_t is lower than the long-run equilibrium, the adjustment is $\rho_2 \mu_{t-1}$. The equilibrium error therefore behaves like a threshold autoregressive process. The null hypothesis of $\rho_1 = \rho_2 = 0$ tests for the cointegration relationship and if this null is rejected, then this is evidence of cointegration among the variables. When the null hypothesis of $\rho_1 = \rho_2 = 0$ is rejected, it is worth testing further for symmetric adjustments (i.e., $\rho_1 = \rho_2$) by using a standard F-test. When adjustment is symmetric i.e., $\rho_1 = \rho_2$, equation (2) becomes the prevalent augmented Dickey-Fuller test. Rejecting both the null hypotheses of $\rho_1 = \rho_2 = 0$ and $\rho_1 = \rho_2$ indicates the existence of threshold cointegration and the asymmetric adjustments.

Instead of estimating equation (2) with the Heaviside indicator which depends on the level of μ_{t-1} , the decay can also be allowed to depend on the change in μ_{t-1} in the previous period. The Heaviside indicator can then be specified as $I_t = 1$ if $\Delta \mu_{t-1} \geq \tau$ and as $I_t = 0$ if $\Delta \mu_{t-1} < \tau$, where τ is the threshold value. According to Enders and Granger (1998), this model is especially valuable when adjustment is asymmetric as the series exhibits more ‘momentum’ in one direction than in the other. This model is called the Momentum-Threshold Autoregression (M-TAR) Model. The TAR model can capture a ‘deep’ cycle process if, for example, the positive deviations are more prolonged than the negative ones. The M-TAR model, on the other hand, allows the autoregressive decay to depend on $\Delta \mu_{t-1}$. Thus, the M-TAR representation is able to capture ‘sharp’ movements in a sequence.

In general, the value of τ is unknown, and it must be estimated along with the values of ρ_1 and ρ_2 . A consistent estimate of the threshold τ can be obtained by using Chan’s (1993) method to search among possible threshold values to minimize the residual sum of squares from the fitted model. Enders and Siklos (2001) apply Chan’s methodology to a Monte Carlo study to obtain the F-statistic for the null hypothesis of $\rho_1 = \rho_2 = 0$ when they estimate threshold τ using Chan’s procedure. As there is generally no prescribed rule as to whether to use the TAR or M-TAR model, the recommendation is to select the adjustment mechanism using a model selection criterion such as the Akaike Information criteria (AIC) or Schwartz criteria (SC).

EMPIRICAL RESULTS

This study chooses to use the threshold cointegration test considering asymmetric adjustments because the symmetric cointegration has lower power. The results of this test with a threshold value of zero using the USA as the base country are reported in Table 2. Under these conditions, we can reject the null hypothesis of $\rho_1 = \rho_2 = 0$ at the 10% significant level for only the UK case, which signifies that PPP does not hold for the rest of five countries. We conclude that PPP generally fails when we assume linear adjustment or allow for asymmetric adjustments. However, given the presence of measurement errors and/or adjustment costs, there is no reason to presume that the threshold value is equal to zero. As shown in Table 3, it is clearly apparent that there is widespread support for the PPP theory when we use Chan’s method to obtain a consistent estimate of the threshold value. The hypothesis of a symmetric adjustment is rejected for all of the countries with the exception of Canada case. Further, when we use the AIC model selection criterion, the M-TAR model is favoured in all of the cases with the exception of France case. We find strong evidence of long-run PPP between the USA and these five countries. In addition, whenever long-run PPP holds, we also reject the null hypothesis of symmetric adjustment. In France, Italy, and Japan three cases, the evidence indicates that $|\rho_1| < |\rho_2|$, which suggests that the speed of adjustment toward long-run PPP is faster in the case of a negative shock with respect to μ_t . On the contrary, in Germany and UK two cases, the evidence indicates that $|\rho_1| > |\rho_2|$, which suggests that the speed

of adjustment toward long-run PPP is faster in the case of a positive shock with respect to μ_t . To illustrate, the real exchange rate of France converges to its long-run equilibrium τ ($= -0.16353$) at the rate of 1.11% with a positive deviation, but at a considerably higher rate of 7.47% with a negative deviation.

In the light of the weight of evidence in support of asymmetric adjustments, we can use an asymmetric error-correction model to investigate the movement of the variables in a long-run equilibrium relationship. We estimate the following system of asymmetric error-correction models for each country:

$$\begin{aligned}\Delta e_t &= \alpha_{10} + \sum_{i=1}^K \alpha_{1i} \Delta e_{t-i} + \sum_{i=1}^K \beta_{1i} \Delta p_{t-i}^* + \sum_{i=1}^K w_{1i} \Delta p_{t-i} + \gamma_{1e} Z_{t-1}^+ + \gamma_{2e} Z_{t-1}^- + \varepsilon_{1t}, \\ \Delta p_t^* &= \alpha_{20} + \sum_{i=1}^K \alpha_{2i} \Delta e_{t-i} + \sum_{i=1}^K \beta_{2i} \Delta p_{t-i}^* + \sum_{i=1}^K w_{2i} \Delta p_{t-i} + \gamma_{1p^*} Z_{t-1}^+ + \gamma_{2p^*} Z_{t-1}^- + \varepsilon_{2t}, \\ \Delta p_t &= \alpha_{30} + \sum_{i=1}^K \alpha_{3i} \Delta e_{t-i} + \sum_{i=1}^K \beta_{3i} \Delta p_{t-i}^* + \sum_{i=1}^K w_{3i} \Delta p_{t-i} + \gamma_{1p} Z_{t-1}^+ + \gamma_{2p} Z_{t-1}^- + \varepsilon_{3t},\end{aligned}\quad (3)$$

where $Z_{t-1}^+ = I_t \mu_{t-1}$ and $Z_{t-1}^- = (1 - I_t) \mu_{t-1}$; μ_{t-1} are the residuals from equation (1); and $I_t = 1$ if $\Delta \mu_{t-1} \geq \tau$ and $I_t = 0$, otherwise. The choice of a non-zero threshold value follows the same procedure as that outlined earlier. Our choice of the appropriate lag length is based on the multivariate AIC. The results from the five estimated asymmetric error-correction models with a consistent estimate of the threshold value are given in Table 4. The estimated coefficients of Z_{t-1}^+ and Z_{t-1}^- determine the speed of adjustment for positive and negative deviations from long-run PPP, respectively. It is obvious that positive deviations from PPP are eliminated more quickly than are negative ones and that the exchange rate (not the price levels) is responsible for most of the adjustments. The results reported in Table 4 highlight the more general role played by the nominal exchange rate adjustment. For comparison, we also estimate the symmetric error-correction model for each country. The results reported in Table 4 are consistent with our findings indicate that the exchange rate (not the price levels) is responsible for most of the adjustments. We believe that the government of France, Italy, and Japan may prefer to use the nominal exchange rate to protect any gains in competitiveness following a negative shock to PPP, or may be wary of allowing a nominal depreciation following a positive shock to PPP. Finally, relative to the nominal exchange rate, we also find that the speed of the adjustment coefficients on price levels tends to be smaller in magnitude and statistically insignificant, a finding similar to that reported by Enders and Dibooglu (2001), Enders and Chumrusphonlert (2004) and Chang et al. (2009) for European, Asian and African countries, respectively. There is no question that our empirical results support long-run PPP with asymmetric adjustments for all G-7 countries, with the exception Canada. In the cases of Canada, the exchange rate is known to be especially ill-behaved. Our result is consistent with that of Kapetanios et al. (2003), who also found that the real exchange rate of Canada failed to reject the null of a unit root irrespective of whether linear or nonlinear tests were employed. Moreover, the Canadian real exchange was found to exhibit the strongest non-stationary characteristics of any country in the sample by a sizable margin. Our results are also in agreement with those of Enders and Dibooglu (2001), Enders and Chumrusphonlert (2004) and Chang et al. (2009) who found long-run PPP with asymmetric adjustment for European, Asian and African economies. One of the most important policy implications of our study is that PPP is able to determine the equilibrium exchange rate for these G-7 countries, with the exception of Canada, and what this implies is that for the government of France, Italy, and Japan may prefer to use the nominal exchange rate to protect any gains in competitiveness following a negative shock to PPP, or may be wary of allowing a nominal depreciation following a positive shock to PPP.

CONCLUSIONS

The aim of this study is to re-investigate the mechanism of long-run PPP in G-7 countries using the threshold cointegration test which allows for asymmetric adjustments. The results provide stronger evidence of long-run PPP with asymmetric adjustments for all the six countries, with the exception of Canada case. In addition to this, according to the asymmetric error-correction models, we find that negative deviations tend to be adjusted faster than positive ones for France, Italy, and Japan countries and the nominal exchange rates are the primary mechanism in the adjustment process that leads to the long-run equilibrium in these G-7 countries. These results have important policy implications for G-7 countries under study.

Table 1: Summary statistics: ln(real exchange rate)

	Canada	France	Germany	Italy	Japan	UK
Mean	0.228019	1.732899	0.547711	7.420366	4.808755	-0.46004
Median	0.211964	1.700852	0.51673	7.393806	4.792576	-0.4641
Max.	0.472816	2.176869	1.023593	7.818547	5.254977	0.044896
Min.	-0.01504	1.447733	0.258413	7.032262	4.31001	-0.73878
Std. Dev.	0.114565	0.161017	0.164772	0.16612	0.19517	0.14308
Skewness	0.28899	0.620675	0.59924	0.2769	0.130423	0.540209
Kurtosis	2.32104	2.602886	2.735114	2.352218	2.592127	3.561307
Jarque-Bera	11.4288	24.41806	21.65621	10.44078	3.369524	21.30905
Prob.	0.003298	0.000005	0.00002	0.005405	0.185489	0.000024
Obs.	345	345	345	345	345	345

Notes: The time span is from January, 1980 to September, 2008. $\ln(\text{real exchange rate}) = \ln(\text{nominal exchange rate}) + \ln(\text{foreign price level}) - \ln(\text{domestic price level})$; the USA as the base country.

Table 2: Estimated asymmetric adjustment equations using the threshold cointegration test with $\tau = 0$ (with the USA as the base country)

Index	ρ_1	ρ_2	Φ_μ^1	$\rho_1 = \rho_2^2$	AIC	Flag	Lags
Canada	-0.0091	-0.0063	0.41890	0.0273	-796.44413	MTAR	1
France	-0.0173	-0.0392***	3.36371	1.0298	-381.79405	TAR	4
Germany	-0.0367**	-0.0237**	3.8882	0.3286	-345.5485	MTAR	1
Italy	-0.0082	-0.0367**	3.42904	2.0689	-405.13421	MTAR	4
Japan	-0.0330*	-0.0423**	3.90501	0.1263	-320.08622	M-TAR	4
UK	-0.0521***	-0.0309	5.59901*	0.6661	-393.85472	M-TAR	4

Notes: 1. This F statistic for the null hypothesis of $\rho_1 = \rho_2 = 0$ follows a non-standard distribution; the critical values are tabulated at Table 1 of Enders and Siklos (2001).

2. The F-statistic for the null hypothesis $\rho_1 = \rho_2$ with the two variables in symmetric adjustment follows a standard F distribution.

3. *, ** and *** indicate significance at the 10%, 5% and 1% level, respectively.

4. Our choice of the appropriate lag length is based on the multivariate AIC.

Table 3: Estimated adjustment equations using the threshold cointegration test with a consistent estimate of the threshold value (with the USA as the base country)

Index	ρ_1	ρ_2	Φ_μ^*	$\rho_1 = \rho_2^2$	AIC	Flag	τ	Lags
Canada	-0.0109	0.1928***	5.4773	10.1200***	-806.4769	M-TAR	-0.05651	1
France	-0.0111	-0.0747***	6.2199*	6.6466**	-387.4469	TAR	-0.16353	4
Germany	-0.0832**	-0.0235*	6.36509*	5.1764**	-350.3998	M-TAR	0.09582	1
Italy	-0.0089	-0.0858***	6.9120**	8.9369***	-412.0125	M-TAR	-0.03226	4
Japan	-0.0336***	0.7455**	6.3106**	4.8294**	-324.8387	M-TAR	-0.13028	4
UK	-1.0088***	-0.0401***	13.1223***	15.2535***	-408.3608	M-TAR	0.09694	4

Notes: 1. This F statistic for the null hypothesis of $\rho_1 = \rho_2 = 0$ follows a non-standard distribution; the critical values are tabulated at Table 5 of Enders and Siklos (2001).

2. The F-statistic for the null hypothesis $\rho_1 = \rho_2$ with the two variables in symmetric adjustment follows a standard F distribution.

3. *, ** and *** indicate significance at the 10%, 5% and 1% level, respectively.

4. Our choice of the appropriate lag length is based on the multivariate AIC.

Table 4: Estimated asymmetric error-correction models with the USA as the base country

Country	Dependent Variable	Linear ECM		Threshold ECM			τ
		γ	Lags	γ_1	γ_2	Flag	
France	Δe_t	-0.0203* (- 1.8873)	1	-0.00489 (-0.3859)	-0.0691*** (-2.9498)	TAR	-0.16353
	Δp_t^*	-0.0014 (- 0.5647)	2	0.0031 (0.9715)	-0.0109** (- 2.2834)	TAR	-0.06876
	Δp_t	-0.0064** (-2.3012)	3	0.0133** (2.4950)	-0.0287*** (-4.8931)	TAR	0.02888
Germany	Δe_t	-0.0244** (-2.2350)	1	0.3505*** (2.8944)	-0.0269** (-2.4917)	M-TAR	0.09582
	Δp_t^*	-0.0031 (-0.6014)	1	-0.0435* (-1.7770)	-0.0012 (-0.2250)	M-TAR	0.00748
	Δp_t	-0.0176** (-2.0713)	1	0.4055* (1.6495)	-0.0180** (-2.123)	M-TAR	0.01397
Italy	Δe_t	-0.0218** (-2.0830)	3	-0.0085 (-0.7495)	-0.0830*** (-3.5346)	M-TAR	-0.03226
	Δp_t^*	0.0017 (0.59644)	2	0.0090* (1.9446)	-0.0036 (-0.8988)	M-TAR	0.00122
	Δp_t	-0.0023 (-1.1843)	4	0.0217** (2.4181)	-0.0032 (-1.6024)	M-TAR	0.01343
Japan	Δe_t	-0.0261** (-2.0621)	1	-0.0279** (-2.2209)	0.9025** (2.5137)	M-TAR	-0.13028
	Δp_t^*	0.0009 (0.6121)	2	0.0132*** (3.0126)	-0.0005 (-0.3192)	M-TAR	0.01085
	Δp_t	0.0060 (0.7075)	3	0.0074 (0.8691)	-0.0778 (-1.5666)	M-TAR	-0.0108
UK	Δe_t	-0.0368*** (-2.7916)	1	-0.9832*** (-4.0513)	-0.0330** (-2.5543)	M-TAR	0.09694
	Δp_t^*	-0.0033 (-0.4815)	2	-0.0650** (-2.2600)	0.0002 (0.02462)	M-TAR	0.00609
	Δp_t	-0.0172* (-1.8135)	1	-0.1049*** (-3.3556)	-0.0082 (-0.8304)	M-TAR	0.00737

Notes: The t-statistics are in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% level, respectively. Our choice of the appropriate lag length is based on the multivariate AIC.

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EFFECTIVENESS OF RATIONAL AND EMOTIONAL APPEALS ON WEBSITE PROMOTION

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ABSTRACT

The purpose of this paper is to examine the effectiveness of rational and emotional appeals in an online context. A review of the literature revealed intangible appeals maybe more appropriate for services due to service intangibility. Using websites as cues, it compares the differences between the two appeals in the context of boutique hotels. Results indicate emotional appeals are more effective than rational appeals. Findings imply that boutique hotels should use emotional appeals online to create a point of difference, and to maximise the return from investment due to their small advertising budget. This research extends the use of emotional appeals on a new medium.

INTRODUCTION

One of the fastest growing industries to use website advertising is the hospitality sector (Gan et al., 2007). Using the internet they are able to communicate and sell their services directly. It is also one of the most competitive industries, in Australia having more than 5,682 accommodation services compete for a share of the \$8 billion industry (ABS, 2006). For small accommodation providers such as boutique hotels the task becomes even more difficult with limited budget. Hence advertising online can be a cost efficient method of gaining national or even global awareness. However, research on online advertising in the context of boutique hotels is limited (Dahlen et al., 2003). To understand consumers' motives the literature describes two methods of advertising appeals that can attract consumers' attention online. The effectiveness of emotional and rational appeals has been a topic of interest for academics and practitioners. This research conducts a comparison between the two advertising appeals on the online medium for small boutique hotels.

Research by some studies have indicated emotional appeals were more effective for service related products (e.g. Batra and Ray, 1986; Mortimer, 2008). Services are more intangible than physical products and it would seem obvious that intangible appeal may be more important for services. On the other hand, rational appeals are advertising stimulus that supplies factual information about the brand, the product or the service that requires mental assessments of its attributes (Puto and Wells, 1984; Li, Li, and Zhao, 2009). The factual information can be a concrete cue when portraying a service quality in the advertisement. Interestingly, some researchers have indicated that rational appeals may be more important for services due to the intangible nature of services (Mortimer, 2005). However, with faster downloads, more creative multimedia can be used to evoke emotional appeals via images and videos on online advertisements (Li and Leckenby, 2007). It can be argued that emotional appeals in advertising can play a significant role on the internet due to the interactive nature.

There are other concerns, such as research on the use of emotional appeals on the virtual world is limited and most studies have focused on the use of banner ads (Yaveroglu and Donthu, 2008), and pop up ads (Nysveen and Breivik, 2005). Additionally, most research on service advertising focuses on professional services such as banking (Stafford, 1996). Hence, more research is needed to explore the effectiveness of the internet and other services context.

This paper therefore strives to bridge the gaps in the literature and to aid practitioners. The objective of this study is to examine whether emotional or rational advertising appeal is more effective for online hospitality services. Specifically, it looks at how attitudes toward websites, service expectations and attitudes toward the boutique

hotels may influence purchase intention under the two different conditions of advertising appeals. This paper is organised into four sections; (1) literature review, and model and hypotheses development, (2) research methods, (3) research findings and (4) managerial implications and limitations.

LITERATURE REVIEW

Emotional Appeal

The use of emotional appeal is one of the most common strategies by advertisers to draw the audiences' attention and liking towards the brand and its products. Its aim is to arouse different array of feelings in viewers (Grove, Pickett, and LaBand, 1995). Zeithaml and Bitner (1996) have explored major differences between search and experience qualities in terms of emotional appeals. They suggested goods such as cars have high search qualities as consumers can evaluate the attributes of a car before purchase. On the opposing scale services such as hotels have high experience qualities however it is more difficult to evaluate the attributes before purchase. Therefore, this poses the question if an intangible cue strategy can be more efficient than a tangible cue strategy for the hospitality industry.

Shostack (1977) suggested advertising strategies based on intangible cues may be more effective for services due to the hedonic nature of consumption. Hence transformational advertisements can be a powerful tool for services that relies on experience. In fact transformational ads are more commonly used in service commercials than product commercials because of their ability to associate the experience of using the brand with a set of psychographics (Albers-Miller and Stafford, 1999; Mortimer 2008). Further, Burke and Edell (1989) found that emotional advertising and customers' reactions to the advertisement have a direct relationship. Studies have found affect to be a powerful tool that can influence more than attitudes towards the brand (Derbaix, 1995). Researchers (such as Batra and Ray, 1986; Mortimer 2008) have also found that emotional responses to the advertisement significantly influenced consumer's attitude towards the advertisement. More importantly, Mattila (1999) empirically proved emotional appeals are more effective than rational appeals in creating positive attitude toward service providers.

Emotional cues in an advertisement can improve advertisement processing (Zinkhan, Johnson, and Zinkhan, 1992) by communicating the benefits and attributes of a product or a service. That is, the emotions themselves can represent the benefits and attributes of a product or a service. Emotions such as love, desire, joy and happiness can promote a hotel's attributes such as desire, happiness and restful. In addition, emotions can improve the communication of the message. Advertisers can create peripheral processing messages (Petty and Cacioppo, 1984) to capture consumers' attention. These messages are more memorable in consumers' mind by highlighting the positive and enjoyable experiences of a service or a brand (Puto and Wells, 1984).

Rational Appeal

Advertisements using rational appeals are characterised by the level of factual information being provided to consumers. An advertisement is informative if the consumer perceives the data as an important part of the ad and the data is verifiable (Puto and Wells, 1984). In addition, consumers acquire a greater ability to assess the product or the service's attributes after viewing the advertisement (Mortimer, 2005). Studies have suggested that the informative factor is a good predictor of advertisement likeability and brand attitude (Zinkhan, Johnson, and Zinkhan, 1992).

Past studies have discovered numerous factual cues that are available for advertisers (Grove, Pickett, and LaBand, 1995; Mortimer, 2008). Some of the common factual cues used by advertisers are, price, service guarantees, documentation of service performance and service availability. Puto and Wells's (1984) research confirmed that these cues meet the prerequisites required to be considered as factual information. Price cues can also act as a signal for service quality (Mortimer, 2008). Past studies have indicated it is possible to overcome intangibility and abstractness of services using tangible cues (e.g. Shostack, 1977;). Tangible cues can be directly or peripherally linked with a service through physical representation strategy (Stafford, 1996). Tangible cues can

also become part of the service firm's communication strategy and studies have discovered verbal and visual tangible cues can effectively convey service quality (Stafford, 1996; Hill et al., 2004).

Indeed, studies have indicated quality claims are used in service advertisements to reduce risks in consumers' mind (Berry, Conant, and Parasuraman, 1991). In addition, factual information of a brand creates a better understanding of the brand, consequently helping consumers during the decision making process (Mortimer 2005). Advertisements using informative appeals can transform intangible features of a brand into physical features. For example a hotel can portray a service quality image (intangible attribute) by displaying the accolades that the hotel has attained. Stafford (1996) found documentation had a positive effect on repurchase intentions for experiential services (i.e. hotels and restaurants). This proposition is also supported by various studies suggesting that consumers will pay more attention to information when consumption of products and services involve pleasure, fun or enjoyment (such as Hirschman and Holbrook, 1982; Stafford and Day, 1995; Mattila, 1999; Mortimer 2005).

However the actual use of factual information in service advertising still remains unclear. Numerous studies have conducted the content analysis of factual cues in service advertisements. However it is still unclear whether service advertisements contain more information than goods (Zinkhan, Johnson and Zinkhan, 1992). For the reasons it is difficult to determine whether factual or emotional cues are more effective in service advertising.

Other Relevant Literature

Attitude towards the website is important as the internet has proven itself as an effective advertising medium (Gan et al., 2007) and more organisations are introducing the web as part of their advertising strategy (Hollis, 2005). Advertising through the web represents many opportunities for small services to gain national or global recognition using a limited budget. Studies have indicated websites could be used to persuade, inform or remind customers about a company's services and offerings (Li and Leckenby, 2007). However, it is difficult to gain and attain customers' attention and interest on the websites due to sheer number of websites advertising through search engines (Geissler, Zinkhan, and Watson, 2006). Since it is important to attain and gain customers' attention and interest on websites, it is vital to make a strong first impression. Geissler, Zinkhan, and Watson (2006) suggested advertisers and web designers need to provide adequate levels of information and images. They suggested that key information and eye-catching graphics can influence purchase and consumer attitudes favourably. Further, the internet allows potential buyers to seek out information from various sources such as advertisers, retailers and third party sites to identify which service brand best satisfy their needs (Hollis, 2005). In addition, individuals do actively seek information to help make a purchase and relevant information to their purchase decision was sought from web and other sources (Hollis, 2005). These suggestions imply rational appeal maybe a better predictor of purchase intention since the websites are providing consumers with the important information.

Service expectations are important due to the unique dynamic nature of consumption experiences of services (Solomon et al., 1985). Zeithaml, Parasuraman, and Berry (1993) provided a model for 'total service experience' suggesting that a consumer's 'total service experience' consisted of three stages, pre-consumption, consumption and post-consumption. Research also suggests that customers' past experience and familiarity can influence service expectation of the service (Parasuraman, Zeithaml, and Berry, 1985). In addition, Burke and Edell (1989) study also showed there is a positive correlation between a customer's previous brand attitudes and attitudes towards the advertisement. Similarly, Mattila (1999) indicated that message strategies based on price is not an effective strategy when customers have low prior experience and familiarity about the brand. However, in order to understand the effect of service expectations, one can only measure 'expectations formed' which exists between pre-consumption and consumption stages of 'total consumption experience'. Therefore prior experience and familiarity of a brand must be controlled so as to not influence a customer's expectation of service quality.

Attitude towards the service provider is defined as, a learned predisposition to respond in a consistently favourable or unfavourable manner towards the sponsoring organisation (Fishbein and Ajzen, 1975; MacKenzie, Lutz, and Belch, 1986). Mattila (1999) indicated that an emotional message strategy received a stronger positive attitude toward the service provider than a rational message strategy. Other studies on emotional appeal also

suggest attitude towards the service provider can be enhanced by using emotional cues (Batra and Ray, 1986; Derbaix, 1995).

HYPOTHESES DEVELOPMENT

The ultimate aim of this study is to empirically show evidence that emotional appeals are more effective than rational appeals for experiential service providers (i.e. hotels) advertising online. A review of the literature verified a large portion of emotional advertising was dedicated to traditional media such as print and television advertisements (e.g. Batra and Ray, 1986; Mattila, 1999; Mortimer, 2008). The advertising effectiveness of advertisements using emotional and rational appeals is unclear and at best contradictory.

Mattila (1999), the most recent researcher looking at both types of advertising appeals have used four constructs namely, attitude towards the advertisement, attitude towards the company, service expectation and purchase intention to measure the relative advertising effectiveness. The overarching objective of this research is to compare the two types of appeals hence the first hypothesis proposed that:

H₁: Boutique hotel websites using emotional appeals will have a stronger positive effect on purchase intention than advertisements using rational appeals.

In the same vein, it is also expected that attitude towards the website, service expectation and attitude towards the service provider would differ significantly between hotel websites using emotional and rational appeals. As such, the following hypotheses are presented:

H_{2a}: There is a significant difference between websites using rational and emotional appeals on consumers' attitude towards websites.

H_{2b}: There is a significant difference between websites using rational and emotional appeals on consumers' service expectations.

H_{2c}: There is a significant difference between websites using rational and emotional appeals on consumers' attitude towards boutique hotels.

RESEARCH METHODOLOGY

A focus group was conducted to identify and categorise hotel websites evoking specific advertising appeals. A pack of eighteen website homepages of boutique hotels was printed and distributed to the group. This study has chosen low profile boutique hotel websites to control for familiarity. Past experiences of a service provider may affect service expectations (Zeithaml, Parasuraman, and Berry, 1993). The participants were then asked to separate all the prints into three separate groups representing rational, emotional or other appeal strategies. Eleven hotel websites were classified as either rational or emotional appeals formed the basis for the second pre-test. A new group of participants made up the second pre-test. A short self-administered survey based on the eleven websites identified two websites that evoked rational appeals and two websites that evoked emotional appeals. Respondents were asked how strongly they agree or disagree to each statement on a seven point scale. The mean score of the eleven websites was computed. The analysis showed Grace Hotel and Richmond Hill Hotel were the best indicators for "service accolade" and "price cue" (factual cues for rational appeals). Lilianfels Blue Mountains Resort and Spa and Hotel Lindrum were the best indicators of two emotional appeals "serenity" and "warmth" respectively.

Data was collected using a systematic intercept approach in the central hub of a large suburb in Western Australia. Respondents were approached by trained researchers over two weekends at different times of the day and at different locations to minimise bias selection. Respondents were asked for 10-15 minutes of their time to complete the short survey and were given every opportunity to refuse to participate in the research. Respondents were asked to imagine that they were planning for a weekend getaway and that they were deciding on the choice of a boutique hotel in an Australian holiday resort. They were asked to spend a few minutes examining web pages of a boutique hotel before completing a short self-administered survey.

The self-administered questionnaire comprised of four sections. Section one consisted of three coloured printed web pages of one of the four boutique hotels chosen by the focus group. Second two consisted of familiarity with the website (single item bipolar scale), attitude towards websites (four item bipolar scale adapted from Mattila, 1999), level of service expectations (three item bipolar scale adapted from Mattila, 1999), attitude towards boutique hotels (three item bipolar scale adapted from Peterson, Wilson and Brown, 1992) and purchase intention (four item scale adapted from MacKenzie, Lutz, and Belch, 1986) were measured. Section three comprised of two sets of manipulation checks for the respective appeals. Scale items from Holbrook and Batra's (1987) dimensions on standardised emotional profile (SEP) for the dimension of "warmth" (items consisting of tender, warm hearted and sentimental) and "serenity" (items consisting of restful, serene and relaxation) were measured using a seven bipolar semantic differential scale. It is predicted that websites using emotional appeals will score higher compare to websites using rational appeals. Tangible factual cues such as price and documentation of service excellence are used to measure intangible qualities of services (service accolades) (Mattila, 1999). Websites using emotion appeals will score lower compare to websites using rational appeals. Demographic information was collected in section four.

DATA ANALYSIS AND RESULTS

A total of 320 surveys were collected. After data cleaning a total of 249 questionnaires were deemed fit for data analysis. The sample was mainly represented by young adults under 30 (60.8%), males (62%). Results from the manipulation checks showed very low level familiarity for the four boutique hotels. Hotel Lindrum was the least familiar brand with a mean of 1.44, The Grace Hotel scored a mean of 1.45, Lilianfels Blue Mountains Resort and Spa scored a mean of 1.49 and Richmond Hill Hotel scored a mean of 1.92. (1 = Not at all, 7 = Very well). Websites utilising emotional appeals scored a significantly higher mean (mean = 5.13) than websites utilising rational appeals (mean = 4.23). As expected, websites utilising rational appeals scored a higher mean (4.19) than websites utilising emotional appeal (3.37). The Cronbach's alpha for Attitude towards websites ($\alpha = 0.868$), service expectations ($\alpha = 0.682$), attitude towards Boutique hotels ($\alpha = 0.818$), purchase intentions ($\alpha = 0.923$) and emotional appeal ($\alpha = 0.868$) are all deem acceptable for analysis.

The four advertising cues namely service accolades, price, warmth and serenity were regressed against purchase intentions. The results reflect that serenity and warmth predicted purchase intention. However websites based on service accolade ($p = .134$) and price ($p = .052$) did not predict purchase intentions (See Table 1). The results suggest emotional appeals are stronger predictors of purchase intention than rational appeals for boutique hotels. The two boutique hotel websites utilising emotional appeals showed a strong relationship with purchase intention (Sig value = .000 and .000, t-value = 4.338 and 6.386). Boutique hotel websites utilising rational appeals showed no significant relationship with purchase intention (Sig value = .134 and .052, t-value = 1.502 and 1.949). Hence emotional appeals are a stronger predictor of purchase intention, hence H_1 was accepted.

Table 1
Regression Analyses of Advertising Appeal on Purchase Intention

Advertising Cues	Beta	t-value	Sig-value
Service Accolades (R1)	.057	1.502	.134
Price (R2)	.073	1.949	.052
Warmth (E1)	.243	4.338	.000*
Serenity (E2)	.354	6.386	.000*

Dependent variable = Purchase intention

* Significant at $p < .05$, $R^2 = .339$

Independent t-Test analysis measured the relative differences between rational and emotional appeals for attitude towards websites, service expectations and attitude towards boutique hotels (H_2). Table 2 reflects the results. The four different advertising appeals (service accolades, price, warmth, serenity) were grouped into two variables (rational and emotional). The rational variable was specified as a "group 1" and the emotional variable was specified as "group 2". The results showed there is a significant difference in consumers attitude towards websites using rational and emotional appeals (Sig. value = .034). As such, H_{2a} will be accepted. However the results indicated that there is no significant difference in service expectations as well as the attitudes towards

hotels between websites using rational and emotional appeals (Sig. value = .480). Hence it can be concluded that H_{2b} and H_{2c} are rejected.

Table 2
Summary of t-Test analysis

Independent Variable	Rational Web Mean	Emotional Web Mean	Sig. value	F-value
Attitude towards the website	4.38	5.30	.034*	4.539
Service expectation	4.61	4.89	.480	.501
Attitude towards the service provider	4.56	5.27	.176	1.836

*Significant at 95% confidence

CONCLUDING COMMENTS

This study provided some empirical evidence to state that emotional appeals are more effective than rational appeals for hospitality services advertising online. Specifically, websites using emotional appeals tend to show a positive relationship between attitude towards hotels and attitude towards websites, and purchase intention. This study has broadened the scope of service advertising literature by exploring the role of emotions on a new advertising medium. Past studies have shown emotional appeals were more effective than rational appeals in traditional media such as television and print (e.g. Batra and Ray, 1986; Mattila, 1999; Hill et al, 2004). The results indicated that emotional appeals showed a stronger relationship in predicting purchase intention than rational appeals. This further strengthened the concept proposed by other scholars (Batra and Ray, 1986; Mattila, 1999; Mortimer 2008).

Internet as an advertising medium offers many advantages over the traditional mediums and hence its importance is growing among advertisers. The ultimate aim of this research was to show advertising utilising emotional appeals can be as effective online as it is offline. Since advertising online is cheaper than television and print advertising it is an attractive alternative. However, internet users are meticulous (Singh and Dalla, 1999) and on average only spend around 30 seconds on each website. Thus it is crucial to create a positive first impression to gain and attain consumers' attention and interest (Geissler, Zinkhan, and Watson, 2006). Results from the study have indicated emotional advertisements are better at gaining and attaining interest and attention. Further, attitude towards the website utilising emotional appeals had a stronger relationship with purchase intention. Hence, it makes sense for service advertisers and managers to choose emotional appeals when they are advertising online. Further, cost efficiency is particularly important for small boutique hotels due to a limited advertising budget. This research shows how boutique hotels can maximise advertising effectiveness on the web. The internet is a cost effective and global medium, and it is vital for small boutique hotels to maximise the output from their online campaign.

In addition, they cannot afford to compete against multi-national hotel chains based on price due to their small size. However, being small and boutique can also be highly advantageous. Since these boutique hotels are small in size they are able to provide a superior service, hence they can differentiate on these unique experiences. As a result, emotional appeals can portray the unique experience online and this will assist a boutique hotel differentiate itself from its competitors. For these reasons emotional advertising on the internet can be highly beneficial for small boutique hotels.

There are a number of limitations in research, generalisability is limited due to a small sample size. Future researchers should aim for a larger and a more controlled sample to increase the reliability and validity of the results. This research has only studied on the relationship between purchase intention and two emotional cues, warmth and serenity (Holbrook and Batra, 1987). Further, it is limited to the relationship between purchase intention and two rational cues namely price and service accolades. In addition, future studies should measure the differences between negative and positive emotional cues on purchase intention. Finally, the service providers' homepage was printed on a standard A4 paper for evaluation. Hence it does not represent the full web experience (i.e. animations and sounds are not captured). As the result an online survey may be more appropriate to capture the entire web experience.

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CHARITABLE DONATIONS IN BRUNEI

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ABSTRACT

This study replicates and extends Schlegelmilch, Love and Diamantopoluos's (1997) study by comparing the demographic, psychographic and sociographic factors of donors and non donors in Brunei. The study found that Brunei's charitable donation is distinct to other nations due to its unique culture and welfare. The findings indicate non donors' lack of charitable donation experience is a major issue in Brunei. Further, the difference between donors and non donors' perception of charitable efficiency is shown to be significant. In addition, new directions radiating from the limitations of the study are proposed.

INTRODUCTION

Driven by competition, charitable organisations are incorporating marketing concepts to new and drastic changes in the social, economic and political environment of the world. These organisations have adopted to function like a business and it is only appropriate to analyse donors as the 'customers' of the organisation. Hibbert and Horne (1996) outlined the importance and relevance of charitable donations due to the major shifts in the charity industry. However, the application of marketing concepts to non-profit organisations has been heavily debated since the 60's (Hibbert and Horne 1996) but has not met with any consensus. Schlegelmilch, Diamantopoluos and Love (1997) suggest that there has been a declining or at best, stagnant level of donations among the UK community. Furthermore, our understanding of donors' characteristics is limited as the majority of research in this discipline has been conducted in a 'westernised' culture (e.g. Basil, Ridgway and Basil, 2008). This paper aims to explore the characteristics of charitable donations in Brunei, a country that is significantly different in terms of demographics, lifestyle and culture to those such as the United States, United Kingdom and Australia. It is also significantly different in culture to those neighbouring nations that are usually associated with Brunei, such as Malaysia, Indonesia and Singapore. Additionally, this paper aims to research the community of Brunei by analysing their demographics, perceptions on charity organisations and their "world mindedness" towards charitable donation.

The paper will be structured initially by briefly describing the socioeconomic and charitable donation behaviour in Brunei. Further, the importance of Brunei culture is also outlined. The following section discusses the existing charitable donation literature and determines certain characteristics of donors. The study will replicate and extend Schlegelmilch, Diamantopoluos and Love's (1997) study in the Bruneian context. The results will be compared to previous studies from UK and Australia. Further, the 'world mindedness' construct has not been tested in a charitable donation context (Rajendran and Rawwas, 1996) and it has been incorporated into the questionnaire to explore its relevance. Results will be discussed and the paper will conclude with implications and limitations of the research.

LITERATURE REVIEW

Charitable donation or the simple act of giving to others has been instilled within the human behaviour for as long as we can remember. The simple act of charity is accredited to the human helping behaviour. This behaviour is explained by the altruism theory. The empathy-altruism hypothesis from social-psychology studies show that people are not always self-seeking and driven by empathy they often help out others (Baston, 1991;

Eveland and Crutchfield, 2007). Further, one of the key functions of a charity is to raise funds to enable them to carry out their primary purpose which is, for the relief of poverty or for the advancement of education, or for the advancement of religion or for other purposes beneficial to the community (Charities Digest, 1995). It has also been proposed that people donate to charities that fit with the donors' self image (Polonsky, 2000). Schlegelmilch, Diamantopoluos and Love's (1997) research acknowledged that individuals, who are more familiar with the charitable organisation mainly due to previous volunteering experience, are more likely to donate to those charities.

Parsons (2002) has outlined that charities generating revenue through retail outlets need to provide diverse range of services. Traditionally, "thrift" shops are often temporary, volunteer managed, selling donated goods at low prices. While modern outlets are more "upmarket" shops, which employ aid management, sells new and donated goods, and occupy more prominent premises (Parsons, 2004). Due to the diversity of its customers charities function like a business while maintaining their core set of beliefs such as providing essential services to the community.

Further, as with most businesses, competition is an important factor that has affected the function of the non-profit industry. Competition has increased professionalism of the non-profit industry however, success comes at a cost. A current trend outlined by Horne (1998) shows the effects of competition on charity shops in the distribution system. The research observed downturn in the number of goods being donated to a shop due to a lack of 'park and drop' facility. Instead, these donations went to other charities that offered a "pick up" system. Further, as most second hand goods are donated, there is less control in supply of products. Therefore, there is no continuity of stock for donated goods. The customer will purchase in one shop and move onto the other to search for compatible goods (Horne, 1998). This implies that loyalty and retention towards a charity shop is relatively low in the industry and therefore may prove to be detrimental to the 'new look, business concepts charity shop'. Hence, the competition in operating charity shops is two folds, collection and selling of donation goods.

Demographic Factors

Literature shows demographic variables such as age, income, occupation and geo-demographic are important factors that can be segmented to explore the impact on giving behaviour (Sargent, 1999). Demographics factors such as, gender, age, income, education and family size are discussed. Gender seems to be an issue that is highly inconsistent amongst the literature (Schlegelmilch, Diamantopoluos and Love, 1997). Scholars suggest that gender is an important variable when trying to measure the characteristics of charitable donations (Schlegelmilch, Diamantopoluos and Love, 1997). Adversely, other readings suggest that women tend to donate more than men (Schlegelmilch, Love and Diamantopoluos, 1997). However, these issues are blurred by the fact that these respondents could be influenced by the social desirability factors (Louie and Obermiller, 2000).

Schlegelmilch, Love and Diamantopoluos (1997) have outlined that donations and age are directly linked. However, other studies found that age is not a factor in determining the characteristics of donors (Louie and Obermiller, 2000). It has been suggested that these inconsistencies are due to recent changes in trends of donating to charity.

Most of the literature indicates that income is an important characteristic in determining charitable donations. It states that disposable income is directly linked with the likelihood to donate (Schlegelmilch, Diamantopoluos and Love, 1997). Bennett (2003) further emphasises the fact that people with a lower disposable income tend to donate to "more needy people" as they empathise more with them. However, people with a higher disposable income tend to donate more to charities that are concerned with the environment, third world issues or other global issues.

Past studies have shown a positive correlation exists between the level of education and disposable income (Chua, 1999). Thus, education can have an indirect impact on charitable donation. However, there is evidence to support that the education level has no affect on charitable donations (Schlegelmilch, Diamantopoluos and Love, 1997). The literature further emphasises that individuals who had left school at an earlier age or left school without graduating are more likely to donate to charity in comparison to higher educated donors.

In addition, the number of children in a household has shown to have a direct impact on the likelihood of charitable donations (Bennett, 2003). Kanabar (2004) further proposed that the “size of the family” is seen as a characteristic that affects the tendency for Australians to donate.

Based on the demographics factors the following hypotheses are depicted:

H1: There is a significant relationship between gender and charitable donation

H2: There is a significant relationship between age and charitable donation

H3: There is a significant relationship between income and charitable donation

H4: There is a significant relationship between education and charitable donation

H5: There is a significant relationship between family size (number of children) and charitable donation

Psychographic Factors

Further Schlegelmilch, Diamantopoluos and Love (1997) have outlined a number of psychographic factors that can influence charitable donations. These factors include, perceived generosity of self, perceived financial security of self and importance of religion. Schlegelmilch, Diamantopoluos and Love (1997) found that the more generous donors perceive themselves to be, the more likely they are to donate to charity. Perceived generosity of self was an important variable in distinguishing between donors and non donors on their donation intentions. In the same research, no relationship was recorded between perceived financial security of self and charitable donations. Further, the study acknowledges that if an individual regards themselves as financially secure or “not too worried” about their financial state in the future does not predict future donation.

Literature identifies religion as an important issue on the characteristics of charitable donations. Schlegelmilch, Diamantopoluos and Love (1997) proposed that it is very important to take into consideration the religious donations to Mosques and churches and other religious organisations as donations is one of the fundamental aspects or criteria in the teachings of religion. The majority of the literature suggests that the more religious a person perceives themselves to be, the more likely they are to donate to charity as depicted within Schlegelmilch, Diamantopoluos and Love’s (1997) study. However, Kanabar (2004) replicated research in the Australian context rejected this theory of religion. With this in mind, religion would play a significant role in determining the characteristics of charitable donations in the context of Brunei as it is a country that is heavily governed by Islam.

Based on these findings, the study predicts the following:

H6: Donors perceive themselves as more generous than non donors

H7: Donors perceive themselves as more financially secure than non donors

H8: Donors perceive that religion is more important than non donors

Sociographic Factors

Moreover, Schlegelmilch, Diamantopoluos and Love (1997) identified sociographic factors such as, charities’ efficiency and attitude towards charities to be important. Additionally, the concept of “world mindedness” is adopted in the study to measure its impact in a charitable donation context.

Further, the government’s declining level of involvement within the charity sector has pushed the private sector to provide more services to the needy (Schlegelmilch, Diamantopoluos and Love, 1997). However, the general public may perceive that the government needs to provide charitable services from their tax income. Brunei is a totally different context and the study will provide a different perspective as there are no income taxes in Brunei.

The perceptions towards charitable organisations differ greatly as the process of donation to charity becomes more elaborate. It is a common practice for donors to perceive that all of what they donate will ‘reach’ the actual needy cause, yet many other individuals are aware of certain administration costs and fundraising. Schlegelmilch, Diamantopoluos and Love (1997) have proposed that organisational accountability greatly affects an individual’s tendency to donate to charity. That is, the donors want to ensure that most, if not all of their donations reach the actual cause or the needy. The administration costs as well as the efficiency of any costs

associated with the charitable organisation, is deemed to play a significant role in donations to that particular charitable organisation.

“World mindedness” individuals are individuals that are described as being people who have a great knowledge as well as interest in global issues as well as people who value the world spirit and its development (Rajendran and Rawwas, 1996). The increase in multinational marriages and increasing developments in technologies have created more ‘hybrid’ cultures across the globe (Rajendran and Rawwas, 1996) and these hybrid cultures are more appreciative towards a sharing world. They are also more empathetic towards others. Rajendran and Rawwas (1996) described this phenomenon as “world mindedness”. They suggested that world mindedness is positively related to their willingness to purchase foreign products. This factor has not been tested previously in a charitable donation context. The study examined whether Bruneian preferred to donate to local or international charities.

Based on these assumptions, the study hypothesises:

H9: Donors identify charities to be more efficient than non donors

H10: Donors have a more positive attitude towards charities than non donors

H11: Donors who are world minded are more likely to donate more than non world minded people

METHODOLOGY

Data Collection & Survey Instrument

Data was collected via a mail questionnaire and it was distributed in a number of selected areas in Brunei. The respondents were selected randomly within these selected areas. The respondents included permanent resident holders, expatriates and even foreigners (Green identity card holders) who have at least lived in Brunei for not less than 5 years. A cross sectional study of individual donor in Brunei is empirically measured using these parameters.

A replica survey questionnaire from Schlegelmilch, Diamantopoluos and Love’s (1997) research was adopted in the study. Additionally, the concept of “world mindedness” has been added to the questionnaire. The questionnaire consists of three sections. Section one measured psychological factors. It consisted of three scales, perceived generosity of self, perceived financial security of self and perceived importance of religion. Section two measured donor’s sociographic characteristics using three scales, perceived charity efficiency, attitude towards charities and world mindedness. All items were measured on a five-point Likert scale with 1 representing “strongly disagree” and 5 representing “strongly agree”. Section three comprised of demographic information of respondents. The dependent variable of the study was the categorised into donors who had a) donated locally and b) donated overseas, both within the past year prior to the questionnaire.

FINDINGS AND DISCUSSION

Sample

In total, 300 useable questionnaires were collected from the Brunei population. Of these 274 respondents had donated before. There were more females (53.7%) than males respondents (46.3%). In terms of age, the majority of the respondents fall between the “26-35 years of age” (34.7%) and the “less than 25 years of age” (32%). Additionally, the majority of the respondents are “single” (52.3%) or “married” (40%). In terms of household income, a large number of respondents fall into the “less than \$20,000 income” bracket (43.3%). Not surprisingly, a large group of respondents recorded an income bracket higher than that of \$46,000 (30.3%). The results reflect a high level of income per capita as suggested by the literature. Furthermore, the results from the “family size” were very surprising. It showed that the majority of the respondents fall into the “5+” family size category (39.3%). Moreover, analysis reports that respondents with “no” children accounted for a majority (45%). A child was classified as being 16 and under. This indicates that even though the majority of respondents have significantly large families and, there are also households with no children. This suggests that when children grow old, they take on the responsibility of looking after the entire family.

Results

To measure charitable donation, respondents who have donated within the past year are included in the sample. Pearson's chi square test was used to test $H1-H5$ and the results are depicted in the Table 2. According to the Fisher's Exact test, there was no significant difference between the gender of the respondents and their propensity to donate ($0.538 > 0.05$). The analysis shows that gender does not influence an individual's tendency to donate, and thus, $H1$ is rejected (Table 2). The finding coincides with the results from Kanabar (2004) and Schlegelmilch, Love and Diamantopoluos (1997). It shows that no significant relationship exists between gender and donation.

Hypothesis 2 predicts that donors are more likely to be older individuals. However, the chi square test failed to show any significant relationship between age and charitable donations ($0.861 > 0.05$), thus $H2$ is also rejected (Table 2). The result reflects Kanabar's (2004) findings, his study also rejected this hypothesis.

An analysis between the relationship between the respondents' household income and charitable donation was conducted to test hypothesis 4. The result shows no significance ($0.076 < 0.05$), hence $H3$ is rejected (Table 2).

The Pearson's chi square test was used to test the relationship between respondents' education level and charitable donation. The findings confirm that there was a relationship between these two factors ($0.014 < 0.05$). Thus, $H4$ is accepted (Table 2). This coincides with Schlegelmilch, Diamantopoluos and Love's (1997) research and shows donors with higher education actually do donate more than donors with lower levels of education.

The Pearson's chi square test was used to determine the relationship between family size and charitable donation. The results show no significant relationship ($0.205 > 0.005$). Kanabar's (2004) study in the Australian context shows no significant relationship between family size and charitable donation and in the same vein $H5$ is rejected (Table 2).

An independent t-Test was used to test $H6-H11$ and the results are depicted in the Table 2. The first t-Test was conducted between perceived generosity of self and charitable donation. The findings indicate that there was no significant difference between donors and non-donors' perceived generosity of self ($0.562 > 0.05$). Hence, $H6$ is rejected. This result contradicted with the findings from Kanabar's (2004) and Schlegelmilch, Diamantopoluos and Love's (1997) research. They suggested that donors perceived themselves as more generous than non donors.

An analysis between donors and non donors' perceived financial security was conducted to test hypothesis 7. Results indicate that there was no significant relationship between donors and non donors' perceived financial security and ($0.079 > 0.05$). Therefore $H7$ is rejected (Table 2). This result coincides with Schlegelmilch, Diamantopoluos and Love's (1997) conclusions. However, Kanabar's (2004) study in the Australian context showed donors perceived themselves more financially secure than non donors.

Importance of religion in a charitable donation context is measured using an independent t-Test. Results show that the majority of respondents deemed their religion as a 'very important' aspect of their lives (44.7% of respondents). Further, a large majority indicated that religion is also 'quite important' in relation to their lives (24% of respondents). The findings show the importance of religion in the Bruneian charitable donation context. This notion is further supported by the independent t-Test results. The results indicate that there is a significant relationship between the donors and non donors' perceived importance of religion ($0.000 < 0.05$). Hence, $H8$ is accepted (Table 2).

Donors and non donors show different perception of charity efficiency (See Table 4). Result shows that there is a significant relationship between donors and non donors' perception on charity efficiency ($0.049 < 0.05$). In summary, donors perceived charities to be highly efficient compare to non donors. Thus, $H9$ is accepted (Table 2).

Attitude towards charities consisted of three dimensions, "government responsibility", "postal appeals" and "effectiveness of national/international charities". Government responsibility measured the role of government

in providing social services for the needy. Postal appeals consisted of the annoyance and the increasing number of charity appeals that are posted through mail. Additionally, the effectiveness of national/international charities dimension consisted of donors and non donors' perception of national or overseas charities. Results indicate that there are no significant differences between donors and non donors on each dimension of attitude towards charities (Government responsibility $p = 0.688$, Postal appeals $p = 0.947$, Effectiveness of national/international charities $p = 0.975$). Based on these empirical findings $H10$ is rejected (Table 2).

Hypothesis 11 was tested using an independent t-Test. Result shows that there is no significant relationship between donors and non donors' world mindedness ($0.291 > 0.05$). Therefore $H11$ is rejected (Table 2). Hence, there are no differences in donors' donation whether they are world minded or non world minded people.

A summary of the research findings are presented in Table 2.

Table 2: Summary of Results (H1-H11)

Hypothesis	<i>p</i> value (5% confidence)	Results from Brunei (Accept/Reject)	Results from UK (Accept/Reject)	Results from Australia (Accept/Reject)
H1	0.538	Reject	Rejected	Rejected
H2	0.861	Reject	Rejected	Rejected
H3	0.076	Reject	Accepted	Rejected
H4	0.014*	Accept	Accepted	Rejected
H5	0.205	Reject	n/a	Rejected
H6	0.562	Reject	Accepted	Accepted
H7	0.079	Reject	Rejected	Accepted
H8	0.000*	Accept	Accepted	Rejected
H9	0.049*	Accept	Rejected	Rejected
H10	0.688	Reject	Rejected	Accepted
H11	0.291	Reject	n/a	n/a

IMPLICATIONS & FUTURE DIRECTIONS

Firstly, $H1$ and $H2$ are rejected and these findings are reflective of previous studies in the UK and Australia. It shows that there is no relationship between gender and age, and the person's likelihood of a donation. Thus, anyone could be a donor and donors cannot be stereotyped into one group. The UK study shows that "income" predicted the donors' propensity to donate ($H3$). However, this suggestion was rejected within the Australian and Bruneian culture. Hence in Brunei, charitable donors could be the poor or the rich. Donors are more likely to be highly educated in Brunei and UK ($H4$). Additionally, family size did not play a role in the likelihood of a donation ($H5$). Therefore non-profit managers in Brunei could target donors based on donors' education level.

Results show that perceived generosity does not play an important role in Brunei compare to the other two studies ($H6$). The cause of this phenomenon could be due to the influence of the Bruneian culture. That is, the government takes a large responsibility for charitable events in Brunei and for this reason charitable donations from citizens are limited. Thus, that may have impacted on the perceived generosity in the study. Further, from the observations, the study found a large and significant amount of respondents stating that they "don't know" to the perceived generosity of self question. Due to the lack of donation experience and Bruneian's introverted culture non donors' lack of knowledge may have compounded the impact of perceived generosity. Moreover, donation is apart of the everyday life amongst both the Bruneian government and its people. Therefore questioning how much one donates in comparison to another isn't an important factor to its people.

The findings state that there is no difference between donors and non donors' perception of financial security (*H7*). One major factor that may have influenced this relationship is that the data was collected during the economic boom when the oil prices hit record highs. Brunei is an oil producer and during this economic environment the country profited from low levels of employment and high levels of prosperity. Hence, that may have contributed to donors and non donors' attitude on financial security.

Analysis of the results shows that *H8*, "importance of religion", plays a significant role in determining a donor in Brunei and the UK. This hypothesis was rejected however in the Australian context. This result however is not surprising as religion is already an important aspect of the Bruneian lifestyle. It is heavily incorporated in nearly every aspect of the nation. Brunei and its people focus heavily on its religion and also boast that most of their everyday on goings revolves around religion. This implies that charity organisations will most likely need to urge more donations by focusing on mainly the religious aspect of the donation to charity, or the affiliating the organisation with certain religious backgrounds.

Furthermore, perceived charity efficiency is shown to be major factor of charitable donation in Brunei. A significant difference was recorded between donors and non donors' perceived charity efficiency (*H9*). That is donors perceived charitable organisations to be efficient and as a result they are likely to donate to charities. In the same vein, non donors perceived charities to be inefficient and assumed that a large amount of the donation will go to administration costs. Hence, they were less likely to donate. The studies from UK and Australia found no differences, and it suggests that non donors' knowledge of charities is relatively high. Due to the Bruneian culture, non donors lack of knowledge about charities' operations. Limited charitable donation experience may have contributed to the lack of knowledge and this is understandable since a large number of charitable events are held by the government. Hence, charitable organisations in Brunei should look to rectify this issue by educating non donors about their operations. This may increase the likelihood of a charitable donation in Brunei.

Analysis showed no difference between donors and non donors' attitude towards charities (*H10*). In Brunei, donors and non donors both believed that the government has a major role in providing social services. This result was also reflected in the UK study. However, the Australian study showed that donors' attitude towards charities was more favourable than non donors, suggesting that donors and non-donors viewed the importance of charities. World mindedness of an individual has no impact on the propensity to donate and thus *H11* is rejected. The concept of world mindedness has no impact on charitable donations in an Asian context. However, it has not been tested previously in a western context and it provides an interesting stream to study in the future.

The sample population used in this research was 300 and it does not represent the true opinions of Brunei as a whole. However, please note that the population of Brunei is relatively small (just over 300,000). Thus, the sample size of the study is quite high in relative to the population size compared to other studies (i.e. Australia and UK). Further, Brunei does not have many charity appeals through the post and this was reflected by a low mean score ($x = 2.84$) for the second dimension (postal appeals) of attitude towards charities. Hence, that may have an effect on some of the results. As discussed earlier the data was collected during a boom time in a resource rich country and this may have an effect on this research's findings. Hence, a replicate study in a different economic environment may show a different result. Further, Brunei is a unique country due to a small population size and rich resources. Therefore the generalisability of the findings is limited even within the Asian context. It will also be interesting to explore the differences between donors and non donors in nations such as South Africa and other nations from the Middle East.

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CONCEPTUAL MODEL FOR THE ASSESSMENT OF CLIMATE PRACTICES AND STRATEGIES: RESULTS OF ITS APPLICATION IN BRAZIL'S AUTOMOTIVE AND PULP-AND-PAPER SECTORS

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ABSTRACT

The high concentration of greenhouses gases in the atmosphere causes climate changes for which regulatory policies are having a significant impact on business's competitive environment. Thus, some firms are already adopting climate practices and strategies, both, in response to carbon restricting legislation and to assure their competitiveness. However, there is a lack of management tools for assessing the adequacy of these practices and strategies in this new context. This article shares the results of research that seeks to make a contribution to the development of these tools. Its aim is to present a conceptual model, based on international benchmarks, which firms may use to assess their climate practices and strategies. It presents the results of the model's application in two of the Brazilian economy's most representative sectors: the automotive and pulp-and-paper sectors. The article also identifies the climate practices and strategies that need to be improved in these sectors to bring them up to international standards. The model was applied by testing five hypotheses that refer to its main variables, using Student's t-tests for comparisons with international benchmarks and Kruskal-Wallis non-parametric tests to verify differences between the averages of the sectors investigated. Based on the results, recommendations are presented for future research and for other firms concerned with adopting effective climate practices and strategies.

INTRODUCTION

The current production paradigm, based mainly on the consumption of fossil fuels has caused significant increases in anthropic emissions of greenhouse gases – GHGs. (COLLINS, 2006). The high concentration of these gases in the atmosphere increases the earth's surface average temperature, causing climate changes that are upsetting the global climate equilibrium (LISØ, 2006).

The concentration of CO₂ and other GHGs in the atmosphere, which had remained stable for thousands of years, increased substantially as of the 19th century with the onset of the Industrial Revolution. These gases result mainly from the burning of fossil fuels, industrial processes and changes in land use such as the cutting down and burning of forests. There is strong evidence that the excessive increase in level of CO₂ and other GHGs in the atmosphere is not due to natural factors, but is caused by human activities. According to various studies, the concentration of CO₂ in the atmosphere will double by the year 2065 in relation to pre-industrial levels (IPCC, 2006, 2007).

Climate change is also affecting the competitive environment due to the enactment of legislation restricting GHG emissions, increases in energy prices and the financial services' industry's growing interest in the matter (HOFFMAN, 2006).

In this context, the pressure on companies to act in harmony with the environment has increased significantly (HOFFMAN, 2005; ENKVIST; NAUCLÉR; OPPENHEIM, 2008). This pressure is being exercised by various actors: consumers, suppliers, communities, non-governmental organizations (NGOs), governments and employees (HOFFMAN, 2000). Recently, a new group of stakeholders has begun to exercise

pressure, notably banks and insurance companies (ESTY; WINSTON, 2006; MAYNARD, 2008). The presence of this new group is symptomatic because as Esty and Winston (2006, p.9) observe "...when the financial services industry, which focuses like a laser on return on investments, starts worrying about the environment, you know something big is happening."

In this scenario it is crucial that firms adopt climate strategies that contribute to assuring the sustainability of their businesses. The survey undertaken by the McKinsey Quarterly in 2007 evidenced that 60% of the executives interviewed believed that climate change was a strategic issue, but revealed, on the other hand, that few were adopting effective actions in this sphere (ENKVIST; VANTHOURNOUT, 2008).

One of the problems identified during our literature review was the lack of appropriate management tools for the assessment and formulation of climate strategies, although some pertinent proposals concerned with performance assessment could be found, for example, that of a Sustainable Balanced Scorecard (HUBBARD, 2006).

This article's objective is to share the results of a study that developed and applied a tool – a conceptual framework based on best climate strategies and practices – in order to make a contribution to efforts to fill this gap.

The framework is called a Climate Strategy Model (CSM) and its purpose is to help managers assess and formulate corporate climate strategies that are adequate in the current context characterized by the growing impact of climate change on firms' business results. This model was applied in two Brazilian industrial sectors, the automotive sector, A, and the pulp-and-paper sector, P & P, as a tool for the assessment of climate practices and strategies, in order to illustrate how they could be used to this effect. It also enabled the research to identify which climate practices and strategies in these sectors needed to be improved, when compared with international benchmarks. It should be noted that, in this study, the model was not applied as a tool for climate strategy formulation, and this article therefore only presents results that are pertinent to the model as an assessment tool.

The article is divided into six parts, besides this introduction. The first contains a definition of the concept of climate strategy. The second presents the CSM and explains how to apply it. This is followed by a description of the research methods adopted. The results are presented and discussed in the fourth and fifth parts and the article concludes with some final considerations.

CLIMATE STRATEGY

The concept of climate strategy is quite recent and is contemporary to the debate on climate change. This article adopts Hoffman's definition (2006, p.3):

Climate strategy is the set of goals and plans within a corporation that are intended to reduce GHG emissions, generating significant associated benefits and/or aiming to respond to climate-related changes in markets, public policy or the physical environment.

Amongst the actions needed to implement a climate strategy for reducing a firm's GHG emissions, Hoffman (2006) highlights five; R&D of low carbon intensity technologies for processes and products; emissions trading; reduction of emissions along the value chain; adaptation strategies.

The impact of climate change on firms has been quite severe, leading them to take risks of various kinds, notably, in the regulatory sphere, the supply chain, in associated products and technologies, in terms of litigation, their reputation and physical ones. (HOFFMAN, 2000, 2006, 2007; ESTY; WINSTON, 2006; KOLK; PINKSE, 2004; LASH; WELLINGTON, 2007).

According to Hoffman (2006), no matter what measures are adopted by countries to reduce GHG emissions, there will certainly be an increase in the price of energy that will have a direct effect on the cost (PORTER; LINDE, 1995) structure of all sectors of the economy. Given the extent of the effects of climate change on the current business environment, firms should evolve from a concern with the management of the costs involved in complying with the requirements of environmental bodies, to the recognition of its strategic dimension.

PROPOSED CONCEPTUAL MODEL

The proposed Climate Strategy Model (CSM) is based on recent studies of climate strategies and on international benchmarks recommended for their implementation.

Drawing in part on Hoffman's (2006) model, the CSM adds value to the extent that it also incorporates the results of research undertaken by the Centre for Education and Research in Environmental Strategies (CERES, 2008) and concepts from various other studies. It includes concepts used in the six surveys carried out by the Carbon Disclosure Project (CDP, 2006), as well as the constructs developed by Esty and Winston (2006), Kolk and Pinkse (2004), Lash and Wellington (2007) and Hoffman himself. Note that some of the indicators presented by these authors are the same. This is so in the case of Hoffman (2000, 2006) and Esty e Winston (2006). On the other hand, Kolk and Pinkse (2004) adopt indicators used in the first CDP survey.

The proposed model – CSM – includes five main variables (see Table 1) with their respective definitions. In order to facilitate their operationalization, they were sub-divided into dimensions, with their respective constructs and indicators.

Variable 1 – Impact of the Firm on the Environment

According to Lash and Wellington (2007), by quantifying its emissions, a firm is recognizing the importance of climate change as a source of risks and opportunities and is prepared to manage the reduction of its emissions. These authors emphasize the importance to measure both the firm's direct and indirect emissions, as well as to determine and periodically adjust the reference level of the emissions that will be monitored over time.

The CSM adopts the emissions classification methodology developed by the GHG Protocol Corporate Standard (www.ghgprotocol.org) created by the World Resources Institute (WRI) together with the World Business Council for Sustainable Development (WBCSD), which classifies emissions as direct and indirect in three levels: Scope 1, Scope 2 and Scope 3 (for details on the latter, see Table 6).

Table 1- Variables and their Operational Definitions

Variable	Operational Definition
Impact of the firm on the environment	Degree of impact of the organization on the environment caused by GHG emissions produced by its own operations or those of components of its value chain and other associated emissions.
Impact of climate change on the firm	Degree of impact on the organization of the opportunities and threats represented by climate change, driving the firm to develop and implement a climate strategy.
Involvement of the firm	Degree of effective involvement of the firm in actions that mitigate and eliminate emissions produced by its own operations and those related to its value chain.
Motivation in the firm	Degree of motivation in the firm resulting both from the proactive side of the mobilization of employees and publication of their actions and the relative strength of the obstacles that stand in the way of the implementation of a climate strategy.
External relations of the firm	Degree of influence of the firm and its ability to communicate with the public, governments and private business associations, in order to disclose its actions aimed at reducing emissions, as well as influence the formulation of carbon restricting legislation and regulations. Ability to obtain the support of other entities and the third sector.

Variable 2 – Impact of Climate Change on Firms

Climate change's ability to drive the adoption of climate strategies by firms varies according to the industry in which they operate. Climate change poses threats and generates opportunities for organizations (HOFFMAN, 2006; KOLK; PINSKE; 2004).

In the CSM proposed, the factors that drive the firm to establish a climate strategy were called drivers. According to Hoffman (2006) and Esty and Winston (2006), a firm's degree of exposure to carbon restrictions is not limited to its emissions. It should also take into account the potential impacts on its line of products and

services, together with the increasing environmental pressure exercised by a wide variety of stakeholders and which modify the firm's competitiveness.

Table 2 presents Variable 2 with its dimensions, constructs, indicators and values, as well as the authors and references used.

Table 2 – Variable 2 – Impact of Climate Change on the Firm

Dimension	Constructs	Indicators	Practice* Degree of importance	Ref **
Drivers	New Markets	Demand for products with low GHG emissions	Likert \geq 4	A,B,C,E,F
		Demand for services with low GHG emissions	Likert \geq 4	A,B,C,E,F
		Leap in the technological standard of the industry	Likert \geq 4	A,B,D,E
	Competitiveness	Increase in the operational efficiency of the firm	Likert \geq 4	A,B
		Increase in competitiveness in relation to the competition	Likert \geq 4	A,B,C,D,E, F
		Cost reduction	Likert \geq 4	A,B,C,D,E
	Intangible Factors	Positive reputation of the firm and its brand	Likert \geq 4	A,B,C,E,F
		Socially responsible behavior	Likert \geq 4	A,B,C
		Coherence with the history and culture of the firm	Likert \geq 4	A,B, C
		Improvement in the management of risks	Likert \geq 4	A,B,D
	Financial Factors	Possibility of generating carbon credits	Likert \geq 4	A,B,C,D,E, F
		New sources of financing (investment funds)	Likert \geq 4	A,B,C,D,E
		Tax incentives	Likert \geq 4	A
	Exposure to risks	Restrictive legislation regarding GHG emissions	Likert \geq 4	A,B,C,D,E, F
		Restrictive standards for GHG emissions of products	Likert \geq 4	A,B,E
		Restrictive standards for GHG emissions of processes	Likert \geq 4	A,B,E
		Physical vulnerability of assets	Likert \geq 4	A,B,C,D,E, F
		Increase in costs of the inputs of the firm	Likert \geq 4	A,B,C,D,E
		Increase in costs of energy consumed	Likert \geq 4	A,B,C,D
		Sharp increase in insurance premiums	Likert \geq 4	A,B,D
Change in attitude of consumers or customers		Likert \geq 4	A,B,D,E	
Pressure from NGOs		Likert \geq 4	A,B	
Occurrence of litigation	Likert \geq 4	A,B,D,E		

* Depends on the type of sector. ** A- Hoffman (2000, 2006); B- Esty; Winston (2006); C- Kolk; Pinkse (2004); D- Lash; Wellington (2007); E- CDP; F-CERES

VARIABLE 3 – INVOLVEMENT OF THE FIRM

Defining targets and monitoring the firm's level of emissions are essential in a climate strategy. A reduction in emissions can be achieved within the firm and along its value chain. Various firms go beyond this and assess the possibilities of reducing GHG in all phases of their product life-cycle, from the manufacture of components by third parties to the moment the product is discarded at the end of its useful life. This is a survey of impacts during a product's life cycle – Life Cycle Assessment – LCA (ESTY, WINSTON, 2006).

It is argued that the planning of actions to implement a climate strategy aimed at reducing its emissions, mitigating the risks and exploiting the opportunities present in a carbon-constrained environment, if well developed, will position the firm positively in relation to the government, non-governmental organizations and the general public.

According to Hoffman (2006), it is easy, in many cases, to identify low cost and low risk actions to reduce GHG emissions. These actions usually involve energy efficiency programs, behavioral changes and process improvements. In the long term firms can develop more sophisticated emissions reduction projects using technological innovations to achieve a sharp reduction in GHG emissions. Opportunities also exist for emissions compensation and reduction outside the context of the firm's operations, such as in carbon sequestration forest projects, the acquisition of low emission assets and the trading of carbon credits.

Many firms establish both energy efficiency and GHG reduction targets. Energy efficiency targets produce financial benefits (PORTER; LINDE, 1995) for the firm in the short term and are thus usually considered to be strategic, whereas the financial benefits derived from GHG reduction targets are more difficult to quantify and accrue in the long term (HOFFMAN, 2006). Another two very important factors are the existence of a high-level executive committee to monitor the results of measures implemented to reduce GHG and the hiring of an independent audit.

This variable is composed of the following constructs: reduction of the firm's emissions, reduction of emissions along the expanded value chain, emissions compensation and emissions monitoring.

VARIABLE 4 – MOTIVATION IN THE FIRM

Due to the complex and long-term nature of climate change related issues, the support of the firm's employees is of fundamental importance. They develop creative forms of achieving targets when these are clearly defined and can perceive their coherence with the firm's vision and values (HOFFMAN, 2006).

While top management's commitment is indispensable to position environmental issues as a priority; the involvement of middle management is fundamental in order to effectively implement programs and actions aimed at reducing GHG emissions. This involvement can be encouraged by setting up high-level committees with authority to manage environmental targets, and creating financial incentives linked to the attainment of targets and rotating the functions of operational and environmental area executives (ESTY, WINSTON, 2006). Furthermore, it is important to identify the departments that will initiate the process of change, those that will implement the programs and those that will resist change. In this respect it is also valuable to obtain the support of the more experienced group of professionals. The main objective of this process is to transfer climate change related issues from the peripheral areas of the organization to its center (HOFFMAN, 2006). The periodical publication in internal reports of the firm's climate targets and related achievements is fundamental to encourage employees, as it promotes the publicizing of actions and the firm's commitment to climate issues. Moreover, internal reports help to create employee awareness of the firm's priorities regarding climate change and the environment, and how much they are helping the firm to achieve its objectives.

With a view to reflecting these factors, the research conceived Variable 4 – Motivation in the Firm (Table 3) – associated directly with the degree of motivation in the business environment regarding the implementation of a climate strategy.

Table 3 – Variable 4 – Motivation in the Firm

Dimensions	Constructs	Indicators	Practice*	Ref**
Proactive	Mobilization	Direct participation of top management	Degree of importance Likert ≥ 4	A,B,C,D,E,F
		Direct participation of employees	Degree of importance Likert ≥ 4	A,B
		Degree of employee autonomy	Degree of importance Likert ≥ 4	A,B
		Financial bonus linked to climate targets	Degree of importance Likert ≥ 4	A,B,C,D,E,F
		Employee awareness program	Degree of importance Likert ≥ 4	A,B

		Employee training program	Degree of importance Likert ≥ 4	A,B
		Areas involved	Degree of importance Likert ≥ 4	A,B
		Areas that initially lead the implementation of the strategy	Degree of importance Likert ≥ 4	A
	Publication	CEO communiqué	Degree of importance Likert ≥ 4	A,B,C,D,E,F
		Internal reports	Degree of importance Likert ≥ 4	A,B,C,D,E,F
		Intranet	Degree of importance Likert ≥ 4	A,B
Reactive	Obstacles	Sources of resistance	Degree of resistance Likert ≤ 2	A,B
		Lack of skills	Degree of resistance Likert ≤ 2	A,B
		Financial	Degree of resistance Likert ≤ 2	A,B
		Middle management	Degree of resistance Likert ≤ 2	A,B

* Depends on the type of sector. ** A- Hoffman (2000, 2006); B- Esty; Winston (2006); C- Kolk; Pinkse (2004); D- Lash; Wellington (2007); E- CDP; F- CERES

VARIABLE 5 – EXTERNAL RELATIONS OF THE FIRM

According to Esty and Winston (2006), the firm's communication with its external audience is fundamental for good climate governance, to promote transparency, publicize actions and engage in a constructive dialogue with its various stakeholders. Publicizing actions in favor of the environment, as well as actions to reduce GHG emissions, help to generate a favorable attitude to the firm on the part of the general public. The publication of information regarding the environmental (green) attributes of the firm's products and services also contributes to positioning the firm favorably in the market, as long as the data is really true. For this external communication to be successful it is very important to identify various target audiences such as NGOs, government, the community as a whole and investors.

External partnerships are also indispensable for the success of firms' climate strategies. According to Hoffman (2006), alliances with NGOs enhance the credibility of both parties. The best way of finding out the state of its public image is to form partnerships with other organizations (ESTY, WINTON, 2006). Thus, NGOs can help firms discover the public's perception of their brands. As Hoffman observed (2006), alliances with ONGs can provide credibility to both parties.

A good relationship with the government is also essential, especially to provide credibility and enable it to influence the formulation of carbon-constraining measures, norms and regulations. The investor community is also an important stakeholder given that firms' environmental risk and conduct is increasingly influencing investment decisions.

Variable 5 – External Relations - is directly associated with the way the firm acts in the external environment to publicize its targets and to establish partnerships aimed at reducing or eliminating greenhouse gases – GHGs . Table 4 presents this variable with its dimensions, constructs, indicators and values.

Table 4 – Variable 5 – External Relations of the Firm

Dimension	Constructs	Indicators	Practice* Degree of Importance	Ref**
Scope	Partnerships	Partnerships with other firms	Likert \geq 4	A,B,C,F
		Partnerships with NGOs	Likert \geq 4	A,B,C,F
		Partnerships with governments	Likert \geq 4	A,B,C,F
		Partnerships with professional associations	Likert \geq 4	A,B,C,F
		Partnerships with investors	Likert \geq 4	A,B,C,F
	Publication	Publication of reports on climate issues	Likert \geq 4	A,B,C,E,F
		Participation in the Carbon Disclosure Project - CDP	Likert \geq 4	C,E,F
		CEO communiqué	Likert \geq 4	A,B,C,F
		Use of the media	Likert \geq 4	A,B,C,F

* Depends on the type of sector. ** A- Hoffman (2000, 2006); B- Esty; Winston (2006); C- Kolk; Pinkse (2004); D- Lash; Wellington (2007); E- CDP; F-CERES

RESEARCH METHODS

Universe, Sample and Subjects

The universe to which the CSM was applied was constituted of groups of firms from two different sectors. The first was composed of 42 pulp-and-paper manufacturers who belonged to the Brazilian Pulp-and-Paper Association (BRACELPA) and accounted for approximately 99% of Brazil's production of pulp and 80% of its production of paper. The second group was composed of 24 companies that were members of the National Automotive Vehicle Manufacturers Association (ANFAVEA), and included all manufacturers of auto vehicles (cars, light commercial vehicles, trucks and buses) and automotive agricultural machines (wheel and caterpillar tractors, harvesters and bulldozers) with industrial installations in Brazil.

The pulp-and-paper and automotive sectors were focused due to their important position in the domestic economy, their exposure to climate change and their significant degree of responsibility for climate impacts. It should be noted that the subjects selected to take part in the survey were all senior executives of these firms.

Data Collection and Treatment

Data was collected from firms through a survey of perceptions that used a predominantly structured questionnaire based on CSM constructs and indicators. The questionnaire included closed-ended questions weighted according to a five-point Likert scale, multiple choice questions with various alternatives and dichotomic questions of a yes/no type. Some open-ended questions were also included.

Before applying the survey to the sample, the questionnaire was tested with environmental and carbon credit specialists, in order to verify its clarity and ability to capture the data and information needed to reply to the questions.

The firms in the sample were then invited through BRACELPA and ANFAVEA to participate in the survey. In order to guarantee their participation all senior executives were contacted by phone.

The questionnaire was applied using the Internet which allowed the immediate storage of information in an electronic databank, thus facilitating its consolidation and eliminating the risk of typing errors.

After a pre-analysis of the replies to verify their coherence with the questions relating to CSM variables, the data was grouped according to constructs and indicators. This data was then tabulated and submitted to a descriptive statistical treatment, involving the use of Student's t-tests to compare the practices of the firms surveyed with international benchmarks, together with non-parametric Kruskal-Wallis tests (ANDERSON; SWEENEY; WILLIAMS, 2005; MCCLAVE; BENSON; SINCICH, 2001) to verify possible differences between the averages of the two sectors chosen for the study. The non-parametric Kruskal-Wallis test was

adopted due to its robustness in view of the non-normality distributions of the variables represented by the construct indicators. The statistical calculations were performed using SPSS software version 13.0.

In the case of Variables 1 and 3, the data collected was submitted solely to a descriptive treatment, as the research did not attribute a value scale (of the Likert type) to international benchmarks. As for the data pertinent to Variables 2, 4 and 5, five hypotheses were statistically tested to establish comparisons with both international benchmarks (T-test) and between the sectors themselves (Kruskal-Wallis test).

Hypotheses

The hypotheses and their corresponding variables are presented below (Table 5).

Table 5 – Hypotheses and Variables

Hypothesis	Variable	Test
1 st Hypothesis Variable 2	The drivers of the climate strategies of Brazilian firms in the pulp-and-paper and automotive sectors:	1(a)- Their driver power is similar in both sectors; 1(b)- Individually, their driver power is lower than international benchmarks in the pulp-and-paper sector; 1(c)- Individually, their driver power is lower than international benchmarks in the automotive sector.
2 nd Hypothesis Variable 4	The degree of use of mechanisms that favor the creation of an atmosphere of positive motivation that is important for the success of climate strategies in Brazilian firms of the pulp-and-paper and automotive sectors :	2(a)- Similar for both sectors; 2(b)- Lower than international benchmarks in the pulp-and-paper sector; 2(c)- Lower than international benchmarks in the automotive sector.
3 rd Hypothesis Variable 4	The weight of factors that are detrimental to the creation of an atmosphere of positive motivation favorable to the success of climate strategies in Brazilian firms in the pulp-and-paper and automotive sectors:	3(a)- Similar for both sectors; 3(b)- Higher than international benchmarks in the pulp-and-paper sector; 3(c)- Higher than international benchmarks in the automotive sector.
4 th Hypothesis Variable5	The degree of use of mechanisms that favor the enhancement of external relations that are important for the success of the climate strategies of Brazilian firms in the pulp-and-paper and automotive sectors:	4(a)- Similar for both sectors; 4(b)- Lower than international benchmarks in the pulp-and-paper sector; 4(c)- Lower than international benchmarks in the automotive sector
5 th Hypothesis Variable 5	The degree of use of mechanisms that favor the external publicizing that is important for the success of the climate strategies of Brazilian firms in the pulp-and-paper and automotive sectors:	5(a)- Similar for both sector; 5(b)- Lower than international benchmarks in the pulp-and-paper sector; 5(c)- Lower than international benchmarks in the automotive sector.

RESULTS

One of the most important results was the finding that approximately one third of firms did not measure their GHG emissions (Variable 1). Specifically, 37% and 30%, respectively, of firms in the A and P&P sectors did not perform any kind of measurement (see Item 1 in Table 6). As for the measurement of gases listed in the GHG Protocol classification, 47% and 67%, respectively, of firms surveyed measured Scope 1's direct emissions (Item 2).

Table 6 – Classification of GHG Emissions - GHG Protocol

		Automotive	Pulp-and-paper
1	Does not measure GHG emissions .	37%	30%

2	Direct emissions (scope 1).	47%	67%
3	Indirect emissions generated by third parties (scope 2).	11%	30%
4	Indirect emissions generated by third parties in production (scope 3)	5%	37%
5	Indirect emissions generated by use of products (scope 3)	5%	11%
6	Indirect emissions generated by business trips (scope 3).	5%	7%
7	Indirect emissions generated by third parties in activities (scope 3).	0%	15%
8	Indirect emissions generated by discardment (scope 3).	0%	11%
9	Others.	5%	0%

Regarding GHG measurement indicators, those most commonly used by firms were total emissions in tons of CO₂ and emissions per unit of production. In the case of the automotive sector (Table 7), these indicators were used by 42% and 37%, respectively, of firms and by 70% and 26% in the pulp-and-paper sector.

Table 7 – GHG Measurement Units

		Automotive	Pulp and Paper
1	Does not measure GHG emissions.	37%	30%
2	Total GHG emissions.	42%	70%
3	GHG emissions per product unit.	37%	26%
4	GHG emissions per billing unit.	0%	0%
5	GHG emissions per product unit during the life cycle.	0%	7%
6	Others.	5%	4%

The impact of climate change on firms drives them to adopt and implement climate practices and strategies. This impact is characterized in the Driver Dimension (**Variable 2**) in their main construct categories, which are new markets, competitiveness, intangible factors, financial factors and exposure to risks.

We have seen that the indicators for these constructs vary according to the specific characteristics of sectors and firms (HOFFMAN, 2006; KOLK; PINKSE, 2004). The survey revealed that the firms investigated perceived the following drivers (listed in declining order of importance) to be the most significant: positive reputation of the firm and its brand; increase in the firm's operational efficiency; socially responsible behavior; increase in competitiveness in relation to the competition; coherence with the firm's culture and history; improvement in management of risks; changes in attitudes of consumers and customers.

It should be remembered that according to the CSM, **Variable 3** assesses the effective involvement of firms in efforts to reduce GHG emissions. This involvement is characterized in its Reduction of the Firm's Emissions, Reduction of Emissions along the Expanded Value Chain, Emissions Compensation and Emissions Monitoring constructs. The aim of Variable 3 questions was to identify whether firms had instituted emissions reduction programs, exploited carbon credit transactions and find out what effective actions had been adopted by firms to reduce their GHG emissions.

As can be observed from Figure 1, practically three quarters (74%) of firms in the automotive sample had not yet implemented a GHG emissions reduction program. Only 5 of the 19 firms, or 26%, declared that they had implemented this type of program. This was also the case in the pulp-and-paper sector, where only 8 of the 27 firms, or 30%, declared that they had implemented an emissions reduction program.

Figure 1 – Implementation of a GHG Emissions Reduction Program

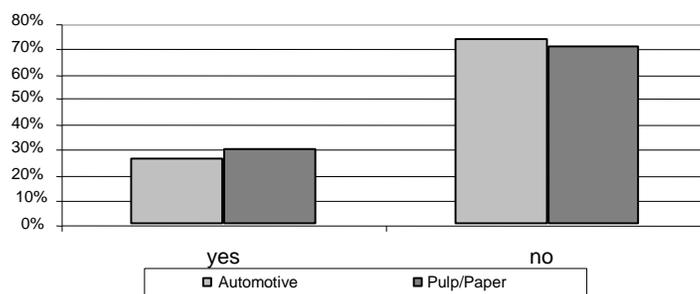


Table 8 presents the various types of emissions programs implemented by the firms in the sample. It was verified that these programs could be divided into two groups. It is noteworthy that only 13 of the 46 firms surveyed had instituted GHG reduction programs.

All the firms in the automotive sector sample informed that they did undertake transactions with carbon credits in Clean Development Mechanisms – CDM projects, in voluntary markets or others. In the case of the P & P sector, at least 40% of firms informed that they traded carbon credits.

Table 8 – GHG Reduction Programs – Automotive and Pulp-and-paper

Reduction	Use of Less Carbon Intensive Energy
<ul style="list-style-type: none"> → 1% overall p.y., from the 2003 to 2006 baseline. → Per unit produced as of 2007. → 25% overall by 2020 as of April 2008. → 5% overall as of 2006 by 2010. → Per unit produced of 30% with baseline in 2000. → Per unit produced of 25% of emissions with baseline in 2005. 	<ul style="list-style-type: none"> → CO₂ neutral energy as of 2003. → Natural gas boilers as of March 2008. → Replacing oil with gas and reduction of emissions as of 2004.

As can be seen from Table 9, the most important GHG emissions reduction actions in both A and P&P sectors involved energy efficiency measures, environmental management, replacement of fossil fuels, and the use of renewable energy and recycled material.

Table 9 – Indicator of GHG Reduction Actions

		Automotive	Pulp-and-paper
1	Energy efficiency measures	47%	89%
2	Replacement of fossil fuels	42%	70%
3	Product life cycle analysis	26%	19%
4	Supply chain emissions audit along the supply chain	26%	11%
5	Use of renewable energy and recycled material	37%	78%
6	Partnerships	21%	7%
7	Executive committee	16%	22%
8	Measurement of own emissions by a third party	37%	41%
9	Monitoring equipment	16%	19%
10	Excellence benchmark for GHG emissions reduction	26%	19%
11	Environmental management	84%	81%

Moreover, the survey revealed that the motivation of firms (**Variable 4**) to implement and execute climate strategies was very similar in both sectors. One should remember that the Mobilization and Publication constructs include indicators that measure the motivation to implement and develop a climate strategy. The two most important motivational factors (with an average of more than 4 according to international benchmarks) in the case of sector A was top management's direct participation and the direct participation of employees (Table 10). In the case of the P&P sector, the most important factors were the participation of top management and the CEO's communiqué regarding the firm's positioning in relation to climate change. The receipt of a financial bonus linked to climate targets was perceived to be a factor of lesser importance.

Table 10 – Motivational Factors for Implementation of a Climate Strategy

		Automotive	Pulp-and-paper
1	Direct participation of top management.	4.53	4.48
2	Direct participation of employees.	4.16	3.89
3	Employee autonomy.	3.37	3.59
4	Financial bonus linked to climate targets.	2.79	3.26
5	Employee awareness program.	3.79	3.81
6	Employee training program.	3.47	3.85
7	Involvement of various areas of the firm.	3.74	4.00

8	CEO communiqué regarding the positioning of the firm.	3.89	4.22
9	Internal publication regarding climate change.	3.53	3.85

The “Obstacle” construct’s indicators represent the difficulties encountered within the firm to develop and implement a climate strategy. As shown in Table 11, all the items had an average of over 2, which means that the obstacles in the firms surveyed were greater than in the case of international benchmarks. In sector A, the greatest obstacle to the creation of an atmosphere of motivation identified was the lack of financial resources to develop and implement climate-related strategies. In the P&P sector, on the other hand, the greatest obstacle lay in the lack of competencies necessary to deal with climate change-related issues.

Table 11 – Obstacles to the Creation of an Atmosphere of Motivation in the Firm

		Automotive	Pulp-and-paper
1	Existence in the firm of sources of resistance.	2.68	2.74
2	Lack of competencies.	3.11	3.41
3	Lack of financial resources.	3.37	3.30
4	Lack of information.	3.11	2.85

In the model proposed, the firm’s external relations are considered to be fundamental for the success of climate strategies (Variable 5). As can be observed in Table 12, the most important item for sector A regarding external relations was partnerships with governments in climate projects and programs.

Table 12 – Ways of Enhancing External Relations

		Automotive	Pulp-and-paper
1	Partnerships with other firms. .	3.11	3.78
2	Partnerships with NGOs.	2.89	3.32
3	Partnerships with governments.	3.21	3.48
4	Partnerships with professional associations.	3.16	3.33
5	Partnerships with investors.	3.16	3.85

Partnerships with other firms in climate projects/programs and partnerships with investors were the most important items for the P & P sector. Partnerships with NGOs were the least important for both sectors. However, it is noteworthy that the averages for the five items were very similar and frequencies were concentrated at point 3 of the importance scale, indicating that External Relations, in contrast to international benchmarks, were not perceived as very significant for the success of climate strategies. The research also investigated the external publication of climate change-related actions. For both sectors, the most important ways of enhancing the external publication of climate actions were the annual report and the CEO’s communiqué regarding climate-related strategies and programs (see Table 13). It should be noted that participation in the Carbon Disclosure Project (CDP), was considered by both sectors to be of lesser importance. Results indicate that External Publication, in contrast with international benchmarks, was not considered to be a very important factor in the success of climate strategies.

Table 13 – Ways of Enhancing the External Publication of Actions

		Automotive	Pulp-and-paper
1	Reports regarding climate-related strategies.	3.47	3.70
2	Annual report on climate-related activities.	3.58	4.00
3	CEO communiqué on programs/strategies.	3.58	4.00
4	Participation in the Carbon Disclosure Project (CDP).	2.63	3.41
5	Publication/promotion of activities in the media.	3.16	3.44

ANALYSIS OF RESULTS

The results suggest that most firms in the two sectors surveyed had not yet effectively implemented a climate strategy (Figure 1). Only a few firms had adopted some of the climate practices recommended for this strategy’s implementation. This is particularly evident from the tests performed on the research’s hypotheses described below.

In order to test **Hypothesis 1**, the research initially sought to verify whether each driver's power corresponded to international benchmarks. For this purpose a Student's t-test was performed separately for each sector, to a significance level of 1%. Table 14 presents the results of this test for the two sectors investigated, showing only those indicators for which there was evidence to reject the null hypothesis and assume that the alternative hypothesis was the correct one, that is, that there was evidence that values could be lower than international benchmarks. Analyzing the data in this table, one may conclude that, in general, the power of the climate strategy drivers was similar to international benchmarks in both sectors. The points to be improved involved only two drivers – 'pressure from NGOs' and 'occurrences of litigation' – which the survey revealed to have a lower power than international benchmarks, with statistically significant results (p-value < 1%).

Table 14 – Result of T-test

Hypothesis	Questions	t-test p-value	Result
1 $H_0 = 4.0$ $H_1 < 4.0$	Automotive		There was evidence to reject H_0 a $\alpha = 0.01$
	Q10_v22 – Pressure from NGOs.	0.0004	
	Q10_v23 – Occurrence of litigation.	8	
	Pulp-and-paper	0.0002	
	Q10_v22 – Pressure from NGOs.	6	
	Q10_v23 – Occurrence of litigation.	0.0000	
		0	
		0.0056	
		5	

The results for each driver, with the exception of the statistically significant drivers mentioned above, corresponded to the findings of Hoffman's (2006), and Esty and Winston's (2006) studies regarding the power of drivers.

In order to verify whether the power of drivers in the two sectors surveyed were similar, the research used the Kruskal-Wallis test to a significance level of 1%, to test the hypothesis that various populations had the same variance distribution. In this case, having the same distribution would mean that climate strategy drivers had a similar power, on average, in both sectors. Only the variable relating to the 'possibility of generating carbon credits' showed a difference between the averages of the automotive and pulp-and-paper sectors (p-value < 1%).

Using the same method adopted to test the first hypothesis, **Hypothesis 2** presented evidence to reject the null hypothesis in the cases of 'employee autonomy' and 'payment of a financial bonus linked climate targets' (see Table 15), that is, only these two mechanisms for the creation of an atmosphere of motivation were regarded by firms as being less important than international benchmarks and thus constituted points to be improved on by firms in the sectors surveyed.

Table 15 – Result of t-test

Hypothesis	Questions	t-test p-value	Result
2 $H_0 = 4.0$ $H_1 < 4.0$	Automotive		There was evidence to reject H_0 a $\alpha = 0.01$
	Q11_v03 – Employee autonomy in climate change related issues.	0.00992	
	Q11_v04 – Financial bonus linked to climate targets.	0.00030	
	Pulp-and-paper		
	Q11_v03 – Employee autonomy in climate change related issues.	0.00879	
	Q11_v04 - Financial bonus linked to climate targets.	0.00954	

As for the comparison between sectors, there was no difference between them, on average, regarding the use of motivational mechanisms, as in all cases the p-value was greater than 1%. Thus, the research concluded that in both sectors, with the exception of 'employee autonomy' and 'payment of a financial bonus linked climate targets', the mechanisms to create an atmosphere of motivation favorable to the adoption of

climate strategies, corresponded to international benchmarks. In the case of **Hypothesis 3**, the survey revealed that the ‘lack of competencies necessary to deal with climate change related issues’, the ‘lack of financial resources for the development and implementation of climate strategies’ and the ‘lack of information on the contribution of productive activities and processes to climate change’, constituted greater obstacles than those found in international benchmarks. (p-value < 1%) (see Table 16).

Indeed, a comparison of the two sectors showed that in all cases there was no difference, on average, between them, regarding the degree of mitigation of the obstacles at issue (p-value > 1%). In both sectors, in contrast to international benchmarks, obstacles were not sufficiently attenuated. These results suggest that in the case of firms in both sectors surveyed in Brazil, there were still significant obstacles to the creation of an atmosphere of motivation that could facilitate the treatment of climate change-related issues.

Table 16 – Result of the t-test

Hypothesis	Questions	t-test p-value	Result
3 H ₀ = 2.0 H ₁ > 2.0	Automotive		
	Q12_v02 – Lack of competencies needed to deal with climate change-related issues.	0.00148	There was evidence to reject H ₀ a $\alpha = 0.01$
	Q12_v03 – Lack of financial resources for the development/implementation of climate-related strategies.	0.00007	
	Q12_v04 – Lack of information showing the contribution of productive activities/processes to climate change due to their GHG emissions.	0.00110	
	Pulp-and-paper		
	Q12_v01 – Existence in the firm of sources of resistance to climate-related issues.	0.00511	
	Q12_v02 – Lack of competencies needed to deal with climate change-related issues.	0.00000	
	Q12_v03 – Lack of financial resources for the development/implementation of climate-related strategies.	0.00005	
Q12_v04 – Lack of information showing the contribution of productive activities/processes to climate change due to their GHG emissions.	0.00410		

The results for **Hypothesis 4** are shown in Table 17. It is evident that in the case of sector A, ‘partnerships with other firms’ were not sufficiently encouraged. The degrees of importance were lower than in international benchmarks for all indicators (p-value < 1%). In the case of the P & P sector, the importance attributed to partnerships as a way of enhancing the external relationship was also lower than international benchmarks.

Table 17 – Result of the t-test

Hypothesis	Questions	t-test p-value	Result
4 H ₀ = 4.0 H ₁ < 4.0	Automotive		
	Q13_v1 – Partnerships with other firms in climate projects and programs.	0.00325	There was evidence to reject H ₀ a $\alpha = 0.01$
	Q13_v2 – Partnership with NGOs in climate projects/programs.	0.00110	
	Q13_v4 – Partnerships with professional associations in climate projects/programs.	0.00122	
		0.00197	
		0.00255	
		0.00784	
	0.00053		
Pulp-and-paper			
Q13_v2 - Partnership with NGOs in climate projects/programs.			
Q13_v3 – Partnerships with governments in climate projects/programs..			
Q13_v4 - Partnerships with professional associations in climate projects/programs.			

The results indicate that the firms in the two sectors surveyed – unlike U.S. firms - still did not attribute sufficient importance to partnerships as a critical factor in the success of climate strategies (KOLK; PINKSE, 2007).

A comparison between the two sectors shows that, on average, there was no difference in the degree of use of partnerships to enhance external relations (p-value > 1%). In practically all cases, partnerships were not sufficiently encouraged. The exceptions were partnerships in climate projects/programs with other firms, in the case of the P&P sector, and partnerships with the government, which were perceived to be positive by firms in the A sector.

With respect to **Hypothesis 5**, the survey showed that in the automotive sector, participation in the Carbon Disclosure Project (CDP) and the use of the media to publicize and promote firms' climate change-related activities had a p-value lower than 1% (Table 18).

Table 18 – Result of the t-test

Hypothesis	Questionnaire Questions	t-test p-value	Result
5	Automotive Q14_v4 – Participation in the CDP.	0.00001	There is evidence to reject H_0 at $\alpha = 0.01$
$H_0 = 4.0$	Q14_v5 – Use of the media to publicize/promote its activities aimed at mitigating climate change.	0.00294	
$H_1 < 4.0$	Pulp-and-paper Q14_v5 - Use of the media to publicize/promote its activities aimed at mitigating climate change.	0.00860	

This result suggests that executives perceived that the use of these two mechanisms fell short of international benchmarks. In the case of the P&P sector, the use of the media was the only mechanism that did not correspond to international benchmarks (p-value < 1%). Moreover, the survey revealed that, compared to international benchmarks, the firms surveyed in Brazil did not attach the same importance to the transparency of information for institutional investors concerning their exposure to climate risk (see LASH; WELLINGTON, 2007). Similarly, the publicizing of climate change-related activities in the media was not considered to be a vital factor in the success of climate strategies. Comparing the two sectors, the survey did not find any difference between them regarding the degree of importance of mechanisms favorable to external publication (in all cases the p-value was higher than 1%). Inefficient external publication can have quite negative consequences. The lack of effective external communication can reduce a firm's credibility. It can also compromise efforts to differentiate it from its competitors and adopt climate governance mechanisms that promote the transparency of its actions *vis à vis* the general public, investors, governments and other stakeholders. Moreover, it may thus be excluded from government programs aimed at formulating carbon-constraining legislation.

FINAL CONSIDERATIONS

This article presented a Climate Strategy Model (CSM), based on international benchmarks, for the assessment and formulation of climate practices and strategies. It showed how this model can be used as a tool for assessing firms' climate initiatives.

Despite the significant impact of climate change on the future of business and our civilization's production and consumption paradigms, as well as the issue's increasing media exposure, studies of the theme, especially from a strategic perspective, are still scarce. Specifically, there is a lack of research in Brazil on how to assess and implement corporate climate practice and strategies for managing these changes' implications.

The proposed model seeks to contribute to efforts to fill this gap. Besides illustrating the CSM's application, the article also describes the reality of firms' climate practices and strategies in two sectors that are particularly representative of the Brazilian economy - the automotive and pulp-and-paper sectors -, and which bear significant responsibilities for climate change impacts. The study found that many firms in these sectors did not even perform inventories of their direct or indirect CO₂, which is in line with Enkvist and Vanthournout (2008) research into the climate practices of 2193 firms worldwide. Also in agreement with the above authors, it revealed that more than half of the firms in these sectors in Brazil did not have an emissions reduction program

with a baseline and defined targets and deadlines, that are fundamental for the implementation and monitoring of climate strategies. Moreover, it evidenced that the use of GHG measurement units and international climate benchmarks for purposes of comparison were not considered to be important in the two sectors at issue.

The study showed that there was no significant difference in the importance attributed by executives in both sectors to climate strategy drivers, despite the fact that climate policies have evidenced differences between sectors and locations, as described in studies by Kolk and Pinkse (2005).

The perception that the power of the occurrence of litigation driver, in the two sectors surveyed, is lower than international benchmarks is in all likelihood related to the fact that Brazil does not yet have a greenhouse gas- restricting legislation on which such litigation could be based. With the advent of carbon-restricting legislation that affects all businesses and the growing lack of confidence on the part of consumers (BONINI; HINTZ; MENDONCA, 2008), it is highly probable that each sector's main climate strategy drivers will have an increasingly significant impact.

In relation to future research, it is recommended that the proposed model be applied to other sectors in Brazil and abroad, not only for assessing climate strategies but also as a tool for developing them. It is suggested that the research be deepened in order to confront the challenge of formulating strategies with the necessary strategic fit, considering the implications of change at all levels, especially at the level of the global environment.

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STRATEGIC FIT OF PROJECT MANAGEMENT: THE CASE OF ELETRONUCLEAR

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ABSTRACT

In the literature, mention is made of the significant loss of resources in the case of projects that do not contribute to the firm's main objectives, mainly because they are not aligned with its strategy. The lack of project strategic fit thus ends up having a negative impact on its performance and competitiveness. This article shares the results of a study on project management – PM - at the Brazilian state-owned firm, Eletronuclear, created in 1997 to build and operate nuclear power plants in the country. The study's objective was to assess the strategic fit of PM at this firm and identify factors that contributed to, or hindered, the achievement of the desired fit. The research adopted the case study method, collecting data from various sources using different means – documental investigation, structured questionnaires and interviews – in order to ensure their consistency. The results indicated a predominance of weaknesses in PM at the company, namely in terms of inconsistencies with its strategy, evidencing PM's lack of strategic fit. They highlighted resources –specifically inappropriate allocation and quality – and the difficulty of changing to a culture of GP with a strategic vision, as the main problems. At the same time, they revealed recent initiatives, pertinent to the adoption of strategic-level project mediation processes and project portfolio planning, that if translated into concrete actions, could indeed contribute to a better strategic fit of PM at Eletronuclear. The study thus provided insights for other firms seeking to improve their project management.

INTRODUCTION

For more than four decades, organizations have been using the principles of the project management discipline – PM, to manage their projects. Despite this, little has been done in the way of recognizing this discipline as one of the core competencies needed to create a competitive differential in business strategy (Kerzner, 2005). However, there is a growing interest in the subject, sparked off by the positive results achieved by some firms that have systematically applied PM principles with the due strategic orientation. According to Milosevic & Srivannaboon (2006, p. 99), "... when organizations relate their projects to strategy, (they) are better able to achieve their organizational targets".

In many cases there are signs that projects are not coherent with firms' strategies. The lack of coherence between projects and business strategy is frequently due to the fact that the PM discipline is regarded merely as an operational tool to control project durations (Kerzner, 2005). Various authors mention a loss of resources due to project cancellations or, as most have no connection with firm strategy, the implementation of projects that do not contribute to strategic objectives (Cooper; Edgett; & Kleinschmidt, 1998; Milosevic & Srivannaboon, 2006; Pinto & Covin, 1989; Shenhar, A., 2001). The inappropriate use of resources – human and financial – and time wasted on projects end up having a negative impact on firm competitiveness.

For these reasons, we decided to investigate the issue of project management's strategic fit, seeking to identify the factors that contribute to the desired fit, or, on the contrary, hinder it. Note that by strategic fit, we mean alignment with, orientation towards and adherence to or coherence with firm strategy.

This article presents the main results of a study that was part of this investigation and focused on the case of a state-owned firm - Eletrobrás Termonuclear S.A. – Eletronuclear (henceforth referred to as Eletronuclear). With a view to contributing to the research's objectives, an analysis was performed of the strategic fit of

processes pertinent to PM. The analysis, drawing in part on Macedo-Soares's Generic-Integrative - GI strategic analysis methodology (*apud* Macedo-Soares & Figueiras, 2007) was divided into the following steps: 1°) characterization of the firm under study; 2°) identification and analysis of the strategic implications of the main strategic actors and macro-environmental factors, in terms of whether or not they represented real or potential opportunities and threats for the firm's strategy; 3°) characterization of PM discipline processes in terms of constituting, in the light of this strategy, real or potential strengths (strong points) or weaknesses (weak points); 4°) identification of the organizational factors necessary, except the project management discipline itself, to make this discipline feasible, and assess its strategic implications in terms of constituting real or potential strengths and weaknesses; 5°) assessment of the firm's performance using pertinent indicators; 6°) analysis of PM discipline processes' fit with the strategy of the firm researched, considering the latter's characteristics and the strengths and weaknesses of overall organizational factors; 7°) identification of the factors that hindered and those that contributed to assuring PM's strategic fit; 8°) the making of recommendations regarding possible improvements that could assure the strategic fit desired. Note that the second step (2°) was beyond this study's scope. However, it was included to present evidence that justified the assumption that the strategy - more precisely the strategic intent - of the firm at issue was considered to fit the context.

This study is important because there is a lack of investigations into concrete cases that could provide lessons for other firms that are concerned with optimizing their performance through PM's effective strategic orientation.

Besides the introduction, this article has five parts. The next two describe the theoretical references and research methods. The third part presents the results of the case study. In the fourth the latter are analyzed and consolidated in order to fulfill the objectives of steps 6 and 7. In the last part considerations are formulated regarding the study's contribution and some suggestions are made for future research.

REVIEW OF THE LITERATURE AND THEORETICAL FRAMEWORK

Strategy and Strategic Fit

Before presenting the results of the literature review and theoretical references specific to project management, it is important to clarify which definitions were adopted for the research's two central concepts: strategy and strategic fit.

The concept of strategy or strategic intent drew on Grant's (1998, p. 3) definition, further developed by Macedo-Soares (2000), as follows:

...proposition that gives coherence and direction to the actions and decisions of an organization, especially for leveraging and allocating the necessary resources / competencies for improving and sustaining its performance in keeping with its vision and objectives, considering the internal and external environmental conditions.

The concept of strategic fit was based on Barney (1996, p. 27) who considered a "good" strategy to be "a strategy that neutralizes threats and exploits opportunities, while capitalizing on strengths and eliminating or minimizing weaknesses". "Good" strategy is understood as adequate strategy. The assumption is that strategic fit (Hofer & Schendel, 1978), which implies consistency between all strategically significant factors, both organizational and structural and macro-environmental, as well as elements that constitute the strategy itself, is fundamental for the latter's effectiveness.

Drawing in part on Van der Heijden (1996), the research also assumed that strategic analysis implies a series of assessments coherent with the principle of strategic fit. This explains the assessments mentioned in the introduction, when the steps of the strategic analysis undertaken at Eletronuclear are described.

Project Management

First of all, it should be noted that, in the PM literature, many authors use the term "strategic alignment of projects" to relate the management of projects to business strategy. In our research we preferred the term fit to alignment, as the latter suggests linearity, while fit implies consistency and coherence, concepts that are more in keeping with the systemic perspective adopted. For practical reasons, the two terms - alignment and fit - were considered to be synonymous. Although recognizing that some authors (Henderson & Venkatramam, 1993),

have made small distinctions between these terms, they were not deemed to be significant for our purposes. During the review of the literature, it was verified that studies of projects' strategic fit related project management to business strategy, usually through the strategic selection of projects to be included in a firm's project portfolio. According to these studies, this selection represents part of the strategic fit process and is strongly associated with research and development (Baker, 1974; Bard & Kaufmann, 1988; Cooper et al., 1998; Englund & Graham, 1999). For example, some strategic selection of projects processes use a classification matrix of project benefits and resource quality (Kerzner, 2005) or the AHP - Analytical Hierarchy Process (Archer & Ghasemzadeh, 2000; Cooper et al., 1998; Saaty, 1994) technique.

Kerzner (2005, p. 133) observes that "project oriented organizations should be cautious as to the type and quantity of projects they will implement due to restrictions on available resources". Besides the strategic selection process of projects to be included in a portfolio, it would be appropriate to have a prioritization and balancing process (PMI, 2006) for portfolio projects. This process would enable the organization to update its list of active projects by order of importance, in the light of its strategy.

Milosevic & Srivannaboon (2006) identified three levels of mechanisms to assure that projects fit business strategies: strategic, tactical and corrective/emergency, with each having a distinct forms of mediation, as follows : Level 1: Strategic-Level Mediation Processes; Level 2:Project-Level Mediation Processes; Level 3: Emerging Strategy Level Mediation Processes. The first step is the strategic-level mediation process, where long-term targets are defined and the business's trends are determined by strategic planning. Once projects have been selected through strategic-level mediation processes (Level 1), project-level mediation processes (Level 2) seek to assure projects' strategic fit during the planning and execution phases. Milosevic & Srivannaboon (2006) classified these Level 2 processes into planning processes and monitoring processes. Both may be executed according to best practices following, for example, the PMBOK® Guide. As its name indicates, Level 3 - Feedback Level – involves a feedback process of ongoing projects. Milosevic & Srivannaboon (2006) presented case-studies in which PM supported and influenced firm strategy. They called this relation the reciprocal relationship between PM and company strategy. In their opinion "this relationship occurs when firms obtain information from their projects as to how they fit their strategies..." (p. 103). Operational conditions are also sufficient to allow project stage gate reviews. During the project life cycle, emerging strategy level (Level 3) mediation processes occur at these stages, providing an opportunity for project re-alignment.

Milosevic & Srivannaboon's studies (2006) evidenced the importance of project management processes for mediation processes at various levels, especially at the project level (Level 2). For this reason, special attention was given in our research to the management of PM discipline processes.

RESEARCH METHODS

The literature review was undertaken using the methodology proposed by Villas, Macedo-Soares & Russo (2008). The analysis of the PM discipline's strategic fit at Electronuclear was performed in the context of a case study of the company. The data was collected in accordance with the method triangulation principle (Yin, 2003) to assure greater consistency of results and mitigate the limitations of each method adopted.

The research performed a documental investigation and two perception surveys: one using a predominantly structured questionnaire, complemented by another conducted through interviews.

The employees selected to participate in the two perception surveys were project leaders and managers engaged in the firm's project portfolio, as well as executives responsible for strategic management, totaling 57 people. In the case of the first survey, 47 questionnaires were replied to, a response rate that, according to Rea & Parker's (1997) formula, is sufficient to assure the reliability of results. In the case of the second survey, interviews were even obtained from various employees who had not replied to the first survey's questionnaire. The interviews were analyzed using content analysis techniques (Weber, 1994) supported by computerized tools (Yoshikoder, 2008). The techniques used were: 1) Word frequency counting (KWIC – key-word-in-context); and 2) Computerized text classification dictionaries (Laver & Garry, 2008; Martindale, 2008).

The results of the study are presented in the next part and follow the five strategic analysis steps described in the article's introduction.

RESULTS

Characterization of the Company's Strategy

In order to understand Eletronuclear's strategy, it should be observed that it is a limited liability mixed economy company and a subsidiary of Centrais Elétricas Brasileiras S.A. – Eletrobrás. It was created in 1997 to operate and build the country's thermonuclear power plants. It was "... the result of a merger between NUCLEN and half of the Furnas board of directors", according to one of the executives interviewed.

Eletronuclear declares that its vision is ...

"to be a benchmark domestic company in the production of electric power, with the technical capacity to produce nuclear electric power, develop support engineering, and incorporate, integrate and manage new nuclear plant projects and processes, with high standards of safety, innovation, business performance, and social and environmental responsibility" (Eletronuclear, 2008).

For many years, the operational and safety areas that were critical for its nuclear plants - Angra-1 and Angra-2 – due to the strict environmental and regulatory requirements related to the risks inherent to the production of nuclear power, were the focal point of directives in its strategic cycles. In accordance with Mintzberg's typology (1998), the strategy was implicitly one of differentiation in terms of quality in a quest for excellence oriented towards stakeholders (Macedo-Soares and Figueira, 2007).

From the documents investigated, it was clear that the strategy changed in 2004. It began to focus on construction and projects as critical inter-related areas, and which were important for our research; at the same time it adopted a strategy of differentiation in terms of low prices for its government customer, with a strategic scope of non-segmentation oriented towards social and environmental responsibility. The reason for this low price strategy was made clear in the following excerpt from a manager's interview:

"We compete with other sources of energy, with gas (...) to a certain sense with hydroelectric power (...) with coal; inasmuch as one has a limited amount of funds for investment, and one has to present a nuclear proposal in this context. So, nowadays, this competition is in terms of price."

Regarding the fact that Eletronuclear began to place a greater emphasis on the project area, it is important to mention that, in March 2007, it established a PMO – Project Management Office to support the Technical Directorate – TD, the area responsible for engineering services that provided technical support and served the company's projects.

The Strategic Implications of the Main Strategic Actors and of Industry's Macro-environmental and Structural Factors

As mentioned earlier, the research did not seek to analyze the company's strategic fit in relation to its context, that is, the industry's macro-economic and structural factors, but was based on the assumption that strategic intent was adequate. The documental investigation merely confirmed this assumption. It evidenced that, by adopting a strategy of differentiation in terms of low prices, the company was seeking to align itself with the focus on financial sustainability that characterizes the nuclear industry's current strategic cycle worldwide.

One should note that Brazil's current electricity sector model still does not allow free competition in the commercial supply of electricity involving Eletronuclear. This is important regarding the characterization of its strategy as one that is oriented towards the government customer. Indeed, according to the results of the interviews, there was a perception that the main stakeholder was the government, but not in the sense of "customer", although in fact it was its only customer (Furnas) by contractual relationship. As one person interviewed put it: "All our power is sold to Furnas, a company that is also controlled by the government... The fundamental agent is the government that accounts for most electric power generated".

The investigation identified some threats. One was the high price of the input (enriched uranium) purchased from international suppliers. Given the potential of Brazil's large uranium reserves – the world's sixth largest – and the fact that domestic industrial production of enriched uranium had already begun, it was considered that this threat would eventually be neutralized. Another threat identified was the time needed to build new plants. However, given that the company's new strategy prioritized construction and projects, it was concluded that, at least in terms of strategic intent, it had the focus needed to deal with this threat.

It was moreover evident during the course of the study that the company's strategic intent also fitted the context in the sense of transforming environmental threats into opportunities. The generation of thermonuclear power as a low CO₂ (the greatest cause of greenhouse gases) emitter, constituted an opportunity that put Eletronuclear in a strategically advantageous position in relation to possible substitutes – diesel oil and coal-

powered thermal plants – and new entrants – gas fired thermal plants – that represented threats, a position that was also consistent with its strategic intent to orient its actions towards socio-environmental responsibility.

The Strategic Implications of Organizational Factors (except PM)

Based on the consolidated result of the analyses of the conjunction of strategic implications of organizational factors that are not associated with PM, but which are important for its effective application, it was verified that most of them represented weaknesses. Amongst these one may highlight three. 1. An inflexible, functional and hierarchical structure (perception of 57% of respondents) that was inadequate for PM. It should be observed that the analysis of interviewees' replies according to Laver & Garry's dictionary (2000) criterion, showed that words associated with the organizational structure represented the greatest proportion (1.4%), revealing a great concern in the company with this factor. One planning executive even said "We are pure hierarchy!" 2. A culture that found it difficult to adapt to change (perception of 71% of interviewees). 3. Insufficient cash generation (Cash Flow Reports, 2006 and 2007).

However, the research also identified some strengths that could contribute to the effectiveness of the PM discipline, especially the following three. 1. Strategic planning integrated in the company. 2. Quality management of operations and safety. Note that this was not customer-oriented quality or Total Quality – TQ, but only operational quality control. 3. World-class skills and competencies in the nuclear area (perception of 74% of interviewees); WANO Nuclear Excellence Award, in 2003, for its competencies in the nuclear area.

Strategic Implications of Organizational Factors Pertinent to PM

In the case of organizational factors pertinent to the PM discipline, the study verified that most did not have the attributes necessary to assure its strategic fit, that is, it identified a predominance of weaknesses. The main ones are listed as follows.

1. In practice, there was a lack of recognition of the strategic importance of PM, although at the level of strategic intent, the project and construction areas were considered to be critical in the current strategic cycle. The following two excerpts from interviews by different executives are quite significant:

"Unfortunately, I think that adherence or non-adherence to strategic objectives is not made explicit in project implementation".

"I think that top management does not recognize the strategic importance of effectively applying project management concepts". In practice, "it (the company) does not recognize PM as a differential competitive factor".

According to the perception of most interviewees, PM was performed only by isolated groups that had been trained in the discipline.

2. There was a lack of PM language and terminologies, common to the whole organization, which could promote clear and effective communication in the implementation of projects in a coordinated fashion, considering their strategic objectives; only isolated PM groups used standardized tools.

3. Lack of effective, consolidated and common (standardized) PM processes (perception of 69%).

4. Lack of consolidated continuous improvement in PM quality processes.

5. Lack of integration of cost control with project schedules (44%).

6. Training and in PM was insufficient (perception of 42%). It is noteworthy that an adviser to the CEO said explicitly "People's lack of training in this area (PM) hinders project management's strategic fit".

7. Lack of recognition and reward- R&R processes integrated with the company's performance measurement system, with indicators pertinent to the performance of employees engaged in PM (54%).

8. Lack of a PM culture, involving policies, procedures and best PM practices (perception of 92%).

9. Lack, loss and inefficient use of resources, especially financial ones, associated with PM (general perception).

It is noteworthy that when the content of the interviews was analyzed using the KWIC (Weber, 2004) criterion, the two words that stood out most were "resources and "culture". The interviews indeed evidenced that PM's problems in the company concerned mainly "resources" and "culture", in that order.

The fourth part of this article analyzes the role of these factors in greater depth, considering the study's overall results. To better appreciate the latter, it is also necessary to mention the strengths pertinent to PM identified by the study, despite their potential nature, give that they involved recent initiatives.

At the end of 2007, the company adopted strategic-level measurement processes, with a view to making

better use of essential resources for priority strategic projects (Internal PPM document).

The Technical Directorate's project portfolio planning for 2008 was based on the company's strategy in relation to the government projects program and administrative actions of the action plan directed by the Ministry of Mines and Energy MME, described in the 2006 annual report (Eletronuclear, 2008).

However, it should be noted that, as they were all relatively recent initiatives, they had not yet produced results that could evidence their effectiveness.

Eletronuclear' s Performance

The telematized survey of the Eletronuclear strategic plan performance indicators (Eletronuclear, 2008b), showed that they were classified into 5 categories: production, project, construction, personnel and cost. It was also observed that a special emphasis was placed on operation, safety and cost, given the large number of quantitative indicators in the company's strategic plan for these dimensions.

Performance in the construction, personnel and project categories was not divulged. In the production category, the result was considered to be positive. Especially in the operation and safety areas, Eletronuclear's performance was considered to be world class (WANO Excellence in Nuclear Energy Award, 2003, mentioned above). On the other hand, the performance of the critical cost category was rather negative. The company has maintained a steady record of negative cash flow, with a direct impact on the new strategy's main objective which was to achieve financial sustainability. In the next part, the results presented here are discussed in the light of the literature review and theoretical references.

DISCUSSION

Following steps 6 and 7 of the analysis, this part is divided into two sections. The first assesses whether PM processes fit the business strategy, considering its characteristics and the strengths and weaknesses of organizational factors. The second identifies the factors that assured or hindered PM's strategic fit.

PM's Strategic Fit

One should remember that, as of 2004, when Eletronuclear adopted a new strategic cycle, its strategic intent was that of differentiation in terms of low prices for its government customer, with a non-segmentation scope and oriented towards social and environmental responsibility. We saw that this intent to differentiate in terms of low prices reflected a concern to align itself with a focus on financial sustainability that characterizes the nuclear industry's current strategic cycle worldwide. In this respect, as well as due to its orientation towards social and environmental responsibility, its strategic intent obviously fits its industry's contingencies.

However, its results, notably those pertinent to cost, showed that the strategy was not obtaining a performance consistent with its main objective. Low prices presuppose low costs; financial sustainability implies an availability of cash necessary to fund the company's activities and finance new investments that are critical for its operations. Inasmuch as one assumes that this strategic intent fits the nuclear industry's current scenario, this poor financial performance, notably in terms of cost and the company's record of negative cash flow, evidenced difficulties in its implementation.

Considering the emphasis placed on construction and projects - as critical inter-related areas -, in its new strategic cycle, results pertaining to these areas' performance would be important for this analysis. As we have already mentioned, it is exactly because the project area was considered to be critical to the new strategy that PM' s strategic fit, or lack of it, had become a significant indicator of the company's performance in the project category. By the same token, the factors that were responsible for this fit, or lack of it, were related to the success, or otherwise, of the strategy's implementation. In other terms, the fact that the research identified a predominance of weaknesses in organizational factors, pertinent to PM, led us to conclude that PM did not exhibit the strategic fit necessary to contribute to the company's strategy, given its characteristics and focus.

One should not forget that the study identified some strengths associated with recent initiatives. The adoption of strategic-level mediation processes at the end of 2007 is an important example. Another was to base planning of the 2008 project portfolio on the company's strategy. These were potentially significant initiatives, especially when one considers another strong point identified, namely the fact that strategic planning was known

and integrated in the company. Such initiatives could significantly improve the desired strategic fit, if they were successful in promoting concrete actions that helped overcome the critical weak points revealed by the study.

First it is necessary to gain a deeper understanding of these more critical factors' role and complexity.

Factors that Hinder or Contribute to Assuring PM's Strategic Fit

The research was structured so that the weaknesses identified would be characterized as the factors that hindered the promotion of PM's strategic fit. Content analysis of the interviews highlighted "resources" and "culture" as the most problematic ones. It is noteworthy that, in different ways, both factors at once hindered strategic fit and were negatively affected by its lack.

All personnel interviewed mentioned lack of resources. They referred explicitly to "a scarce quantity of resources", "a limited amount of resources for investment". Also many of them mentioned a loss of resources due to cancellations or delays in the portfolio's strategic projects, and especially the inappropriate allocation and quality of resources (human and financial) during the important phases of the life cycles of projects that were strategic for the company.

These results regarding the loss and inappropriate use of resources were all the more important as they matched the findings of studies surveyed in the literature, notably, those authored by Milosevic & Srivannaboon (2006) and Kerzner (2005). The need for effective resource allocation processes was perceived to be fundamental precisely because of this lack of resources, aggravated by losses due to cancellations and delays. In this respect the interviews given by executives lamenting the lack of resource allocation prioritization processes for essential projects were significant. They indeed corroborated Kerzner's (2005) arguments regarding the importance of having a prioritization process, besides the strategic selection process for projects to be included in the portfolio, especially because of the restrictions on available resources.

One of the interviewees hinted that the lack of a prioritization process was related to a cultural problem - absence of an economic and financial vision consistent with that of strategy.

"This vision (economic and financial) would prevent projects from being stopped or cancelled due to losses. It would also prevent totally unimportant or marginally important projects from being undertaken...It would create awareness through a well- structured, written risk analysis, ... Knowledge (for) the board to make options based on well-grounded information, expressed in concrete numbers. This is the system that should be in operation, and as we do not have this system, **most of our projects...are not submitted to an analysis that prioritizes them according to their loss or earnings potential** (one) is limited to the more deterministic part. And as most of our determining decision-makers **do not have an economic and financial vision**, most of our projects depend on a construction or operational vision, **without a greater commitment to our cash flow**".

Regarding this lack of an economic and financial culture it is important to mention the statement of another interviewee who worked in the strategic planning area. It shows how it was linked to the company's history, notably to the fact that "the company's production area used to be a Furnas directorate".

"(When it was) a Furnas directorate (it was) in an environment (where there was) generation (of power) by many other projects, huge hydroelectric plants with a regular and large level of production. So, there was no demand to get good returns, a financial result from production...And there was no lack of funds. Because Furnas is a company that really obtains a very good result, it a very solid company financially. When you say to these people: 'Look, now you're on your own, you must find a way', what happens? The guy doesn't yet have **that culture of results (operational/financial)** The important thing is that everyone is happy.. And it is not the case. It's a point that has to be worked on intensely: the quest for financial performance."

On being asked, "what contributed to or hindered PM's strategic fit in the company", this same executive said explicitly that "**what would contribute the most – and it (the company) wants to achieve this – would be to manage to create a project management culture**".

On this subject, the executive said that one of the factors that made it difficult to adopt a new culture, notably, that of project management with the due strategic orientation, was that most people in the firm had an engineer's mentality. This suggested implicitly that such a mentality lacked a vision of the overall business and of when actions added value in terms of fulfilling strategic objectives.

"Eletronuclear is a company of engineers...Engineers always like the best solution, the best solution technically, not necessarily the most adequate one (strategically). Some of these projects appear, that are the result of a personal vision, or one of these engineers who wants to make some technical improvement...then it becomes ...unfeasible, or (...) that does not add that much value."

Another executive, also from the planning area, who was asked the same question regarding the factors pertinent to PM's strategic fit, said explicitly that it was essentially a cultural problem:

"Basically, one has to change the culture that **hinders strategic fit**. Project management means a change in the culture." He added: "It has already changed a lot, has improved a lot in relation to what it was, we have undoubtedly already made considerable progress".

Another executive who also viewed the cultural problem as being the most critical, saw however some signs of change:

"I think that the cultural factor is very important in this company in many ways. (But) this is beginning to change with the arrival of new people with a different mindset, who are bringing a breath of fresh air into the company."

It is significant that this executive perceived portfolio management as a way of articulating PM strategically when he said that ... "The portfolio management part can become an explicit factor in the management of the strategic plan. We are beginning to see this now." Indeed his perception corroborates the views found in the literature that relate PM to strategy, usually through portfolio management, more precisely the strategic selection of projects to be included in the company's project portfolio (Baker, 1974; Bard, Baiachandra & Kaufmann, 1988; Cooper, Edgett & Kieinschmidt, 1998; Englund & Graham, 1999; Hartman, 2000). In this respect one should remember the recent initiatives in PM identified as potential strengths. Two out of a total of three were related to project portfolio management.

On the other hand, it was possible to perceive from the interviews that the Project Management Office – PMO, created in March 2007, to support the Technical Directorate – TD, had still not managed to obtain sufficient support within the company for the adoption, in practice, of many of its initiatives pertinent to PM, including those related to portfolio management. The challenge resided in putting intent, formal planning and documented processes into practice. As significant behavioral changes were at stake, the real challenge remained one of changing organizational culture.

One must not forget that, at Eletronuclear, the problem of changing its culture was more complex because it was a typically bureaucratic and functional state-owned company, lacking the motivation and organizational conditions needed to perform this change, as evidenced by the study's results. It is no coincidence that many of the weaknesses identified involved exactly those factors that are critical to cultural change. Various studies on the implementation of new strategies that require cultural changes evidenced that, without a flexible organizational structure, systematic training in new concepts and practices, firm performance measurement systems and employee recognition and reward processes based on indicators aligned with the strategic objectives, it is impossible to carry out the desired cultural change (Macedo-Soares & Lucas, 1995; Macedo-Soares & Lucas, 1996).

In relation to the weakness identified in the organizational structure, one must note that the fact that the company was in the nuclear energy sector made the problem more complicated. On this point, one should mention Carayannis's (1999) study of four nuclear plants in the United States that were characterized by a high degree of organizational complexity due to conflicting internal (plant) and external (macro-environment) requirements. The author verified that all plants presented a hybrid form of structure, in the line of Chandler's (1990, p. 568 *apud* Carayannis), "decentralized centralism" concept evidencing what he called the *Organizational Structure Dual Nature Paradox* (p.97).

This paradox is important because it presents cultural change with another type of challenge.

FINAL CONSIDERATIONS

Recommendations for Eletronuclear and Lessons for Other Firms

The assessments performed at Eletronuclear showed that the PM discipline had not achieved the necessary strategic fit to contribute effectively to the fulfillment of the company's strategic objectives. They also highlighted the factors that hindered the attainment of this fit. By the same token, they provided indications as to which issues deserved the company's attention the most.

The Eletronuclear case study made it clear that the issue of resources was the most pressing one. It was essential to solve the chronic problem of negative cash flow, as it had a direct impact on its low price strategy, and also to effectively adopt the PM discipline, thus enabling it to contribute to its strategy's financial sustainability. It became a priority to reduce personnel costs and improve financial indicators using financial

management mechanisms.

However, it should be noted that, at Eletronuclear, the investments undertaken had been quite significant (Eletronuclear, 2008a). In 2006, the company obtained a total of a R\$ 2.3 billion in loans and financings, in domestic and foreign currency, for the construction of the Angra 2 plant and to change Angra 1's steam generators, recorded in the annual report as projects of the investment budget included in Program 0296 – Energy of the Southeast and Midwest Regions Program 0296 of the Ministry of Mines and Energy (MME).

Program 0296 is sponsored by the government and includes indicators to assess its projects' performance (Eletronuclear, 2008b). It should be pointed out that this does not include Angra 3 that is still awaiting official approval, with forecast investments of around R\$7.2 billion over a five and a half year project period, which would mean a total budget commitment to projects of R\$9.5 billion.

It was verified that Eletronuclear lacked consolidated PM processes common to the whole organization, as well as effective PM improvement processes, necessary to assure its projects' strategic fit. Indeed, the PM and PPM processes, that are fundamental for project and strategic-level mediations, needed to be reviewed and improved. Considering the volume of investments in programs committed to with the MME, significant improvements would have to be carried out if strategic objectives were to be achieved and thus generate a positive cash flow. It was also seen that investments would have to be made to train human resources in the PM discipline. It would be necessary to establish systematic training programs for project managers, team members and executives, with a view to enabling them to apply PM best practices and processes with a more strategic vision, thus creating greater awareness of its importance. Obviously it would be necessary also to have a system of performance recognition and reward for employees engaged in PM, using indicators pertinent to PM and targets aligned with the company's strategic objectives, motivating, in practice, the adoption of this strategic vision in management. These measures together could contribute to leveraging the extremely necessary change in the culture of a company that is still predominantly focused on operation and safety with little sensitivity for the strategic importance of the PM discipline and financial management.

There is still the problem of organizational structure to be tackled. Carayannis's (1999) reflections on this matter are pertinent. Conflicting requirements really exist in the case of a firm like Eletronuclear. On the one hand, a flexible and decentralized structure is evidently the most appropriate for its effective strategic management in the current context of change and considering its focus on construction and projects. On the other, the management of its plants requires a centralized structure to assure the necessary controls and safety, considering the potential danger of its inputs and production process for the macro-environment. Thus, amongst the challenges associated with the cultural change, is that of seeking to manage these conflicting requirements, in terms of the organizational paradox mentioned by Carayannis, for whom a "decentralized centralism" may perhaps be the way to reconcile socio-environmental responsibility with economic and financial sustainability.

CONCLUSIONS AND SUGGESTIONS FOR FUTURE RESEARCH

As many other firms, especially state-owned ones, are facing similar financial, cultural and management problems to those identified at Eletronuclear, they may benefit not only from the recommendations mentioned here, but also from the article's content and the strategic analysis method used.

The analysis of PM's strategic fit undertaken in the scope of the study of Eletronuclear reveals a perspective that is an alternative to the logic of financial management for increasing the company's economic and financial sustainability. For PM professionals, it represents an opportunity to broaden their still predominantly operational vision of this discipline's practice.

At the academic level, the study contributed to investigations in two increasingly important areas: strategic management and the PM discipline. The suggestions made to improve PM's strategic fit, in order to solve the strategic financial problems in the firm at issue, may support future research into the impacts of PM on the financial management of firms with characteristics similar to Eletronuclear. An important question of the research would be: To what extent can strategic management focused on variables and attributes pertinent to PM's strategic fit increase cash and reduce risk - *Weighted Average Cost of Capital* – WACC, in raising funds for investment in capital intensive and highly leveraged firms?

Another important issue that interfaces with the strategy, organizations and PM areas, is the challenge of cultural change facing organizations in high environmental risk sectors, such as nuclear power, considering their conflicting organizational and management requirements. The question is: How to manage the cultural change

necessary for the effective implementation of project management processes and practices with the desired strategic vision, in organizations with highly complex structures, characterizing what Caryannis (1999) called the organizational structure dual nature paradox.

Considering the growing trend for firms to form alliances and strategic networks in a globalized context, other challenges are facing PM that had not been considered in the Eletronuclear study. Thus, in the case of new research into the strategic fit of project management, a suggestion would be to also analyze the implications of factors specific to this more globalized context and possible alliances and networks established by the firm, with all the new strategic, cultural and organizational challenges that this complexity necessarily entails for the management of projects with the due strategic orientation.

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CORPORATE CORRUPTION: THE NEED FOR EXCELLENCE IN MANAGERIAL STRATEGY, CONTROL AND ETHICS

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ABSTRACT

Recent events in American corporations have led to a series of research articles discussing the need for re-vamping our thinking in Management education for executives and reaffirming the need for strategizing and controlling from the upper echelons of management down to the subordinate levels in the corporate world. Ethics education is continually mentioned as a dominant need. Corporate action has stressed such after several mishaps have occurred, yet events have indicated that the very motivation of greed has taken over the leadership of the most prestigious corporations. The problem is not regional or confined to America. It reaches globally across all hemispheres and is reflective of a societal issue. Externally, the corporations are faced with more government regulations to stem the tide of collapse in the market. Internally, more has to be done within the corporations. This paper attempts to discuss approaches in strategizing better control and education in applying ethics.

INTRODUCTION

Corporate corruption has been evidenced on a world-wide basis. It has a long and ignoble history Not only has it been found to flourish in America throughout history, but also has been a global problem. A study of world history clearly indicates that from the time of the feudal system to the present, greed has been a motivating force in the abuse of power and the endless move towards total power both in the political and business realms. The study of human behavior has indicated the temptation of man to rule and to flourish often at the expense of labor. A prime example of this in American history records the various accomplishments and power of the "robber barons". Carnegie, Rockefeller and J.P Morgan were cited for their entrepreneurship, drive and eventual successes in industry. Often criticized for their questionable labor practices and business dealings they were cited as probably geniuses in starting the large scale financial businesses that we see today. Later in life whether through feelings of guilt or driven by their super-egos and need to be remembered in history, they became outstanding philanthropists who provided the public with gifts of land and cultural endowments.

Today we are faced with different modes of behavior on the part of chief executive officers and their actions in the corporate world. The various legal cases that have been publicized in the United States' corporate world, such as Enron, Tyco, MCI, and the recent impact of the financial debacle of AIG on the world's financial institutions leads to a general concern that corruption is far reaching and encompasses a threat to global institutions beyond the States' borders. A total lack of accountability does not just stop at the level of the CEO's of these companies but implies with the managerial principle that accountability works in an upward scale, to the conclusion that the Corporate Boards are just as guilty of wrong-doing. Their lack of careful and scrutinizing governance is evidenced and yet they exist unscathed or condemned for such negligence.

The total lack of control at the top allows the CEO to set strategies which are not always in the interest of the company and sometimes is motivated by their own self interest and greed. The manner in which they are compensated motivates them to make their companies successful but the manner in which the Boards monitor

executive compensation is left to self rule.. Berenbeim (2000) has referred to the resistance that is evident when corrective measures are discussed among executives. He speaks of the necessity of the business community to recognize that corruption of itself is costly to the shareholders and the companies themselves, not to speak of the fact that the countries in which these companies operate are negatively affected. He states that there is a need to examine three axioms, namely: Axiom one, Recognizing that when operating in different cultures, business practitioners need to be tolerant of local customs and cultures; Axiom two, that the Federal Corrupt Practices Act (FCPA) has not been successful in curtailing corrupt practices, Companies use middlemen to cover up the payment of bribes and ;Axiom three, whistle-blowing and informing does not seem to work particularly in countries outside the United States. Compliance systems do not work all the time. Fleming and Zyglidopoulos (2008) address the issue of escalation of deception within the organizations. Their argument emphasizes that if initial lies go undetected and unchecked, that there is a tendency over time for deceit to become pervasive. Studying the cases of Enron and Tyco this was clearly evident. Not only was it all pervasive, but also their outside accounting firm was involved in falsifying the accounting records.

The need for good strategies

Always alluded to as a way to go, good strategies are needed to prevent further corruption to occur in industries world-wide. From bribery to fraudulent practices, strategies to prevent ongoing deceit from Boards, and top management down, certain changes have to occur. Starting with the Boards, membership should not be obliged in any way to the top management of the firm. Directors on the boards should oversee audits and watch excessive compensations. They should have complete control over their own delegation and work to insure that ethical practices are followed. In short, they should have access to any and all information that they request. In short, they should be monitors. Their primary duty is to the shareholders of the company. They have to work as a group of “objective” members who are overseers. The question which excites controversy is who oversees the overseers?

Auditing firms should be changed every few years to insure objective approaches to their review of accounting practices. Kept completely independent, they too should have no personal connections to top management. In addition, CEO compensation should be monitored and relative to the market value and contribution of the CEO himself. Separation compensation should also be controlled since there is no penalty attached to CEO failures in delivering a profitable company. Whether good or poor performance history, the CEO in many cases walks away unscathed and compensated well for his deeds, whether it be bad or good. The problem with dealing with the dilemmas of the CEO is that he or she is in a societal trap. He has to show profit, deliver to the shareholders, insure that good management is secured and strategize what the company must do next. He is surrounded by adherence to regulations imposed by government and in the interest of “short-term” solutions may compromise once too often. His job is ceaseless in keeping too much disclosure from being prevalent lest it affects the company’s market price, yet being sure that correct behavior is noted by the shareholders. In short, the CEO has to balance all the demands that are made of him while not easy, he must insure that his company deals ethically from top management down.

Control

Transparency from top management throughout the corporation is a necessary part of insuring that deceit, lack of ethics and questionable behavior will not negatively affect the corporation. Whole systems of ethics education have been exhibited by model companies. Texas Instruments is an example of a company that educates all their employees to observe well and maintain good ethical practices. Ferrell (2006) The employees are well trained to recognize any practices which do not coincide with the expected behavior. A culture of transparency that reduces the ethical distance- the distance between ones actions and their ethical consequences can contribute to the salvageability of a company. (Baucus and Baucus, 1997)

Multi-levels of analysis have occurred in all the management literature but whether corruption is a state or a process is not paramount. (Ashforth et al. 2008) Lange (2008) Speaks of the complexity of control within an organization and provides a worthwhile approach to managing corruption within a corporation. Whether it is along administrative or socio-cultural channels, he points to different channels which can be a control mechanism in and of itself. These channels can be along lines of reduction of autonomy, consequence systems, environmental sanctioning and internal mechanisms of self control and vigilance. This suggestion on

the part of Lange indicates ways in which control of corruption is within reasonable reach. Government intervention has never been the answer historically for in a review of past legislation, people have discovered new loopholes, not to speak of the devastating effect on the economy when government steps in. More corruption is noted in the past experiences we know of.

It seems that the more educated, socially stabilized and economically sound nations appear to have less corruption, and a high corporate governance factor. (Kauffman, 2004) Mechanisms of corporate governance encompass excellent accounting standards, financial market and ownership regulations, disclosure policies, access to public information and capital inflow control. Despite the publicity surrounding the aforementioned companies known for their corruption, corporations in the United States and United Kingdom are among those countries which have the highest governance index.

Ethics

Probably one of the most referred to words in the area of organizational behavior is the word “ethics”. A study of various cultures leads one to realize that ethical behavior does not always mean the same to people of different cultural backgrounds. In many cultures, the practice of bribery is acceptable practice yet in the United States, it is forbidden by law in dealing with foreign businesses. Not only is it seen as unethical, but as illegal as well. The inner heart of the organization should reflect the culture of that organization and the culture should be supported by a code of ethics. Training in this area has become paramount in setting the stage for excellence in managerial ethics. The Securities Exchange Commission (SEC) set forth a code of laws and behavior expected by corporations dealing with financial services but all too often the codes were cited but there was no guarantee that they were always practiced as seen in the collapse of several financial firms.

Proper education of all employees should be enforced by top management and a customized ethics training program should be set in practice. In this way, it sets the expectations of the employers and elevates the need to perform in an ethical manner on the part of the employees.

In Germany for instance, the Siemens Corporation and Volkswagen have encountered scandals which have sent top executives to jail, the government laws of the land clearly state that certain behavior is punishable. In the case of these corporations, the government has followed through. Upon such scandals and subsequent jail terms, the message clearly resounds that good ethical practices are not only expected but corruption of any kind will be dealt with properly. European governments have had to step in and form anti-trust laws and to deal with issues in bribery that reach even the judges of the courts. Asia is also included in the struggle to deal honestly in corporate quarters. World-wide corporate upheavals have followed and these issues clearly indicate the need to structure ethics training programs wherever such corruption takes place. Motivated by both greed and the move towards greater power, unethical practices still prevail. Prevention should be paramount in the minds of top executives. If the situation prevails then there will never be a system of checks and balances which must exist to insure stability in the corporate world.

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THE EFFECTS OF GLOBALIZATION ON LITHUANIA

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ABSTRACT

The work gives an analysis of the impact of the global economy factors on Lithuania's economic and market development tendencies in the 21st century, on the harmonious development of the state and society; research results are provided and compared with the achievements of other European Union (EU) states. In the first part, an analysis is made of effective management implementation opportunities, and in the second part, the developmental trends in the national economy and the market, the formulated generalizations and research conclusions are given.

INTRODUCTION

Globalization unifies and splits the world community at a society level, while rapid processes of democracy and progress development that take place in the 21st century result in the global economy and market, the development of which is directly related to the world natural, material and financial resources and people. [Bauman]. On the one hand, on the global market – lack of natural resources, surplus of commodities and services, difficulties for investment of financial resources; on the other hand, a rapid growth of increment in population, which has a strong impact on the rational use of human resources, on the determination of the real value of human labour at a national economy and market level [Tendency]. Under the conditions of global economy and market, the real value of labour, the decreased value of labour and the increased value of labour exist, this affecting the evaluation system of human labour at the state and society level at the fixed time and place, and the results of human life index and life quality indicators depend on the value of human labour [Personnel].

The results in theory and practice are the basis for state and society development, since actually the individual may sell only his physical and mental labour on the national market, and in the 21st century in the organization, the physical and mental labour together, like a commodity or a service, and receive the wages, the size of which would be higher than the real values of consumption of that individual according to the calculated average consumption normative at the state and society level [Ulrich, Brockbank]. The index of living standards analyzed under those conditions would be higher than the unit, this corresponding to the economic theoretical and practical provisions of property accumulation and development for the increase of national market competitiveness under the conditions of global economy in the 21st century [Makštutis, Vijeikis]. This specifies the scientific and practical problem of this work and tasks for solving it.

The scientific and practical problem of the work is that in the works of Lithuanian and foreign scientists the global economy challenges for business threats, the effects of their factors on the population, economy and market under the conditions of the national economy development in the 21st century have not been researched and described in the essence, methodics and its implementation methods for assessment of

business threats, for forecasting changes of those threat factors in time and in real places: in Lithuania, European Union (EU) and the world community have not been prepared.

The objective of research is to analyze theoretical and practical opportunities of the global economy challenges for business threats, to give their assessment and provide presumptions for diminishing threats under the conditions of Lithuania.

Research tasks are to describe the 21st century challenges of the global economy, to forecast their effects on the changes of business threats, to present the probability and opportunity for the emergence of business threats in Lithuania, and to generalize the work results.

Research object is the political, economic and social factors in the development of the state and society, which are designed for diminishing the global economy challenges for business threats in Lithuania under the conditions of globalization in the 21st century.

Research results are to identify the limits of the real value of labour, which would create conditions for the development of Lithuania's economy and increase of national market competitiveness in the common EU space, to provide the harmonious development tendencies of the state and society, their generalizations and conclusions.

THE EFFECTS OF GLOBALIZATION

The author of the work in the course of the long period conducted observations, made a survey, and fixed results in Lithuania and foreign countries: Armenia, Austria, Belarus, Bulgaria, Czech Republic, Estonia, Georgia, Spain, Israel, Kirghistan, Latvia, Poland, Moldova, Norway, Portugal, Romania, Russia, Finland, Sweden, Ukraine, and Germany. The accumulated material is systematized and its results are provided in the text of the work.

Globalization result is the present-day result of the harmonious development of the political, economic and social environment of our state and society [Indriūnas, Makštutis], where political and economic factors are closely associated, and social factors still more lag behind those previously mentioned, this showing the inadequacy of the existing programmes of the national economic development and national market competitiveness increase for the 21st century effective management theory and achievements of other states [Makštutis, 9].

The basis for the 21st century effective management theory is the organization and its personnel, and the optimum activity is based on the key factors: objectives, programmes, tasks, evaluation criteria, resources, normatives, results in the fixed time and sphere of activity. The functions of time and place (sphere of activity) are of special importance in forecasting the factors of operational (calendar year), perspective (two years ahead), and strategic (three-five years after two years from the present day) success of the modern organization [Makštutis, 2]. The activity programme is described, but it also covers the projecting of activity processes, therefore the individual programme is being implemented at a level of the specific project; these are inseparable processes for optimization of the activity of the organization [Lessel]. Optimization of the activity is a process inseparable from progress and development of democracy to ensure the harmonious development of the state and society of Lithuania; however, at present the standard situation is faced when the perspective and strategy of the activity of the organization is not oriented to the project for the development of the state with the society, the implementation of which should be guaranteed by the Constitution of Lithuania, because such a project does not virtually exist. The developmental project should be based on the country's regional strategic projects of development, and the latter on the rational use of local resources to create a national product (good or service) and to place it on the national and foreign (EU) markets [Makštutis, Paulauskas].

Under those national economy and market development conditions we do not possess opportunities practically for establishing new organizations and creating modern jobs [Makštutis, 7]. It is necessary to underline at the present moment that the representatives of national economy and market business make the investment opportunities more difficult [Makštutis, 3], since Lithuania's import and export balance in 2008 made a difference of LTL 20 billion, this mainly consisting of imported goods from Asia, and our export contains a very small portion of national product (goods and services), and the basis – re-export [Modern]. A situation on the national market is being explained by a labour efficiency and wages problem, that in 2008 the rates of wages are significantly higher than those of labour efficiency, but this is estimated in percentage and does not completely comply with the common EU economy development tendencies in monetary expression as compared to the real situation in Lithuania [Makštutis, Vijeikis].

Total employment is the objective of the national state and its economic policy. In reality, Lithuania's economy and national market move away from that objective to a greater extent, since all those willing to work and earn are not provided with jobs. *Unemployment* is an important problem in the development of global economy and national economies, which must be solved by the state governments, and their policy in the 21st century should diminish losses caused by unemployment [Makštutis, 8]. Unemployment reduces real income, changes human life attitudes and day rhythm, increases psychological tension and distrust in the state policy at a public level. This concerns the major part of Lithuania's population, whose everyday life is greatly affected by unemployment, which reduces their social, economic and political activity, thus also predetermining social exclusion – poverty, which is incompatible with the nature of the individual and his family in the 21st century under conditions of the global economy in Lithuania, the common EU and global community [Makštutis, 4].

At the beginning of the 21st century, competitiveness of organizations has become the key problem on the domestic and international market of Lithuania, since the competitiveness of the national product is conditioned by the national market demand, supply, competition, conditions and employment scale of residents, their real monthly and annual income [Makštutis, 1]. It is possible to state that the labour value of young people and the general tendencies of wages under the conditions of the national economy and the market depend on the leadership of Lithuania's state policy and organizations. Those conditions foresee the opportunities of competitiveness for organizations through: investment and progress of technology, optimum labour, work quality and quantity of the individual and the machine, activity development through the application of progress, labour efficiency, human labour value and career opportunities [Makštutis, 3].

Experience of foreign states shows that the existing minimum wage policy in Lithuania of 232 € in 2008 stimulates emigration of young and qualified people, whereas minimum wage in the EU states in 2008 was: in the United Kingdom – 1362 €, Luxembourg – 1571 € [Statistics, 2], if compared to the experience of Norway, the hourly rate for work in 2007 reached from 70 kroner to 160 kroner (1 krone \approx 0,12 €), when working days constitute 7.5 hr and this is guaranteed by the Norwegian state institutions [Makštutis, 6], rather than by the private capital and its representatives (in the case of Lithuania), and after coming back for work to Norway the average amount of monthly wage per each worked month will be paid and an hourly rate for work will be increased, which after signing the employment contract for 3–5 years will be permanently increased to a maximum.

Due to that reason, the living standard of Lithuania's population according to Eurostat research results [Statistics, 1] in 2007 accounted for only 53.2 percent of the EU average 100 percent, whereas in the centre of London it made correspondingly 303 percent. In the research, a survey was made of the condition in 271 European regions, as compared to the average EU indicators.

Currently, in Lithuania, we already possess the formed society and external security. We have the real conditions for the development of democracy and progress; however, the contradictory political, economic and social environment is being formed. Following that road, we must seek that the state power control mechanism would be enforced, that amendments to the Law on Financing of Political Parties, ensuring that while distributing state money to the parties the major influence would belong to the society, that the laws on public interest advocacy, the direct appeal of citizens and other legal persons to the Constitutional Court of Lithuania as well as recalling of the members of the Seimas would be prepared and adopted.

The Results of Research

According to strategic management methodology, absolute equality exists really only between absolutely equal quantities, thus absolute equality between labour activity results of separate individuals, families, and bodies of organizations in the world community cannot actually exist, and the wishes of people always remain, even though their theoretical and practical opportunities always differ. For that purpose, the world community has created the state through government (*Normative Acts System - NAS*) for strategic maintenance of social equality in the society through self-government (*normative act system - nas*) [Makštutis, 2]. Under those conditions, the activity of Lithuanian institutions in this sense should be strategically governed and be strictly purposeful and responsible for the modernization of *NAS*, but be based on the real activity conditions, which are regulated by the objective of the optimum activity of the organization, programme, tasks, evaluation criteria, resources, normatives, planned result, obtained real result, which is expressed by the national product under the national economy and market conditions in the world community. The objective of the management of progressive and optimum activity factors is to timely ensure the development of the national

economy and the market at a demand and supply level, to fully satisfy the needs for labour activity development of Lithuanian people in the life of the individual, the development of the family, in developing the optimum activity of personnel in the organization. Those factors would really ensure the development of democracy and progress, the harmonious development of the Lithuanian state and society in the world community, would abolish the confrontation between the individual, family, collective and society in the state, and the living standards of Lithuanian people would equal the average normative of the EU and the world community living standards, thus guaranteeing the Lithuanian national security [Strategic].

Theory and practice of governance proved that there is no ideal state in the world, since the society of each state has its own national history, culture, language, habits, human life and family development traditions, faith, natural conditions and different natural resources, influence of the neighbouring states, etc. [Schuman]. *All the states* possess bureaucratic system of organizations, which is mandatory and is operating on the basis of *NAS*, supports the development of democracy and progress factors. That system actually also exists in Lithuania [Constitution], and the speed of democracy and progress enhancement in strategically implementing the optimum activity of the individual, family, and personnel in the organization in the national economy and the market depends on the efficiency of the operation of the state institutions on the basis of *NAS* [Schultz]. *Today*, the system of Lithuania's institution confronts the real problem of management of the national economy and market factors: development and use of human intellect, determining competence in a separate workplace and on that basis the normative of competence under the real conditions of progress enhancement in the state institutions, which exercise a direct effect on the development of economy, increase of competitiveness and on citizens at a political, economic and social environment level [Paulauskas].

As a matter of fact, those conditions in the development of Lithuania have been formed for a long time at the existence of incorrect policy of capital investment, incorrect evaluation of the labour activity of the individual, family, and personnel in the organization and its work results, which were dependent on the real system of government–self-government in Lithuania [The Security]. Therefore it is not realistic to state in theory and practice that in the short term we shall overcome the deformations in the development of social, economic, and political factors in Lithuania's economy and society, since for that purpose it is necessary to be aware that the individual, family, and personnel in the organization has its own narrow interests, as compared to those of Lithuania and society, the importance thereof comes above the perspectives in the development of Lithuania's future [Future]. It is possible to formulate the problem-solving steps in the harmonious development of the state and society in the 21st century [Makštutis, 4].

Firstly, it is necessary to grant the freedom of activity in the society for the individual, family, personnel in the organization under equal rights and equal opportunities, envisaged by the issues of theoretical management under the real environmental possibilities and conditions existing in practice, which are based on Lithuania's political, economic and social factors of government–self-government [Indriūnas, Makštutis].

Secondly, in developing Lithuania's environmental factors of government–self-government, they should be realistically assessed: if those factors in the development of the national economy and the market are ignored by the state institutions, thus the principles of self-government in the society of the individual, family, and personnel in the organization are violated. Therefore the system of state institutions cannot ensure the harmony and speed in the development of activity freedom and progress for the individual, family, and personnel in the organization, since governance environmental factors are distributed from the dictate to anarchy [Buzan].

Thirdly, in this case, the optimum activity in the national economy and the market of the individual, family, and personnel in the organization becomes impossible, and the developmental processes of the society in developing the capital are distorted, therefore the work results cannot actually ensure the prospects of the harmonious development of the individual, family, and personnel in the organization at the level of the Republic of Lithuania and society [Future].

Here are results of our activity: human interrelations start deforming or divert from progress and democracy evaluation criteria and their normatives, which are specified by theory and practice of government of political, economic and social factors [The Security].

Generalization is that life of Lithuanian people is not improving, the developmental processes of the national economy and the market that do not comply any more with the principles of optimization of the activity of organizations get disturbed: at minimum resources to seek to achieve the optimum activity result in the fixed time and place [Modern]. Analyzing actually the labour relations of the individual, family, personnel (in the organization) and society (in the state) at a national economy and market level, it is necessary to evaluate how the efficiency of the key administrative-branch management system (vertical-horizontal management) becomes manifest, the efficiency of human labour in the national economy and the market within the calendar year or the single activity cycle in the individual organization [Makštutis, 9].

It was identified during research that at the present moment the theory of personnel (in the organization) activity measurement by efficiency calculation, its implementation methodics and methods do not comply with the government–self-government principles of functional factors of progress and democracy in Lithuania’s economy and the market [Personnel]. Currently, the self-government processes of Lithuania’s society are not coordinated and they do not comply with the management processes of the system of Lithuanian institutions, therefore no rapid progress and democracy in the Lithuanian economy can be expected as is anticipated [Makštutis, 3]. The present real situation in Lithuania’s economy and market demonstrates the incompatibility of the system of state institutions and their contradictions at a level of the optimum activity and real labour value of the society (in the state), personnel (in the organization) , family, and organization [Tendency]. *Observations showed* that the efficiency of government–self-government processes of the macrosystem objects and global system subjects and objects is low, therefore government–self-government theory, its implementation methodics and methods are directed to the organizations (personnel), which are affected by the Lithuanian political, economic and social environmental factors [Modern].

Long-term studies enabled the author of the work to formulate his own government and self-government methodology, methodics, its application methods, ways of decision-making, system modeling, so that the effective government and self-government systems would be applied in the future and the efficiency of individual systems would be specified at a level of state resources under the conditions of the global economy and the market in the common EU and world community [Warren], which would guarantee the preparation and implementation of the project for the harmonious development of Lithuania and society together with the Constitution. *It is necessary to stress* that security of Lithuania and people depends not on the military power but on the labour results of the people, since security is the extended conception at present and in future in Lithuania, the Baltic Sea region, the EU and the world [Ulrich, Brockbank]. It was determined by research that separate spheres of security content have functional relations which are being developed in the external and internal environment of Lithuania where business threats are being formed, and in the event of unfavourable political, economic and social environmental factors those threats get increased, therefore the national security of Lithuania is vulnerable and those issues are of special importance. Threats are internal and external. Internal threats are bigger than external; this is the result of challenges of the global economy [Kotabe, Helsen]. This result is favourable for the factors of business threats in the world [Steger, Amann, Maznevski]. External threats are increased by regional conflicts and participation in them is favourable for business threats in the EU.

In summary, it is possible to state that Lithuanian institutions should solve tasks, of special importance for strengthening the national security: in fact, to reduce internal threats upon the evaluation of changes of external threats in the EU and the world community at present, so that in the future we would avoid the large-scale results of real business threats: loss of people, natural and material resources.

CONCLUSIONS

1. To guarantee by the Constitution the governance of the harmonious development of the state and society.
2. To implement the provisions of the Constitution, it is necessary to revise the state system of normative acts.
3. To prepare the project for the harmonious development of the state and society to fully comply with the Constitution.
4. To prepare the project for the harmonious development of the regions of the country to fully comply with the Constitution and “NAS”.
5. To guarantee the self-government in the regions according to “nas” to fully comply with “NAS” and the Constitution, that self-government would ensure the harmonious development of people, families and organizations.

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NEW U.S. TAX RELIEF FOR PONZI INVESTORS

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ABSTRACT

The Internal Revenue Service recently issued guidance for investors who experience losses due to a criminally fraudulent investment scheme. The guidance came on the heels of the arrest of Bernard Madoff, who duped unsuspecting investors into a Ponzi scheme. Described as one of the biggest frauds in history, investor losses are estimated to be in excess of \$50 billion. While the Federal Bureau of Investigation and the Securities and Exchange Commission are working out the legal details, the Internal Revenue Service (IRS) has turned its attention to the investors. Prior IRS authority had addressed investment losses, losses from fraudulent activities, and losses from theft. However, new guidance, released March 17, 2009, makes clear that rather than being treated as capital losses, losses resulting from a Ponzi scheme should be treated as theft losses under section 165 of the Internal Revenue Code of 1986, as amended (Code). This paper briefly explains the Ponzi scheme, describes the general tax treatment of losses under the Code, outlines the preexisting guidance from the IRS (which is now partially obsolete), and details the IRS's new guidance.

BACKGROUND

A Ponzi scheme is an investment scam in which early investors receive returns based on contributions from later investors, creating the illusion of profitability to the early investors. The high return then lures the early investors to invest even more. Since there are no actual returns, the scheme only works through the acquisition of new investors, and it usually falls apart when investors want their money back. The latest perpetrator of such a scheme is Bernard Madoff, who was arrested and charged with securities fraud on December 11, 2008. Madoff is accused of operating a \$50 billion Ponzi scheme, and if convicted will face up to 20 years in prison and a fine of up to \$5 million.

LOSSES

Capital

The treatment of losses for tax purposes turns on what type of asset generated the loss. Sales of ordinary assets result in ordinary losses, and sales of capital assets result in capital losses. The determination of whether an asset is ordinary or capital is made by reference to § 1221 of the Code. Section 1221 states that all assets are capital assets, with the exception of certain assets – such as inventory, accounts receivable and depreciable assets used in a trade or business – which are ordinary in character. Since § 1221 does not except assets held for investment or personal use from the definition of capital assets, these assets are considered to be capital assets. Accordingly, sales of investment or personal property result in capital gains and losses.

The realized gain or loss on the sale of an asset is calculated as the difference between the amount received on the sale and the seller's adjusted basis. Where the amount realized is less than the adjusted basis, a realized loss results. The Internal Revenue Code places limits on a taxpayer's ability to recognize realized losses for tax purposes. Specifically, the maximum amount of net capital losses (*i.e.*, the excess of capital losses over capital gains) that an individual taxpayer may deduct in any one year is limited to \$3,000. Net capital losses in excess

of \$3,000 may be carried over indefinitely to future tax years. The capital loss deduction is taken for Adjusted Gross Income (AGI) (*i.e.*, above-the-line deduction).

Example: John purchased 200 shares of ABC stock in 1999 for \$90 per share. He sold all 200 shares in 2008 for \$55 per share. John's realized loss is computed as follows:

Amount Realized	\$11,000	(200 shares x \$55 per share)
Adjusted Basis	<u>(18,000)</u>	(200 shares x \$90 per share)
Realized Loss	(7,000)	

Since stock is a capital asset, the \$7,000 loss on the sale of the stock is a capital loss. Assuming John has no capital gains in 2008, he will be able to deduct \$3,000 for AGI in 2008. In addition, he will be permitted to carryover \$3,000 of the remaining \$4,000 loss from the sale of ABC stock to 2009, and the remaining \$1,000 can be carried over to 2010.

No deduction is permitted for securities which decline in value. For example, if in the prior example the ABC stock had declined in value after John purchased it, such that it was worth \$70 per share in 2006, no deduction would have been permitted in 2006 because no realization event occurred (*i.e.* John did not sell the stock). However, a deduction is permitted when a security becomes completely worthless, meaning it has \$0 value.

Casualty and Theft

The Internal Revenue Code also allows deductions that result from theft. Specifically, § 165 allows a deduction for loss due to the theft of property that is not compensated by insurance. For this purpose, theft is interpreted to include larceny, embezzlement and robbery. The amount of the loss for tax purposes is measured by the adjusted basis of the stolen property, reduced by any amounts the taxpayer reasonably anticipates will be recovered. Accordingly, an individual cannot deduct amounts where there is an expectation of recovery, even if such recovery does not occur by the end of the tax year.

With regard to losses from theft, the deduction is permitted in the year the taxpayer discovers the loss (as opposed to the year the loss occurred). Classification of the deduction turns on how the stolen asset had been used by the taxpayer. For example, a loss resulting from the theft of business property is taken for AGI, and a loss from the theft of investment or personal property is generally taken as an itemized deduction (although a loss from the theft of investment property which is held for the production of rent or royalty income is taken for AGI). This means that the taxpayer will not benefit from the deduction unless the total of all itemized deductions exceed the taxpayer's standard deduction, which varies with filing status (*i.e.*, for tax year 2008 the standard deduction for a taxpayer with a filing status of Single was \$5,450 and Married Filing Joint was \$10,900). In addition, Code § 165(h) places two limitations on the amount of the deduction, but only if the loss relates to personal-use property. First, the amount of loss is subject to a \$100 floor for each casualty or theft event which resulted in loss to personal property during the taxable year (the \$100 floor). The floor has the effect of reducing the loss by \$100. Secondly, the total of all losses (after the \$100 floor is applied) is then subject to another floor, which is calculated as 10% of AGI (the 10% of AGI floor). Said differently, total losses of personal property are deductible only to the extent they exceed 10% of AGI. These limits do not apply to losses from the theft of business or investment property.

Example: Jane's apartment was burglarized in 2008. The thief stole her plasma television (purchased for \$4,800) and bearer bonds (purchased for \$8,000). Jane has homeowner's insurance which will reimburse her \$500 for the television and \$3,000 for the bonds. Jane's AGI without regard to the following is \$34,000. Jane's theft loss is calculated as follows:

	<u>Television</u>	<u>Bonds</u>	<u>Total</u>
Amount of loss	\$4,800	\$8,000	\$12,800
Insurance	<u>(500)</u>	<u>(3,000)</u>	<u>(3,500)</u>
Loss before Limitations	4,300	5,000	9,300
Limitations:			

\$100 floor	(100)	n/a	(100)
10% of AGI floor	<u>(3,400)</u>	<u>n/a</u>	<u>(3,400)</u>
§ 165 Loss	800	5,000	5,800

Jane can deduct \$5,800 in losses from the robbery. Since the stolen property was personal and investment property, the deduction is taken as an itemized deduction.

PRIOR IRS GUIDANCE

Revenue Ruling 77-17

In Revenue Ruling 77-17, the IRS addressed the treatment of losses that result from fraudulent activities. The specific issue was whether investors in corporation X were entitled to a theft loss deduction under § 165 where the officers and directors of X engaged in securities fraud. The facts of the ruling indicated that the goal of the officers and directors was “to inflate and keep aloft the market price of X’s stock . . . by reporting nonexistent income and assets on the corporate books and failing to record liabilities. The public was thereby induced to purchase stock in what was thought to be a large, fast-growing and solvent enterprise.”

The IRS cited *Edwards v. Bromberg* for the definition of theft as “a word of general and broad connotation, intended to cover and covering any criminal appropriation of another’s property to the use of the taker, particularly including theft by swindling, false pretenses, and any other form of guile.” Next, the IRS outlined the requisite elements of theft by false pretenses as follows:

1. The perpetrator of the crime had the specific intent to fraudulently deprive an owner of the owner’s property.
2. The perpetrator actually obtained possession and title to the property of the victim.
3. The property was obtained through the use of false pretenses.
4. The owner of the property relied upon fraudulent representations in parting with the owner’s property.

Although the officers had obtained possession of the victim’s property through use of false pretenses upon which the owner’s relied, the IRS found that the factual situation described in the ruling did not fall within the definition of theft because the officers did not intend to defraud a specific investor, thereby failing the first requirement. Accordingly, the investors were not entitled to take a deduction for theft under § 165.

Revenue Ruling 71-381

Revenue Ruling 71-381 addressed the classification of theft losses. In that ruling, an investor had been specifically defrauded when she loaned money to a corporation based on information in the financial statements presented to her, and such statements were found to be false and misleading. The IRS ruled that based on these facts, the investor was entitled to a theft loss deduction and that such deduction was subject to limitation. Although later amended, at the time of the ruling the Code placed limitations on the amount of the deduction for losses relating to any property that was not connected with a trade or business, including investment property. Accordingly, the ruling indicated that the deduction for losses from investment property was limited by the \$100 floor and the 10% of AGI floor.

NEW GUIDANCE

Based on the prior rules of the Internal Revenue Code and guidance from the IRS, there were two possible tax consequences to the investors in the Madoff Ponzi scheme. First, the investors’ losses could be treated as capital losses under § 1221. The presence of fraud would not seem to change this result, as illustrated by Revenue Ruling 77-17. The second possibility would be to treat the investors’ losses from the Ponzi scheme as losses from theft under § 165, and accordingly to Revenue Ruling 71-381 the deduction would be subject to the \$100 and 10% of AGI limitations. New guidance from the IRS indicates that neither of these approaches is entirely

correct. Rather, in Revenue Ruling 2009-9, the IRS states that the losses should be treated as theft losses, however the \$100 and 10% limitations do not apply.

In March 2009, the IRS issued Revenue Ruling 2009-9 which addresses several questions regarding the proper tax treatment of losses from fraudulent investment schemes. These questions include whether the losses are deductible as capital losses or theft losses, whether such losses are subject to limitations, and the amount of the loss.

Type of Loss

The ruling makes clear that losses resulting from a fraudulent investment scheme shall be treated as theft losses, as opposed to capital losses. The ruling specifically distinguishes Revenue Ruling 77-17, which held that losses sustained in the open market resulting from fraudulent activity of a corporation's officers or directors are capital in nature. However, in a Ponzi scheme, the mastermind behind the scheme specifically intends to deprive a particular individual of money or property. Accordingly, the definition of "theft" is satisfied and any resulting loss is deductible as such under Code § 165.

Treating the losses as theft, as opposed to capital, is favorable to the taxpayer because the deduction for capital losses is limited to \$3,000. Although excess losses can be carried over indefinitely to future tax years, it would take decades – potentially even centuries – for a taxpayer to recover his loss if he had invested several million dollars, a situation which was not uncommon in the latest Ponzi scheme perpetrated by Bernard Madoff.

Limitations

As described above, the Code currently provides that if a person sustains a loss in a transaction entered into for profit (whether as a business, or simply an investment), such loss is deductible without limitation. On the other hand, loss relating to personal-use property is subject to limitation under Code § 165(h) (*i.e.*, the \$100 floor and 10% of AGI floor). However, the IRS had indicated in Revenue Ruling 71-381 that losses sustained on investment property after a taxpayer was specifically defrauded were subject to limitation. The IRS acknowledges in the new guidance that Revenue Ruling 71-381 is obsolete in that it was issued under prior law. Since then, the Code has been amended to indicate that losses from investment property are not subject to limitation. Accordingly, losses to investment property are not subject to the limitations of Code § 165(h).

The classification of theft loss deductions may provide another limitation. A loss from theft of investment property is generally deductible below the line as a miscellaneous itemized deduction. Although some miscellaneous itemized deductions are subject to the 2% of AGI floor, the Code specifically removes § 165 losses from this limitation. However, itemized deductions can be taken only when the total of all such deductions exceed the taxpayer's standard deduction. The typical investor in a Ponzi scheme is wealthy, and most wealthy taxpayers qualify to itemize deductions even without losses (due to other deductible expenses such as state income taxes, real estate taxes and medical expenses). For these taxpayers, the rule that itemized deductions must exceed the standard deduction is of no consequence. However, it is possible that a taxpayer who invested a small amount in a Ponzi scheme would not receive a tax benefit from the loss if the investment was less than his standard deduction amount and he didn't qualify for any other itemized deductions.

Timing

The ruling follows the general rules of Code § 165 with regard to when the deduction may be taken. The deduction is allowed in the year in which the taxpayer discovers the loss. In the case of theft, the year of discovery may not be the same year in which the loss actually occurred. For example, if a taxpayer makes an investment in Year 1 but it is not discovered until Year 5 that the investment scheme was fraudulent, the deduction will be allowed in Year 5 even though the loss occurred in Year 1. The regulations provide, however, that no deduction is permitted if the taxpayer has a reasonable expectation of recovery. If the taxpayer has any outstanding claim for reimbursement, for example from insurance, the deduction is not allowed until the year it can be determined whether the reimbursement will be received or not. The taxpayer would be allowed a deduction at that time for any loss which has not been recovered.

Amount of Deduction

Consistent with the regulations under Code § 165, Revenue Ruling 2009-9 indicates that the amount of the loss is measured by the basis of the property (*i.e.*, the amount invested) decreased by any amount reimbursed or recovered. In the context of a fraudulent investment scheme, the amount invested includes the original investment and any subsequent investments, as well as any fictitious income from the investment which was included on the taxpayer's federal income tax return and reinvested in the scheme. Any amounts actually received by the taxpayer as a return on the investment decrease the amount of the deductible loss.

CONCLUSION

Revenue Ruling 2009-9 makes clear that any loss sustained as a result of a fraudulent investment scheme is to be treated as a theft loss under Code § 165. The amount which can be deducted is the unrecovered investment, and it is not subject to the \$100 floor and 10% of AGI floor. Finally, the deduction is taken in the year the loss is discovered. The IRS also issued Revenue Procedure 2009-20 which provides a safe harbor for victims of fraudulent investment schemes. Provided certain procedures are followed, the taxpayer is permitted to deduct up to 95% of qualified losses and the IRS will not challenge the deduction.

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NEW TAX RULES FOR U.S. EXPATRIATES

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ABSTRACT

The United States has recently changed the tax laws which apply to individuals who renounce their U.S. citizenship or terminate their status as long-term residents. The U.S. tax rules have addressed such individuals for many years, however the rules have been revised several times. The latest change, which is a large departure from the prior rules, has two major aspects. First, the new law imposes an "exit tax" on expatriates, which has the effect of taxing the expatriate as if he sold all of his property for its fair market value on the day before the expatriation. Secondly, the new law imposes a transfer tax on recipients of gifts from individuals that have expatriated. This paper explains why the United States is concerned with expatriation from a tax perspective, describes the history of the expatriation rules, and explains the new provisions.

BACKGROUND

The United States has a worldwide system of taxation, which means that all citizens and residents of the U.S. are taxed on "all income from whatever source derived." Pursuant to § 1 of the Internal Revenue Code of 1986, as amended (Code), an individual is subject to income tax at graduated rates on all types of income, whether earned within the United States or in another country. Nonresident aliens, however, are subject to different rules which are located in IRC § 871. Such individuals pay tax at graduated rates only on income that is effectively connected to a trade or business within the United States. In addition, passive types of income from U.S. sources are subject to a U.S. withholding tax at a flat rate of 30% (unless modified by a treaty). Accordingly, foreign source income earned by a nonresident alien is generally not subject to U.S. taxes. The source of income is determined by reference to IRC § 861.

The global U.S. tax system is broad enough to reach citizens of the U.S. that have little connection to the United States. For example, a U.S. citizen living abroad is required to pay U.S. taxes on his worldwide income, even if it is all earned abroad. Because of this broad reach, there is some incentive for a citizen with little or no ties to the U.S. to renounce his citizenship. The desired result would be to remove all U.S. tax obligations. At the very least, giving up U.S. citizenship would remove U.S. tax from the individual's foreign source income. If the individual has U.S. source income, such income would be taxed according to the rules applicable to nonresident aliens (*i.e.*, graduated rates on effectively connected income or 30% withholding on passive income). The idea that renouncing U.S. citizenship could be motivated by the goal of tax avoidance provoked Congress to act.

HISTORY OF U.S. EXPATRIATION RULES

The First Expatriation Tax Law – IRC § 877

Congress enacted the Foreign Investors Tax Act of 1966 (the 1966 Law) which, among other things, addressed tax-motivated expatriations. Pursuant to the 1966 Law:

Every nonresident alien individual who at any time after March 8, 1965, and within the 10-year period immediately preceding the close of the taxable year lost United States citizenship,

unless such loss did not have for one of its principal purposes the avoidance of taxes . . . shall be taxable for such taxable year.

If applicable to an expatriate, the 1996 Law taxed the U.S. source income of an expatriate for 10 years following the expatriation at the same graduated rates which apply to U.S. citizens. The law also provided special source rules to be used in determining the U.S. source income of an expatriate. For example, the special source rules provided that gains from the sale or exchange of property located in the United States, and gains on the sale or exchange of stock of a U.S. corporation, were to be treated as U.S. source income regardless of the outcome of source determined by reference to § 861. Moreover, the 1966 Law indicated that § 877 would only apply if the tax imposed exceeded the amount of tax which would otherwise be imposed by § 871 (*i.e.*, the section applicable to nonresident aliens). Accordingly, an expatriate would be required to pay U.S. tax under § 871 or § 877, depending on which resulted in a higher amount. The 1966 Law provided one escape hatch for expatriates. Section 877 would not apply to an expatriate if he could prove that tax-avoidance was not a principal purpose of the expatriation.

Application of the 1966 Law proved to be difficult, however, due to the subjective inquiries which the law required. Two cases are often cited to illustrate this point. First, in *Kronenburg v. Commissioner*, the U.S. Tax Court held that § 877 applied to a former U.S. citizen based on the following events. On February 21, 1967, the individual and his family moved to Switzerland. The move occurred after a Certified Public Accountant advised the individual, owner of 95% of a corporation on the verge of liquidation, that he would owe less U.S. tax due to the liquidation if he was not a citizen of the United States. On February 23, 1967, the individual renounced his U.S. citizenship, and on February 24, 1967 the corporation was liquidated and a distribution was made to the individual. Finding the events too coincidental to be unplanned, the court held that tax avoidance was the principal purpose of the individual's expatriation. Accordingly, the individual was subject to U.S. taxation under § 877 for 10 years following the expatriation. The other case, *Furstenburg v. Commissioner*, had a different outcome. There, the taxpayer successfully argued that her expatriation was not motivated by tax avoidance, but rather a result of marriage. The individual was the daughter of the founder of Exxon and, although she was born in the United States, she lived most of her life in France and eventually married a citizen of Austria. Following the Austrian custom that a wife adopts the citizenship of her husband, she renounced her U.S. citizenship. Following the expatriation, the individual sold several shares of Exxon stock at a large gain, and the Internal Revenue Service (IRS) claimed that such gain was subject to tax under § 877. The court disagreed, finding that her expatriation was motivated by reasons other than taxation. Accordingly, § 877 did not apply. Although *Kronenburg* and *Furstenburg* had different results, both are indicative of how fact-sensitive the original § 877 was.

The 1996 Amendment

The Health Insurance Portability and Accountability Act of 1996 (the 1996 Law), effective February 6, 1995, revised the expatriation rules in several ways. The first major change was that the 1996 Law extended § 877 to long-term residents whose residency is terminated. Prior to the 1996 Law, § 877 only applied to individuals whose U.S. citizenship had been lost. However, citizens and residents of the United States are subject to the same worldwide tax rules; hence, just as citizens have a tax incentive to renounce citizenship, residents have a tax incentive to terminate residency. For purposes of § 877, the 1996 Law defined long-term resident as an individual that had the status of lawful permanent resident of the United States for eight or more of the fifteen taxable years which end in the year of loss of such status. Status as a resident was deemed to terminate when the individual lost his or her green-card, or was treated as a resident of another country pursuant to a tie-breaker clause between the U.S. and such other country.

Secondly, in furtherance of the general rule that § 877 should apply to tax-motivated expatriations, the 1996 Law added presumptions of tax avoidance based on objective standards. An individual was treated as having a tax avoidance purpose if the average annual net income tax of such individual for the period of five taxable years ending before the date of expatriation was greater than \$100,000, or if the net worth of the individual as of the date of expatriation was \$500,000 or more. The 1996 Law called for these amounts to be indexed for inflation, and also provided an exception to the presumptions. To be excepted, an individual had to satisfy three requirements:

1. The individual had to demonstrate that tax avoidance was not a principal purpose of the expatriation.
2. The individual had to be described in one of the following categories:
 - a. The individual had dual citizenship. Dual citizenship for this purpose means that at birth the individual became a citizen of the United States and another country (and continues to be a citizen of such other country), or after birth the individual became a citizen of the country in which he, his spouse or one of his parents was born.
 - b. The individual was not present in the U.S. for more than 30 days in any one year during the 10 years preceding the expatriation.
 - c. The individual renounced his U.S. citizenship before the age of 18½.
3. The individual was required to submit, within one year from the date of the expatriation, a request for a ruling from the IRS that the expatriation did not have the avoidance of tax as one of its principal purposes.

The IRS initially indicated in Notice 97-19 that the third requirement would be satisfied only upon receiving a favorable ruling from the IRS. However, after being flooded with ruling requests, the IRS announced in Notice 98-34 that merely “submitting a request for a ruling as to whether the individual’s expatriation had for one of its principal purposes the avoidance of U.S. taxes” was sufficient to overcome the presumption of tax-avoidance “provided that such individual’s ruling request is complete and was submitted in good faith.” However, the notice also indicated that submitting a request in good faith would not be conclusive as to whether the individual could ultimately be found to have a tax-avoidance motive, thus reserving the IRS’s right to examine the request subsequently. By satisfying all three requirements of the 1996 Law, the individual could overcome the presumptions of tax avoidance and § 877 would not apply.

Consistent with prior law, the 1996 Law continued the result that if subject to § 877 an individual would be liable for U.S. taxes at graduated rates on income from U.S. sources. The major effect of the 1996 Law was in defining which individuals would be subject to § 877. The result was that an expatriate would fall into one of three categories. First, an expatriate could fall below both thresholds, in which case he would still be subject to Code § 877 if tax-avoidance was a principal purpose of the expatriation (however such tax-avoidance would not be presumed). Secondly, an expatriate could be above the thresholds, but meet the exception to § 877 due to, for example, dual citizenship. Assuming the individual timely filed a ruling request, such person would not be subject to § 877. Finally, an expatriate falling above the thresholds but not meeting an exception would be subject to § 877. Although the 1996 Law added objectivity to § 877 by adding bright-line rules to define tax-avoidance, a subjective inquiry was still required in many cases.

The 2004 Amendment

The American Jobs Creation Act of 2004 (the 2004 Law) resulted in more changes to the expatriation rules. Specifically, the law made four significant changes, described below.

Objective Standards

Although the 1996 Law added presumptions of tax avoidance, § 877 was still difficult to enforce, as noted in the legislative history to the 2004 Law:

[T]here are several difficulties in administering the [1996 Law] alternative tax regime. One such difficulty is that the IRS is required to determine the subjective intent of taxpayers who relinquish citizenship or terminate residency. The [1996 Law] presumption of a tax-avoidance purpose in cases in which objective income tax liability or net worth thresholds are exceeded mitigates this problem to some extent. However, the [1996 Law] still require[s] the IRS to make subjective determinations of intent in cases involving taxpayers who fall below these thresholds, as well for certain taxpayers who exceed these thresholds but are nevertheless allowed to seek a ruling from the IRS to the effect that they did not have a principal purpose of tax avoidance.

To remove these difficulties, the 2004 Law imposed an alternative tax regime on those expatriating individuals that satisfied any of the following:

- An average annual net income tax liability for the five years prior to expatriation of \$124,000 (indexed for inflation),
- A net worth on the date of expatriation of \$2 million or more, or
- Failure to certify under penalty of perjury that all U.S. tax obligations for the preceding five years had been satisfied.

If one of the monetary thresholds was satisfied, only two small exceptions could save the individual from § 877. First, the individual would not be subject to § 877 if he acquired dual citizenship at birth and had no substantial contacts with the United States (the dual-citizenship exception). The no-substantial-contacts requirement was satisfied if the individual was never a resident of the United States, never held a U.S. passport, and was not present in the U.S. for more than 30 days during any calendar year in the ten years before expatriation (the 30-day rule). The second exception applies to minors. If an individual became a citizen of the U.S. at birth but neither of his parents was a citizen, the individual expatriated before the age of 18½, and satisfied the 30-day rule, then such individual would not be subject to § 877 (the minor exception).

Unlike prior law, however, meeting any of these presumptions (while not satisfying an exception) automatically resulted in the expatriating individual being subject to § 877. There was no longer a presumption of tax avoidance that could be overcome. Rather, the subjective rules had been replaced with an objective bright-line test. For example, an expatriating individual with a net worth of \$2.5 million was subject to § 877 even if tax avoidance was *not* a motive for the expatriation, but an individual with a net worth of \$1.5 million was not subject to § 877 even if tax avoidance *was* a motive for the expatriation. The new law removed the subjective inquiries into an expatriating individual's intent, as well as the cumbersome ruling request procedures required by the 1996 Law.

Tax-Based Expatriation Rules

The 2004 Law added guidelines for determining when an individual is no longer a U.S. citizen or long-term resident. Previously, reference was made to U.S. immigration laws for such a determination. Typically, an individual would voluntarily give up his U.S. citizenship by formally renouncing it before a U.S. diplomatic or consular officer in a foreign country. However, pursuant to the 2004 Law, an individual continues to be taxed as a citizen or resident of the United States until such time that the individual gives notice of expatriation or termination of residency to the Secretary of State or the Secretary of Homeland Security and provides a statement which includes the following information: the individual's taxpayer identification number; the mailing address of the individual's principal foreign residence; the foreign country in which such individual is residing; the foreign country of which the such individual is a citizen; information detailing the individual's income, assets, and liabilities; and the number of days during the year that the individual was present in the United States. Only upon such notice and statement will the individual cease to be taxed on worldwide income, and be taxed under § 877 instead.

The 30-Day Rule

Congress noted that although they expatriate, certain individuals do not wish to sever all ties with the United States, but rather "they hope to retain some of the benefits of citizenship or residency without being subject to the U.S. tax system." In response, the 2004 Law added a new provision to § 877 which applies to any individual who is present in the United States for an extended period of time following expatriation. If an individual is present in the U.S. for 30 days or more in one calendar year during the ten-year period following expatriation, the individual will not be subject to the alternative tax regime (*i.e.*, U.S. tax on U.S. source income), but rather will be subject to U.S. tax on his worldwide income for that calendar year.

Filing Requirement

The 2004 Law imposed filing requirements on individuals who lose citizenship or terminate residency. Such individuals are required to file an annual return with the United States, even if no U.S. tax is due. Failure to file such return would result in a penalty of \$5,000 (later increased to \$10,000).

THE NEW EXPATRIATION LAW – § 877A

Application

The Heroes Earnings Assistance and Relief Tax Act of 2008 (the 2008 Law) was signed into law by President George W. Bush on June 17, 2008. The 2008 Law created a new section of the Internal Revenue Code, § 877A, which applies to all expatriations that occur on or after June 17, 2008. Accordingly, Code § 877 is not applicable to expatriations that occur after such date. Section 877A defines the term expatriate as “any United States citizen who relinquishes his citizenship,” or “any long-term resident of the United States who ceases to be a lawful permanent resident.” The new law uses the phrase “covered expatriate” to define which expatriates are affected by the new provisions of § 877A. Determination of whether an expatriate is a covered expatriate is determined by reference to section 877. As a result, the same thresholds which were used to determine whether an individual was subject to the old alternative tax regime (which was in effect for expatriations between June 3, 2004 and June 16, 2008) are now used to determine whether an individual expatriating on or after June 17, 2008 is subject to the new § 877A. As noted above, those thresholds indicate that an individual is subject to § 877A if 1) the individual’s average annual net income tax for the five taxable years prior to the year of expatriation is greater than \$124,000 (\$145,000 in 2009 due to inflation adjustment), 2) the net worth of the individual is \$2 million or more as of the date of expatriation, or 3) the individual fails to certify under penalty of perjury that he has satisfied all of his U.S. tax obligations for the five taxable years prior to expatriating. As before, exceptions exist which allow an individual which exceeds one of the thresholds to avoid § 877. The dual citizenship exception and the minor exception, created by the 2004 Law and described above, continue under the 2008 Law and may be used to overcome the presumptions of tax-avoidance. However, such exceptions cannot be used to avoid the required certification regarding satisfaction of U.S. tax liabilities. Accordingly, any person who does not certify that all tax obligations for the five years before expatriation have been satisfied will be subject to the new § 877A regardless of his average net income tax or net worth. The 2008 Law imposes two types of tax. The first is an income tax on the built-in gains in the assets owned by the expatriate, while the second is a transfer tax on gifts made by the expatriate to citizens and residents of the U.S. following the date of expatriation.

Exit Tax

The 2008 Law taxes a covered expatriate on the unrealized gains in his worldwide property as of the day of expatriation. In effect, the new law taxes the expatriate as if he sold all of his assets on the day before expatriation and realized a net gain on such sale. The law also allows for any unrealized losses to be taken into account. However, all realized gains shall be taken into account in determining recognized gains, as none of the nonrecognition provisions which are usually granted to U.S. citizens and residents apply for this purpose. Section 877A allows the first \$600,000 of realized gain to be excluded, and this amount will be adjusted for inflation in the future. Accordingly, only net realized gains in excess of \$600,000 are subject to tax. The expatriate may elect to defer the payment of the tax to the year in which an asset is actually sold or otherwise disposed of, however if elected interest will accrue on the outstanding tax liability. The tax is described as an “exit tax” because once the expatriate pays the tax on the built-in gains, there will be no subsequent U.S. income tax liabilities with regard to the property; all federal income tax obligations are settled prior to expatriation.

Transfer Tax on Future Gifts – IRC § 2801

Although all federal income tax liabilities are satisfied upon expatriation, a different type of federal tax – a federal transfer tax – may be imposed if he makes gifts after the date of expatriation. In addition to § 877A, the 2008 Law also added § 2801 which imposes a tax on transfers made by a covered expatriate (which has the same meaning as it does for § 877A), whether by gift or at death, to a citizen or resident of the United States. Section

2801 also applies to the transfer of property by a covered expatriate to a domestic trust, as well as to distributions from a foreign trust (which had received a gift from a covered expatriate) to a U.S. citizen or resident.

The United States has a federal transfer tax, however prior to the enactment of Code § 2801 the transfer tax only applied to citizens and residents of the U.S. Similar to those rules, § 2801 does not apply to transfers made to a spouse of the covered expatriate, or to a charity. Further, an annual exclusion is allowed against all transfers (\$13,000 in 2009). However, significant differences exist between the usual U.S. transfer tax rules and § 2801. First, the usual transfer tax is imposed at graduated rates which increase as the value of the property transferred increases. In contrast, the tax imposed by § 2801 is applied at the highest rate of tax applied to transfers under the usual system (45% in 2009), regardless of the amount transferred. Secondly, in the usual transfer tax system, the burden of tax is placed on the person making the transfer (*i.e.* the donor) whereas § 2801 imposes the tax on the recipient of the property (*i.e.*, the donee).

CONCLUSION

As a result of continuous changes to the U.S. tax law, several different rules apply to expatriates depending on the date of expatriation. An individual who expatriated before June 3, 2004 and filed a request for a private letter ruling could technically still be audited by the Internal Revenue Service to determine whether tax avoidance was a principal reason for the expatriation. Since this particular prior law applies for ten years following expatriation, these rules will continue to affect some individuals until 2014. For individuals who expatriated after June 3, 2004 but before June 17, 2008 and exceeded the thresholds for presumed tax-avoidance, the ten-year alternative tax regime of § 877 still applies, causing the U.S. source income of such individuals to be taxed at graduated rates. For expatriations which occur after June 17, 2008, the new provisions of § 877A apply, resulting in an exit tax upon expatriation and a transfer tax on any future gifts.

These new changes may be good news for some potential expatriates and bad news for others. Individuals owning assets which have greatly appreciated in value will be faced with a large tax bill upon expatriation. The good news, however, is that once the exit tax has been paid the individual's U.S. income tax obligations will cease, as opposed to continuing for ten years as under prior law. Other individuals, such as those with unrealized gains below \$600,000, or whose wealth is in cash as opposed to property, will be largely unaffected by the new law. These individuals will only experience the upside of not having to report to the U.S. for the ten years following expatriation.

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Notice 97-19.

Notice 98-34.

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UNDERSTANDING CONSUMER DECISION MAKING: A COGNITIVE APPROACH

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ABSTRACT

Consumers choose among behaviors – not objects – to reach more abstract broad end-goals (i.e. end-values). In other words, people buy products not just for their physical attributes but for the values that the products embody.

This research analyzes the factors related to the purchase of trendy and vogue products, and the authors present a conceptual framework that can be used to link consumers' choices to consumers' values. The comprehension of the factors underlying the purchase of trendy and vogue products permits researchers to improve their knowledge of the fashion sector and managers to better define new advertising strategies.

INTRODUCTION

Consumers choose among behaviors, not objects (Olson and Reynolds, 2001), to reach more abstract broad end-goals (i.e. end-values).

People buy products not just for the sake of their physical attributes but largely because of the values that the products embody. In order not only to describe the consumer decision making process, but also to understand it, researchers and managers are required to identify the underlying, symbolic and tacit factors. The present study purports to make a methodological contribution by use of a qualitative data collection – which will be explained in subparagraph 2.2—to identify the symbolic factors (i.e. values). The current study is taken from the perspective of consumers during their purchase behavior, in order to single out what influences their decisions. Understanding the consumer's decision-making identifies not only the relevant choice-criteria, but further explains why those factors are so important. The importance of exploring the area of consumer decision-making relies on the assertion that most thinking related to one's highest and personal values is unconscious and that consumers are seldom able to identify and report unconscious processes (Bargh, 2002; Zaltman, 2003).

Therefore research in this field is worthwhile (Woodside, 2004). The present research analyzes the factors related to the purchase of trendy and vogue products. Better comprehension of these factors which has been in continuous expansion in the last three decades, permits researchers to improve their knowledge of the fashion sector and managers to better define new advertising strategies because “*advertising functions to enhance physical attributes and their relative importance with respect to how the consumer sees him/herself, essentially providing psychological benefits through the image-creation process*” (Reynolds & Gutman, 2001). The importance of analyzing the values behind the purchase of trendy and vogue products, relies on the previous reported sentence. According to the authors, this area has not yet been sufficiently explored.

METHODOLOGY

The Means-End Chain (MEC) approach is used in this study, but with a difference in its theoretical structure: instead of the classic laddering methodology based upon the face-to-face interview, an alternative approach will be utilized.

Essentially, MEC analysis (Gutman 1982) is a qualitative semi-structured research approach that investigates the cognitive structures of individuals. This approach holds that consumers organize product information at various levels of abstraction, linked hierarchically from simple product attributes to complex personal values (Cohen,

1979; Cohen and Warlop, 2001; Olson and Reynolds, 1983; Zeithaml, 1988). These linkages, between the attributes of products, the subsequent psychosocial consequences and the values of consumers, are graphically represented by the construction of a Hierarchical Value Map (HVM).

The MEC approach is so named because of the consumer's view of the product and its attributes as the means to reach a certain ends (i.e. goals, values, or something desirable in general). This methodology can be considered a systematic approach to explore human motivation (Cohen, 1999). In order to uncover the consumer's values an interviewing technique called "laddering" was developed (Reynolds & Gutman, 1988; Reynolds, Dethloff, & Westberg, 2001; Reynolds, 2006).

In this paper the authors present a conceptual framework that can be used to link the consumer's choices to consumer's values. With respect to the values, the authors refer to the Kahle's (1983) List Of 9 Values (LOV). LOV (Kahle, 1996) was culled from Rokeach's (1973) list of 18 terminal values, Maslow's (1954) hierarchy of values and other research. Specifically, Kahle's List comprises, sense of belonging; excitement; warm relationship with others; self-fulfillment; being well-respected; fun and enjoyment in life; security; self-respect; and sense of accomplishment.

Techniques for measuring the MEC: The laddering approach

The technique called laddering is the most common approach used in Means-End chain analysis. This methodology includes the use of questionnaires (so-called "hard laddering") as well as face-to-face interview (so-called "soft laddering").

Soft laddering involves an in-depth, face-to-face interview for the purpose of understanding how consumers translate the attributes of products into meaningful associations with respect to their own values (Reynolds and Gutman, 1988) regarding the reasons for their decisions. Then the responses are interpreted to determine the linkages between different outcomes (Olson and Reynolds 2001), a process termed coding.

In this technique, the interviewer elicits responses related to the relevant attributes of the products which are then used as starting points for a laddering procedure consisting of a different series of questions in the style of "why is this important to you".

This approach has been indicated as a useful method for understanding the meaning behind important attributes of products (Russell, Busson, Flight, Bryan, van Lawick van Pabst, & Cox, 2004) even if its effectiveness is not without limits. The most important limit, according to the authors, is the interviewer's influence, both in the interview and in the coding activity.

Hard laddering involves questionnaires instead of face-to-face interviews, therefore it holds the advantages of being quicker and cheaper, as well as less prone to interviewer bias (Grunert and Grunert 1995). It can be conducted over e-mail or on-line surveys. These advantages have induced researchers to use it (Botschen and Thelen, 1998; Pieters, Baumgartner, & Stad, 1994; Pieters, Baumgartner, & Allen, 1995; Valette-Florence, Sirieix, Grunert, & Nielsen, 2000; Walker and Olson, 1991). In a recent study by Russell et al. (2004), the paper-and-pencil method was compared with computerized methods. All the approaches produced comparable results. Usually, the questionnaires are composed following the same procedures used in soft laddering; using a series of different questions in the style of "why is this important to you".

Association Pattern Technique

An alternative approach to the identification of MECs is the Association Pattern Technique (APT). The APT, inspired by Gutman (1982), was introduced by Ter Hofstede, Audenaert, Steenkamp, & Wedel (1998) and it was also used by Feunekes and Den Hoed (2001) and by Langbroek and De Beuckelaer (2007) as a different way to elicit consumers' values.

APT measures two separate links: the link between products' attributes and their consequences, and the link between psychological and sociological consequences and consumers' values (Ter Hofstede et al. 1998). Two matrices are build. The first contains all the a priori combinations of products' attributes and consumers' consequences. The second matrix contains all the combinations between consumers' consequences and consumers' values. In the first matrix, the respondents are asked to indicate which consequences a certain product attribute is linked to; and in the second one, which consumers' values are linked to certain consumers' consequences. The basic assumption underlying APT is that the two matrices are statically independent (Ter Hofstede, et al.). Therefore the APT approach can be considered to be adequate (Langbroek and De Beuckelaer, 2007) in research connected to the investigation of consumers' values.. The statistical independence arises from

the assumption that products' attribute and consumers' values are conditionally independent, given the consequences.

The idea of using different matrices rests on the assumption that consumers have a better conception of their own values than the benefits of using a product, but the benefits of using a product become more important when the products' attributes are known. This approach is in line with Walker and Olson's (1991) suggestion to start with more consumer-related knowledge and reason back to product-related knowledge (Langbroek and De Beuckelaer). In the Attribute-Consequences Matrix (AC-matrix), the attributes are listed in the columns and the consequences are listed in the rows. The Consequences-Values Matrix (CV-matrix) is built in the same way.

In both the matrices all possible combinations are listed.

In Ter Hofstede et al.'s (1998) work, the researchers determined, a priori, the attributes, consequences and values listed in the matrices. We think that this peculiarity is not mandatory. We have little confidence in the assumption that researchers know the products' attributes as well as the consumers do. Furthermore, if the use of a product – or how it is seen by consumers – changes over the passage of time, the researchers would not be able to identify the new characteristics. Finally, in a statistical sense, the sample made by two or three researchers is not representative of the population of consumers.

THE ANALYSIS

As mentioned above, the authors believe that concerning research into shopping motivations, even if researchers have an in-depth knowledge of the topic, they should still ask respondents to identify the products' attributes and the subsequent consequences. This is why we asked respondents, through an on-line questionnaire, which attributes were the most important concerning trendy and vogue products (such as mobile phones, mp3-players, brand-named clothing) and which benefits were related to these products' attributes.

Seventy respondents took part in our survey, consisting of 2 questionnaires. In the first, a group of 25 respondents were asked to identify trendy and vogue products' attributes and the benefits (i.e. psychosocial consequences) directly resulting from those attributes.

The respondents of the first questionnaire identified the attributes: "Reputation", "Great Design", "Functionality", "Reliability", "Good Material", "High Quality", "Value" and "Attractiveness". The respondents identified the consequences (or benefits): "obtaining gratification", "being noticed", "making life easy" and "being satisfied".

Then, according to the APT methodology we built two matrices. In the first one, the AC-Matrix we listed the eight attributes and the five benefits identified by the respondents in the columns and rows, respectively. The second matrix, the CV-Matrix, we listed the benefits and the Kahle's (1983) List Of 9 Values (LOV) in the columns and rows, respectively.

In the second questionnaire which is the heart of APT, a group of 45 respondents were asked to fill the AC and CV matrices on their own. Each group of respondents was unique.

It seems worthwhile to the authors to clarify that the use of APT forces researchers, during the construction of the HVM, to use a different instrument as concerns the cut-off level. In fact, in face-to-face interviews, fewer similar sample of products' attribute, subsequent consequences and consumers' values are going to be elicited, whereas in the APT technique respondents are obliged to accept the given attributes, consequences and values. Therefore, the probability that two respondents identify the same ladder (i.e. linkage between attributes, consequences and values) is higher. That is why the authors chose to cut off those linkages that were chosen by less than the 30% of the sample.

Figure 1 gives a graphic representation of the responses to the second questionnaire.

The values elicited in the second questionnaire, without consideration of which kind of trendy and vogue products the respondents referred to, are in bold type.

The analysis reveals another interesting thing: after dividing the responses to the second questionnaire by product, the HVMs – which were built separately by category (i.e. Clothing and Electronics) – show the same elicited values. Instead of the whole of Kahle's list of 9 Values (LOV) only five were chosen by the consumers, for the trendy and vogue products, "Sense of belonging", "Excitement", "Fun and Enjoyment of life", "Self-respected" and "Sense of Accomplishment".

Fig. 1

Hierarchical Value Map: all products

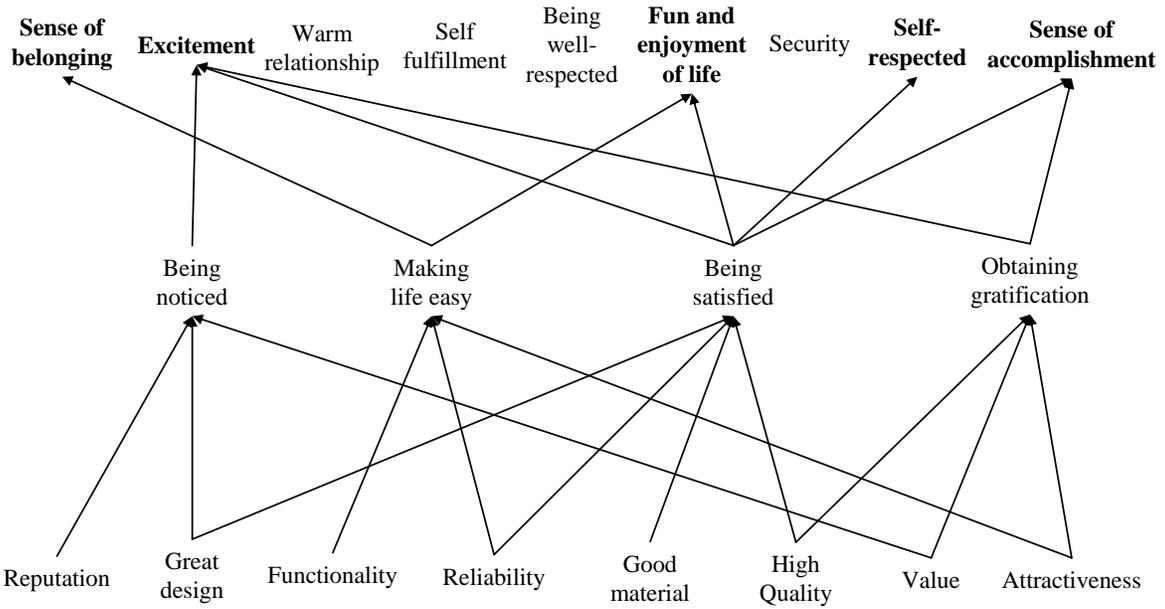


Fig. 2

Hierarchical Value Map: clothing

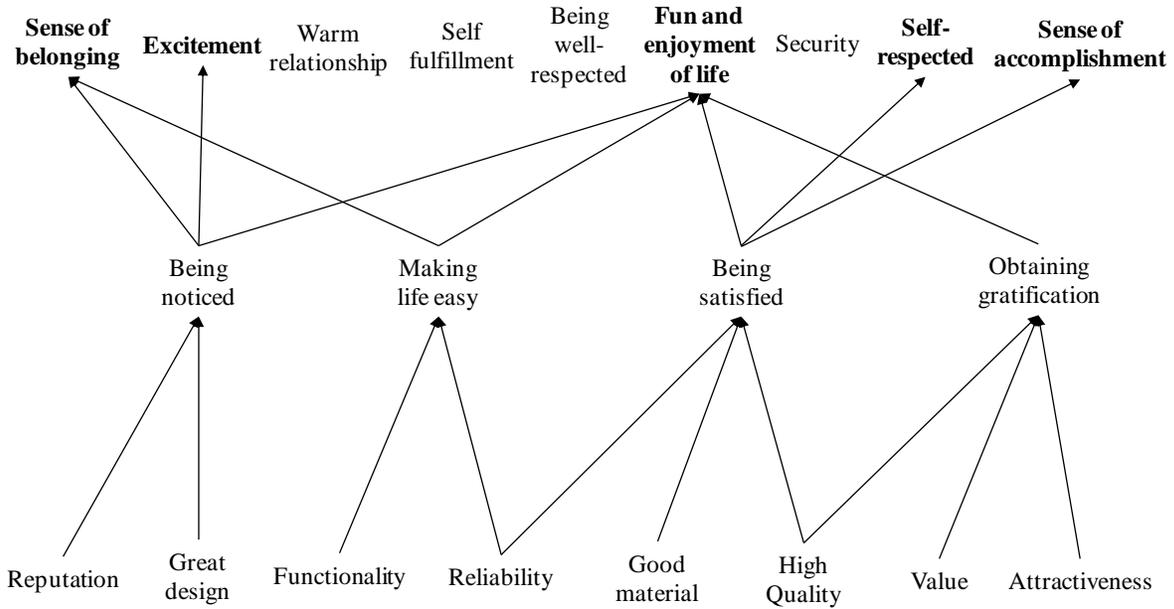
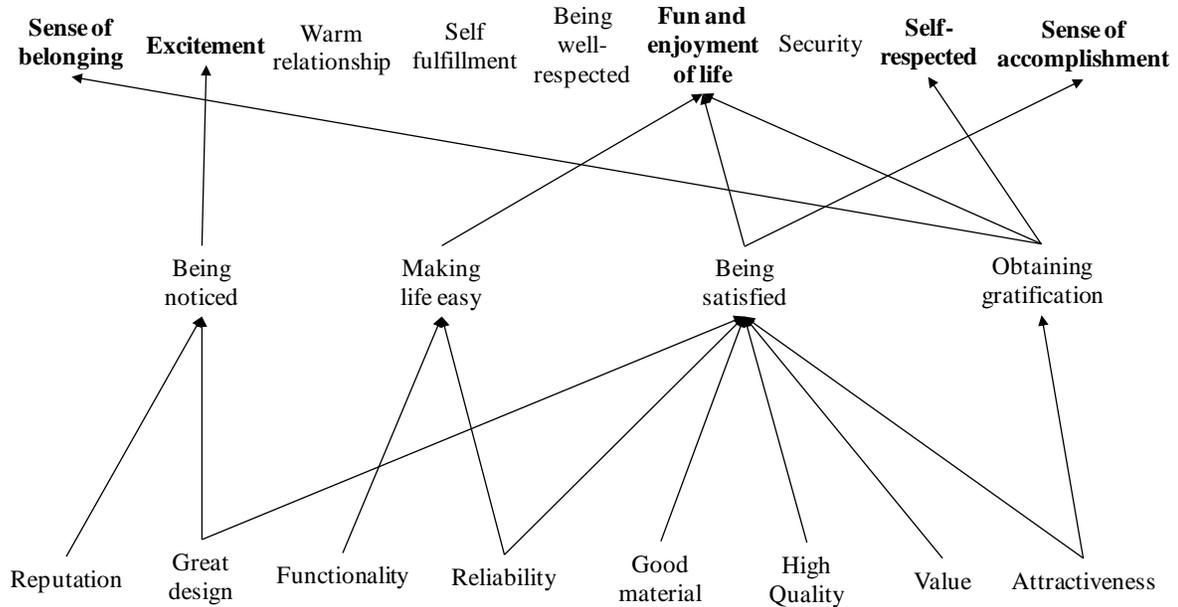


Fig. 3

Hierarchical Value Map: electronics



ORIGINALITY, LIMIT, CONCLUSION AND FURTHER RESEARCH

Our study is an explorative research to understand the very important business field of the trendy and vogue products and permits researchers to identify which values are pursued by consumers, given a certain products' attributes and the subsequent benefits.

Like other research, this study is not without its limits, but, fortunately, it presents something original.

Even if the given sample size is appropriate for Means-End Chain methodology, the empirical findings do not allow the authors to generalize the phenomenon. The presence of values behind a purchase is well-known, but further research is required to confirm (or confute) which values are pursued by consumers, and specifically, consumers of trendy and vogue products.

Another limit is the impact of brand on a product's attribute and how it can influence the consumers' perception of it. In our study this was not measured it, even though such research could be worthwhile. Our motivation for not measuring the impact of the brand itself relies on the topic of our research. By definition, trendy and vogue products are products that are used by people who want to be up-to-date, therefore the value of the brand in those products is implied. In all the categories analyzed in the present research, the role and the impact of the brand is, more or less, the same. Furthermore, there are different levels of abstraction (i.e. attributes, psychological consequences, sociological consequences, values) from a products' attributes to a consumer's value and the brand by itself is not able to close that gap between them.

Further research is required to determine the correct percentage of cut-off.

The originality of the present paper is that Means-End Chain theory is used not to identify the attributes of different kinds of stores in order to explain why people prefer shopping in a mall (Shim, 1998; Swinyard, 1998) rather than a grocery store (Thompson and Chen, 1998; Wagner, 2007), or in an on-line store (Kearns and Hair, 2008; Koo, 2006); nor does it identify the attributes of a specific, tangible product (such as cigarettes [Aurifeille et al., 1995] or wine-coolers [Reynolds and Gutman, 1988]); but it attempts to understand why people buy products in the broader, more abstract category of trendy and vogue products.

Better comprehension of the motivation underlying the purchase of trendy and vogue products, which has been in continuous expansion in the last three decades, permits researchers to improve their knowledge of the fashion

sector and managers to better define new advertising strategies. According to the authors, this area has not yet been sufficiently explored regardless of where the products are bought.

The most important thing is to buy the products. It is the products' attributes, and not the place where the products are sold that hold the most influence over a consumer's values.

The authors conjecture that it does not matter what kind of brand-name item (e.g. mobile, mp3-player, clothing, etc.) consumers buy, but that they are looking for the same values; it is demonstrated and confirmed by the results.

The identification of which values of the Kahle's LOV, are the most important ones, can help advertising strategists to define new advertisement. In fact, regardless of which product, among the trendy and vogue products, is to be promoted, they must know that "Sense of belonging", "Excitement", "Fun and Enjoyment of Life", "Self-Respect" and "Sense of Accomplishment" are the values pursued by consumers.

The authors think that Means-End approach is a useful framework for analyzing and monitoring the changes in consumers images as concerns a specific product.

In this sense, advertising strategists have to consider the present study as a means to identify these changes (if compared with similar research carry on in a different period of time). According to the first sentence written in this article (i.e. consumers choose among behaviors, not objects) the changes in image can be seen only if it is referred to the consumers' value.

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ENDNOTES:

Even if this paper is the result of the shared research of both the authors, the paragraph n. 1 can be attributed to Alberto Marino; the paragraph n. 2 can be attributed to Silvia Biffignandi; the paragraph n. 3 can be attributed to Andrea Manzoni. The paragraph n. 4 can be attributed to both of them.

THE IMPACT OF THE CONSTITUTION ON SUSTAINABLE HUMAN SETTLEMENT IN SOUTH AFRICA AND THE CHALLENGES FACED

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ABSTRACT

The African National Congress (ANC) won the first South African democratic elections, held in April 1994, with an overwhelming majority. After years of oppression and fighting for equality and freedom, the majority of South Africans lived in extreme poverty. As part of their election campaign, the ANC promised that they would work for the eradication of poverty and aim to improve the living standards of all the previously disadvantaged people living in South Africa. One of the ways to keep this election promise is to provide the poor and destitute with the socio-economic right to access to adequate housing. This paper will focus on the constitutional right to access to adequate housing and the challenges faced by the government, all the while keeping sustainable development in the form of sustainable human settlement in mind.

INTRODUCTION

Fifteen years ago, in April 1994, the people of South Africa had their first democratic election. Before this election, a minority government governed the country. The Apartheid-government, in the form of the National Party (NP), denied the majority of South Africans access to basic social and economic rights. This resulted in a large part of South Africans living in desperate social circumstances of extreme poverty. The African National Congress (ANC), who promised that they would ensure that the injustices of the past would be eradicated, won South Africa's first democratic election in 1994.

The ANC also promised to alleviate the dire circumstances in which the poor and desperate lived in by providing social benefits to those who need it the most, including 'houses for all'. The ANC, through these election promises, placed a huge burden of responsibility on their own shoulders after the people elected them as South Africa's governing party. The time had come for the ANC-Government to fulfill their election promise of 'houses for all' by developing legislation, programmes and policies and proceed with the implementation thereof.

The South African Government faced quite a few challenges fulfilling their obligation of providing houses to the citizens of South Africa. Due to a high unemployment rate (currently estimated to be in the region of 23%), and large numbers of families earning a low average wage, the average South African cannot afford to buy or build a house. This leads to a large part of the population living in informal settlements in unacceptable circumstances. Families live in unsafe temporary structures (shacks) in areas without any municipal services, such as safe water supplies, sewerage, public transport and electricity. The National Department of Housing committed itself to the total eradication of informal settlements by 2015. The Department plans to do this through the formalization of informal settlements and the continuation and acceleration of the housing subsidy program.

There exists a severe housing shortage in South Africa. The National Housing Department estimated in 1997 that 2.2 million families did not have access to adequate housing. This number increases by $\pm 204\ 000$ families per annum due to population growth.

CONSTITUTION OF SOUTH AFRICA

After the NP decided to move from an apartheid-regime to a true democratic government, all South African citizens were invited to give input into the development of a new Constitution that reflects the values of the society that we live in, not only the privileged few. In November 1993, Mr. Cyril Ramaphosa (ANC) and Mr. Roelf Meyer (NP) agreed on the 1993-Interim Constitution. In 1996, the Republic of South Africa adopted the final Constitution of South Africa (Act 108 of 1996), based on the democratic values of human dignity, equality and freedom. The South African Constitution is the supreme law in the country, which has the effect that all authority must be exercised by virtue of, and in accordance with, all the provisions stated in the constitution. It acts as the cornerstone of the democracy in the country.

The preamble of the Constitution states that one of the key aims of the Constitution is to 'improve the quality of life of all citizens and free the potential of each person'. This concern of the drafters of the Constitution becomes clear in the inclusion of the socio-economic rights in the Bill of Rights (Chapter 2 of the Constitution). Not only are these rights included in the Bill of Rights, they are also enforceable by the South African courts.

One of the effects of the apartheid era is that many South Africans never enjoyed the opportunity to own houses. Large parts of the South African community lives in informal settlements, because they are just too poor to afford decent housing. This is unacceptable in a society where we base our Constitution on the values of freedom, equality and human dignity. Most people measure their self worth on where they live, therefore a person who lives in a shack will usually feel inferior to a person living in a decent dwelling. The Constitution addressed this issue by including s26 in the Bill of Rights. Section 26 of the Constitution states that:

- '26(1) ...everyone has the right to have access to adequate housing.
- (2) The state must take reasonable legislative and other measures within its available resources, to achieve the progressive realization of this right.
- (3) No one may be evicted from their home, or have their home demolished, without an order of court made after considering all the relevant circumstances. No legislation may permit arbitrary evictions.'

As the supreme law of the country, the Constitution has a fundamental impact on the South African Housing Policy. The Constitution clearly states that every South African has the right to access to adequate housing. This places an obligation on the South African Government to take reasonable legislative and other measures, within its available resources, to achieve this right on a progressive basis. The people entitled to access to adequate housing need to realize that this right is not an immediate right, but a right that must be achieved over time. This does not mean that government can indefinitely postpone providing access to housing to the people. They must put plans and programmes in place to achieve this right within a reasonable time, as decided by the Constitutional Court in *Government of the Republic of South Africa and Others v Grootboom*.

Access to Adequate Housing

Even though the ANC had as one of its key election promises prior to the 1994 election 'homes for all' section 26 makes it clear that there is no unlimited right on every person to receive a house from government on demand. The duty that the Constitution imposes on the state is that positive steps must be taken, subject to certain limitations, to make sure that everyone has access to adequate housing.

By using the words '...access to adequate housing' when describing this right, the Constitution prescribes two important matters government needs to keep in mind when giving effect to the right to housing. Firstly, access entails that there should be certain elements present when fulfilling this right; this includes land, services (e.g. water and sewerage) as well as the house itself. The development of houses in terms of this right also needs to be in an area that makes sense in terms of closeness to schools, transport and the economic centre where the majority of the occupiers will work.

Adequate housing, on the other hand, determines that the housing that government provides, should meet certain quality requirements. Not just any structure would do, it needs to meet the requirements of what people of the specific culture and community would accept as adequate. The needs of different communities will

not necessarily be the same. Government should also consider the type of inhabitants envisioned for the specific housing development. Obviously, families will have different housing requirements from single individuals.

Reasonable Legislative Measures

There rests an obligation on the state to create legislation, as long as it is reasonable, to enable them to realize this right. By forcing the state to introduce legislative measures to realize the right to access to housing, the Constitution gave rise to the development and introduction of the Housing Act. This legislation led to the development of different housing programs where the state makes low-cost housing available to people who cannot afford to build or buy their own homes.

The Constitution clearly states that any measures taken by government must meet the reasonableness requirement. For any measure to be reasonable, government must weigh the right protected or promoted against the right infringed. This means that the state should not spend all available resources on the provision of housing, to the detriment of other rights, e.g. the right to healthcare.

Available Resources

Sustainable development teaches us that we only have limited resources available. This is not only applicable to natural resources, but also other resources, including financial resources, human resources and land-resources. No one can expect of government to provide housing if there are not enough resources available to realize this right. The Constitution therefore permits the state to refer to its tangible resources when explaining the progress made in the realization of this right.

Progressive Realization

As previously stated, the right to access to adequate housing is not an immediate right. It will be unrealistic to expect government to provide housing for all disadvantaged people with immediate effect.

Progressive realization means that government should move as fast and effectively towards the goal as possible. The effect of progressive realization is that any unreasonable delay on the state's part does not meet the prescriptions in section 26.

THE HOUSING ACT

To give effect to the provisions as set out by s26 of the South African Constitution Parliament introduced the Housing Act (Act 107 of 1997). The Housing Act is the law governing all aspects of housing in South Africa. The Act clarifies the roles and responsibilities of the three spheres of government (national, provincial and local) in relation to their obligation to realize the constitutional right to access to adequate housing.

NATIONAL HOUSING POLICY

To give effect to all the legislation and documents relevant to the provision of the right to access to adequate housing the state developed the National Housing Policy (also called the South African Housing Policy). The definition of 'housing development', as contained in s1 of the Housing Act outlines the vision of the National Housing Policy:

'(vi)... the establishment and maintenance of habitable, stable and sustainable public and private residential environments to ensure viable households and communities, in areas allowing convenient access to economic opportunities and to health, educational and social amenities, in which all citizens and permanent residents of the Republic will, on a progressive basis have access to –

- (a) permanent residential structures with secure tenure, ensuring internal and external privacy and providing adequate protection against the elements; and
- (b) potable water, adequate sanitary facilities and domestic energy supply.'

The National Government needs to set broad national housing delivery goals according to s3(2)(b) of the Housing Act. The Minister for Housing must also ensure that Provincial Government and Local Government (municipalities) set similar delivery goals. As part of the National Housing Policy, National Government set a goal of providing housing at a peak level of 350 000 units per year, subject to financial resources, until the housing backlog is overcome.

There are seven key strategies in terms of which the National Housing Policy is undertaken, namely:

- Stabilizing the housing environment: Government needed to promote partnerships and build trust within the housing sector, between beneficiaries, and service providers to ensure a stable housing environment with low risk in terms of performing contractual obligations by all parties involved as well as ensuring good quality housing.
- Mobilizing housing credit: Together with the strategy to stabilize the housing environment this strategy seeks to increase the level of investment into the low-income housing sector and to encourage lending to the low income sector by managing and cushioning the risk of the financial service provider.
- Providing subsidy assistance: Low-income families that is not in a position to satisfy their housing needs on their own needs assistance in the form of housing subsidies.
- Supporting the People's Housing Process: Where individuals, families and communities take the initiative to build their own houses receives support to access housing subsidies, technical, logistical and administrative support.
- Rationalizing institutional capacity: A transparent housing funding process and institutional system should exist in the government sector.
- Speedy release and servicing of land: To ensure that the right to access to adequate housing is realized in a reasonable time systems must be in place to fast track the development of land and to ensure appropriate standards in terms of infrastructure, servicing and housing.
- Coordinating government investment in development: All areas of investment in development by government need to be coordinated to ensure maximum development. These areas of investment include housing, education, economic development, welfare and health.

RECONSTRUCTION AND DEVELOPMENT PROGRAM (RDP)

The Reconstruction and Development Program (RDP) is a developmental program introduced by government to coordinate all its developmental efforts to reach the goals of reconstruction, growth, employment and redistribution following the principles of meeting the basic needs, developing human resources, building the economy and democratizing the state and society.

THE GROWTH, EMPLOYMENT AND REDISTRIBUTION STRATEGY (GEAR)

The Growth, Employment and Redistribution Strategy (GEAR) is a macro-economic strategy published by the Minister of Housing in June 1996. The aim of GEAR is to:

- Strengthen economic growth.
- Broaden employment to create sufficient jobs for all.
- Redistribute economic opportunities and income in favor of the poor.
- Create a secure and productive environment.

When implementing the National Housing Policy government needs to incorporate the parameters as set out by GEAR and RDP. This has the effect that the National Housing Policy must strive to accomplish poverty relief and social development. When implementing the National Housing Policy government must focus on job creation and human resource development. Government should make reasonable use of the local community when implementing the National Housing Policy, thereby creating employment opportunities and developing human resources in the applicable community.

NATIONAL HOUSING PROGRAMS

The Housing Subsidy Scheme

Households with a monthly income of less than R3 500, who have not previously owned property, and who meet certain requirements, can apply for a housing subsidy to assist them to get housing, either to own or to rent. Families earning less than R3 500 per month are considered poor in terms of the value of the national currency (the South African Rand). The relevant provincial government or accredited municipality pays out the housing subsidy. Individuals who want to apply for a housing subsidy must meet the following qualifying criteria:

- The individual is married or cohabits, or is a single person with proven dependants.
- The individual is a citizen or lawful resident in South Africa.
- The individual has full contractual capacity (over 18 years of age, married or divorced).
- The gross family income per month is less than R3 500.
- Government has not previously granted a housing subsidy to the individual or spouse.
- The individual is a first time property owner.

Individuals who meet the criteria qualify for the following subsidy amounts:

- Families with an income of R0-R1 500 qualify for a total subsidy of R43 506.
- Families with an income of R1501-R3500 qualify for a subsidy of R41 027 with a family contribution of R2 479 to get a total of R43 506.
- If the individual who applies for the subsidy is a pensioner, disabled or health stricken, the family qualifies for a subsidy of R43 506. The beneficiary may apply for additional funding to adjust their house to enable them independent living, such as ramps, special grab rails in the bathroom and visible doorbells, depending on the beneficiary's disability.

IMPLEMENTATION OF THE SOUTH AFRICAN NATIONAL HOUSING POLICY

As previously stated the duty to provide the South African people with access to adequate housing rests on the three different spheres of government. The National Department of Housing is responsible for setting up and facilitating a sustainable national housing development process. The National Department of Housing does this by developing policies and strategies to realize the constitutional right to access to adequate housing. The National Department of housing also allocates funding from the national budget to the different provincial governments to meet the goals set by them.

Provincial governments promote, coordinate and implement housing programs in line with the national policies set by the National Department of Housing. The relevant provincial government approves housing subsidies and projects for that specific province. Provincial Departments of Housing provide support to the municipalities in their area for housing developments.

The Housing Act allows municipalities to be accredited to administer national housing programs. By accrediting a municipality and thereby allowing the municipality to administer the national housing program, municipalities get the opportunity to play a much greater role in housing delivery, which leads to faster housing delivery. Municipalities involved in the housing programs in their area can give much better input into the needs analysis, land identification, zoning and procurement. It is easier for the municipalities to obtain investments from private businesses and individuals in their area. The municipalities responsible for the implementation in their specific area will also have greater accountability, which will lead to an improvement of service delivery in the housing area.

Housing Subsidies

Since the inception of the housing subsidy scheme in 1994/95, government has approved over 3 million housing subsidies, with Gauteng Provincial Government approving the highest number of subsidies and Northern Cape Provincial Government approving the least amount of subsidies.

Housing Delivery

Due to a population growth of 2.1%, the demand for subsidized houses increased significantly. Another factor increasing the demand for subsidized housing is the fact that the average household size decreased from 4.5 persons in 1996 to 3.8 persons in 2001. This means that the number of households increased by 30%, creating a greater housing backlog. The increase in the number of households affected government's ability to provide adequate housing to all South Africans negatively.

CHALLENGES FACING THE HOUSING SECTOR

The Housing Sector and Affordability

The South African Government's delivery of subsidized housing is unparalleled internationally, but the demand is still much higher than the supply. This high demand resulted in rising property prices, with property prices doubling, or even trebling since 1998. This price increase, together with an increase in the price of building materials, as well as capacity constraints in the construction sector and municipalities are playing a major role in the housing backlog not successfully eradicated yet.

Availability of land

Part of the vision of the National Housing Policy is to supply low cost housing on land that is well located in terms of existing services, places of employment, schools and health care facilities. This becomes a challenge, as government owned land is scarce. This scarcity of government owned land led to the state developing affordable housing programs in peri-urban areas, increasing the cost of services to the beneficiaries of this low cost housing.

SUSTAINABLE HUMAN SETTLEMENT

At the Rio Earth Summit in 1992 (Rio de Janeiro), Agenda 21 was adopted, to which South Africa subscribes. Agenda 21 is the result of the subscribing countries' commitment to sustainable development. At the Rio Earth Summit, the participating countries stated that human beings should be at the centre of sustainable development. People living in dire circumstances tend to put their own needs before that of the environment, and rightly so. If you do not have food on the table, or a roof over your head, you do not really care about the survival of the planet, only the survival of your family. For this reason, Chapter 7 of Agenda 21 focuses on Sustainable Human Settlement.

In 1996, the International Community that subscribes to Agenda 21 adopted the Habitat Agenda. The Habitat Agenda addresses the role of human settlement in sustainable development. It also provides a global approach in the provision of adequate shelter for all people, by describing the qualities and needs necessary to develop sustainable human settlements.

Agenda 21

Chapter 7 of Agenda 21, as adopted in Rio de Janeiro, covers sustainable human settlement. Because South Africa subscribed to Agenda 21, government needs to consider the aims and objectives of Agenda 21 in the development of all low-cost housing projects. Agenda 21 advocates an enabling approach, where resources are supplied to the people in need to build capacity in their community. The aim of Agenda 21 is therefore not only to provide housing to the poor and desperate, but also to teach the people the necessary skills to help themselves, all the while keeping environmental implications in mind.

The main objective of Agenda 21 is to improve the social, economic and environmental quality of human settlements by improving the living and working conditions of especially the poor inhabitants of rural and urban areas. National policies for providing low-cost housing should integrate the eight program areas set out in Chapter 7 of Agenda 21, while taking into account the social and cultural needs of the specific community, and especially the needs of the disabled, elderly and women. The eight program areas are:

- a) Providing adequate shelter for all;
- b) Improving human settlement management;
- c) Promoting sustainable land-use planning and management;
- d) Promoting the integrated provision of environmental infrastructure: water, sanitation, drainage and solid-waste management;
- e) Promoting sustainable energy and transport systems in human settlements;
- f) Promoting human settlement planning and management in disaster-prone areas;
- g) Promoting sustainable construction industry activities;
- h) Promoting human resource development and capacity-building for human settlement development.

Habitat Agenda

After the subscribing countries to Agenda 21 committed themselves to sustainable human settlement, a second international action plan, the Habitat Agenda was prepared. The Habitat Agenda is the international consensus document describing the qualities and needs of sustainable development and outlines a global approach to providing adequate shelter to all people as well as the development of sustainable human settlements.

The Habitat Agenda gives guidelines to subscribing countries, through goals, principles and commitments, to create a positive vision of sustainable human settlements. These sustainable human settlements should provide adequate shelter, a healthy and safe environment, basic services and productive and freely chosen employment to the inhabitants of low-cost housing developments.

CONCLUSION

The South African government clearly attempts, and largely succeeds, in fulfilling the need to improve the lives of its citizens, especially those living in dire circumstances. All three spheres of government have programmes and policies in place to provide access to adequate housing to all entitled thereto. By engaging the private sector in the provision of low-cost housing and the transfer of skills to the local communities, government is not only providing in one of the basic needs people have, but they are also enabling the community to look after themselves to a large degree.

The limited resources available to the state hamper the provision of access to adequate housing to all. Effective management of budgets and stricter control by the National Department of Housing over Provincial Departments of Housing and accredited municipalities to spend the allocated budgets is necessary for the housing backlog that exists to be eradicated.

Government is serious about the commitment they made to both Agenda 21 and the Habitat Agenda in the provision of the right to adequate housing for all. This is clear when looking at the measures put in place to provide not only shelter to the people who needs it, but adequate shelter that includes all the basic services needed for sustainable living, all the while building the capacity of the local communities and keeping the needs of the environment in mind.

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INTELLECTUAL CAPITAL MANAGEMENT ACCREDITATION: THE NEW COMPETITIVE ADVANTAGE OF SMES

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ABSTRACT

The failure of the international economic system has shown that the traditional financial systems do not provide enough information for managers or investors to make strategic and accurate decisions. So, the creation of a reliable and accessible methodology to recognize formally that a company has responsibilities for the management of their intellectual capital can be very important to ensure dynamic innovation with sustainability.

Empirical research, previously concluded, identified the intellectual capital management accreditation methodology – ICMA.

In terms of practical implication, we can say that ICMA methodology could be an important tool to verify the innovation capacity of SMEs and therefore a guarantee for sustainability to the various partners (customers, suppliers, shareholders, government and employees).

This paper summarizes ICMA methodology and explains the benefits that may result from its application. It concludes that ICMA methodology represents a significant step in improving organizational performance and is therefore a key element in the generation of competitive advantages, particularly for SMEs.

INTRODUCTION

In the current economy, the knowledge economy, companies have difficulty in maintaining high performance. Competitiveness requires that companies differentiate through continuous innovation. Therefore, knowledge has a vital role in all types of innovation.

In Europe, SMEs are an important driver of economic growth, and their importance as a source of innovation and technological development has been rediscovered. Furthermore, SMEs may gain competitive advantage if they use knowledge effectively, making intellectual capital management essential. Only the proper management of intellectual capital can ensure the improvement of the company's internal processes and, consequently, the successful management of its resources.

At a time when conventional financial instruments cannot provide reliable guarantees for the sustainability of companies, intellectual capital management accreditation is an important recognition of management capacity.

The basic aim of this paper is to present the methodology for accreditation: ICMA - Intellectual Capital Management Accreditation.

This methodology was created from various investigations conducted by Matos and Lopes (see Matos and Lopes, 2008) which suggest that companies, like universities, can be managed as producers of knowledge - owners of intellectual capital, which must be managed in order to produce innovation.

Empirical studies (Lopes and Matos, 2006; Matos and Lopes, 2008) show that intellectual capital management is associated with high organizational performance and so the accreditation ICMA will be a seal of assurance, sustainability, innovation and competitiveness of accredited SMEs.

This article describes the reasons why accreditation is important to the management of intellectual capital. The methodology and its procedures are also described.

Finally, the next steps in implementing this methodology will be presented.

THE IMPORTANCE OF INTELLECTUAL CAPITAL MANAGEMENT ACCREDITATION

Often the accreditation process is considered highly bureaucratized and complex compared with the results. The empirical research conducted by Matos (2008) demonstrated that this is not so. In fact, universities that use accreditation have improved many of their weaknesses. Innovation and differentiation requires the constant search for opportunities for customer satisfaction. This suggests that managing and mobilizing intellectual capital allows the spread of sustained innovation.

If we consider innovation (continuous improvement or creativity) as an indicator of the degree of development of intellectual capital, we can easily conclude that it results in the management of individual talents. Only individuals innovate, only individuals respected for the uniqueness of their talents build innovative organizations (Morin, 2008), and the key to innovation is within the organizations themselves (Portnoff, 2008), when accepting the plurality of those talents.

Freeman (1982), in his "Innovation Theory", refers to investment in innovation as the main growth factor, considering that competitiveness is achieved through investment in R&D and other intangibles.

According to Nonaka, (1995: 8) "the company innovates by building and using fluxes of information together with explicit, valid and useful knowledge". Nonaka's organizational knowledge creation theory is being developed as it is currently based on several management practices (Nonaka et al, 2006).

Andersen et al (2002: 187) also see innovation as an interactive process, occurring when several agents interact, creating, developing and exchanging knowledge or other resources. Innovation is then seen from a multidimensional perspective, comprising not only technological but also organizational aspects.

Several studies show that to the majority of companies, particularly small ones, innovation is of the organizational kind, depending less and less on physical assets and more on intangible assets.

Mintzberg and Quinn (1996: 289-308) emphasize the role of organizational innovation, by considering it essential to the improvement of a company's quality and productivity.

To Jantunen (2005) knowledge flows are crucial for sustaining innovative performance in companies, and this capacity for knowledge utilization is reflected in the companies' innovative performance.

We may ask, if it is right to use the concept of accreditation of intellectual capital management related to innovation?

Indeed, the innovation must be a dynamic process and not through a bureaucratic accreditation system.

However, we know that the majority of innovation which happens in organizations is incremental and based on routine. If the routines are sustained by processes of intellectual capital management, individual innovation will certainly be produced.

Thus, when organizations use an approach to quality criteria, they correct the effects of routine, improving the management of teams and focusing on customers. Furthermore, the need to systematize processes requires a permanent search for excellence.

It is true that organizations always sought and valued knowledge. The novelty is the recognition that intellectual capital is an asset it is necessary to manage with at least the same attention given to other assets.

It is no coincidence that there have been various models and methodologies for the assessment of intellectual capital: Schultz (1961), Becker (1964), Sveiby (1997), Edvinson and Malone (1997), Kaplan and Norton, (1992, 1996, 1996a) , Bontis (2000), Mouritsen et al. (2001, 2005a, 2005b), Andriessen, (2001, 2004, 2005), Viedma, (2001, 2003, 2003a, 2003b), Leitner and Warden (2004) Mertins et al. (2006, 2007a, 2007b,) are just some of the authors have presented the most significant models and methods. The models presented by these authors demonstrate the management of intellectual capital with a dynamic character, generating value.

The accreditation system being shown (ICMA) is the result of an evolutionary process which highlights the capacity that a company has to produce, enhance and manage intellectual capital, so creating innovation and thus a guarantee of sustainability.

PRESENTATION OF THE ACCREDITATION METHODOLOGY

Intellectual capital management accreditation is not an easy process to define or describe. In theory, accreditation is a process through which a collegial body recognizes that a company is capable of managing their intellectual capital.

Indeed, according to this article, the accreditation of intellectual capital management is a public statement that a company meets a set of criteria for accreditation established by the accrediting body.

ICMA - Intellectual Capital Management Accreditation - consists of technical process validation and of the acknowledgement of the global capacity of the entity to be accredited, converting it into a member of a recognized group in which the Intellectual Capital best practices are predominant; practices that direct the accredited entities on a constant search of alignment through excellence.

ICMA, as an international process, aims to be the highest standard of recognition of the management of intellectual capital.

Companies with accreditation ICMA have a commitment to quality and continuous improvement of the management of their intellectual capital.

Accreditation is an important indicator of progress towards improving productivity and competitiveness. It is also an important indicator of companies that take seriously their position in the market and their relationship with stakeholders.

ICMA is a strategic tool for business management, based on a framework of high standards of quality, respecting the diversity and legitimacy of the rules of each country.

ICMA accreditation is the international recognition of the ability to manage the intellectual capital of companies in their own environment.

ICMA is a process that looks at the overall performance of the company and is designed to promote the skills of intellectual capital management with a view to innovation and sustainable competitiveness.

ICMA is a process for the future, in view of the sustainability performance of accredited companies.

ICMA is a continuous and dynamic process development of organization intellectual capital management.

ACCREDITATION MODEL AND PARAMETERS

The accreditation is based on the evaluation of a set of parameters - ICMA indicators. These indicators, allow us to evaluate the management of intellectual capital of companies, checking that there is evidence the presence of indicators related to the dimensions of intellectual capital, if they are valued and managed.

The ICMA criteria are based on the Intellectual Capital Model (Matos and Lopes, 2009) which consists of 4 Quadrants divided by twenty five parameters.

To achieve accreditation ICMA, companies have to demonstrate that they meet the parameters ICMA in 4 areas: Individual Capital, Team Capital; Processes Capital and Clients Capital.

Despite the ICMA focus on the 4 Quadrants of the ICM, the system looks for overall organizational performance, analyzing the economic, social and cultural environment.

The ICM parameters are:

Individual Capital Quadrant

1. Use of NTIC - New technologies are an essential tool for company's organizational development. The purpose of this parameter is to demonstrate your domain for all employees.

2. Networks - The networks, supported by new technology, are essential for the development of a networking culture. The purpose of this parameter is to prove the existence of an internal network with knowledge and talents that the company can use.

3. Training / Qualification - The training / qualification are seen as the empowerment of individual employees. The purpose of this parameter is examining how the company encourages the acquisition of knowledge and develop the talents of each of its employees.

4. Valuation of Know - How - All employees of an organization have an inexhaustible stock of knowledge. However, often companies do not value and do not encourage these skills. Thus, the propose of this parameter is to see how the company rewards and encourages the development and availability of knowledge and individual skills of their employees.

5. Investment in Innovation and Development (ID) - Innovation is a source of competitive advantage of companies. The purpose of this parameter is to check whether the investment in ID, conducted by the company, aims to simplify processes or innovation.

Team Capital Quadrant

1. Use of NTIC - New technologies should be used as a management tool, integrated in a networking culture. The objective of this parameter is to see, how the new technologies are used in building a team culture.

2. Networks - The networks are forums for sharing knowledge and enable the dissemination of good practices. The purpose of this parameter is to demonstrate that the company promotes the existence of a network culture, where the teams interactive control, discuss and improve the procedures quality in order to satisfy the clients.

3. Training / Qualification - The training / qualification should be understood as an instrument that enables the exchange of synergies between the organization employees. The company must have a policy of training and qualification perfectly synchronized with the team culture. The aim of this policy is to transform the group cohesive teams, highly motivated and productive. The purpose of this parameter is verifying the existence of this policy of training and qualification.

4. Team Work - The work must be organized into teams, whose size will be most appropriate to the needs of the company. This parameter must show a teamwork culture.

Processes Capital Quadrant

1. Use of NTIC - The company should use the new technologies as an administration tool, maximizing the use of these technologies in their organizational performance. New technologies are very important in the register of organizational knowledge and the operationalization of the whole process. The purpose of this parameter is to demonstrate how the new technologies promote the improvement of procedures.

2. Networks - This parameter enables us to evaluate how the company uses the "networks", articulated with the NTIC, to improve the processes and create interactivity between different stakeholders.

3. Processes Systematization - The purpose of this parameter is to confirm the processes systematization and if it allows the formalization and transfer of knowledge among stakeholders.

4. Existence of Certification - Companies should be granted certification, including the ISO 9001 certification. This parameter should confirm the existence of certifications.

5. Registration of Organizational Knowledge - The organizational knowledge must be registered. These records should be computerized in order to be protected and easily be shared. This parameter must verify the operability of the record of organizational knowledge.

6. Partnerships - This parameter must verify the existence of a network of partnerships with various stakeholders.

7. Investment in Innovation and Development (ID) - The company must demonstrate how the innovation and development enable connection and simplification of procedures. The parameter should demonstrate such evidence.

8. The Brands Creation and Management - The purpose of this parameter is to demonstrate how the company's strategy relies on a process of creating and managing brands, which enables the improved reliability of products or services and organizational differentiation.

9. Complaints System - The company should have a formal system for registering complaints that serves its relationship with customers. The purpose of this parameter is to demonstrate the proper functioning of this complaints system.

10. The existence of Awards - The awards are understood as the recognition of the relationship process / customer, resulting from the interaction of explicit knowledge with the structural capital. The purpose of this parameter is to check whether the company was awarded as a result of this recognition.

Clients Capital Quadrant

1. Use of NTIC - This parameter must verify the functionality of the use of NTIC in improving the quality of service and interaction with customers.

2. Networks - The networks should be part of an "act of collective intelligence" in which the expertise of each employee of the company is put at the service of customer satisfaction. The parameter must verify the existence of these networks, as part of the company's culture.

3. Market Audits - The systematic market audit should enable the company to meet the market where it will identify opportunities and threats. The purpose of the parameter is to check if the company performs these audits as part of their strategy.

4. Management of the Clients' Satisfaction - The analysis of clients' satisfaction should be part of the company's organizational routines. Reports should be obtained, allowing the management of the company's relationship with clients. This parameter should check how the company manages its relationship with clients.

5. Complaints System - This parameter must demonstrate that the complaints system, in addition to being part of a process, is an intrinsic element in the company culture.

6. New Markets - The purpose of this parameter is to check if the company has a market strategy, in which the internationalization is one of the goals. The strategies of the market must be accompanied by strategies for innovation of products and services for new markets.

OBJECTIVES OF ICMA METHODOLOGY

ICMA accreditation has four main objectives:

- Ensure the partners (shareholders, investors, customers, suppliers, etc.) the reliability of the management of their intellectual capital, serving as a market instrument and ensuring transparency.
- Provide managers with a tool for decision-making and innovation management.
- Be a tool for benchmarking, allowing a comparison of companies according to national and international criteria, where best practices are encouraged and rewarded.
- Promote continuous improvement at all levels of the organizational performance of SMEs, by providing a management tool to improve their competitiveness.
- Provide an effective transnational network of SMEs that have common interests in the development of intellectual capital as a way to achieve high performance.
- Promote the entities accredited by the recognition of responsibility for intellectual capital management.

BRIEF DESCRIPTION OF PROCEDURES FOR ACCREDITATION

The ICMA process consists of several distinct phases:

1 Preliminary Inquiry

According to the request of the company that wants to start the accreditation process, the accrediting body provides a preliminary questionnaire. This questionnaire shows that the company meets the minimum conditions for continuing the process of accreditation.

2 Preliminary Eligibility

After examining the preliminary investigation, the accredited entity sends the company the results of this questionnaire. If the preliminary assessment of the application for accreditation is favourable, the company will be invited to formalize its application.

3 Formal Requests

The formal request is made online, through the website of the accredited entity. This request is composed of several documents available on the same site. Access to these documents is done by assigning a password. The process is automatic, after completing the formal application.

4 Self-Assessment

After completing the application form, the company is invited to perform a self-assessment that allows them to make an initial diagnosis of their situation in terms of the ICMA standards. This process is based on the ICMA Guide. During the process of self-evaluation, the company can clarify issues with the accrediting body.

As a result of self-evaluation, a report will be produced, which will be forwarded to the accredited entity. This report must have a diagnosis of the firm's position against the ICMA standards and will indicate the period from which the company may be audited by ICMA consultants, usually a period between 1 and 3 months.

5 Audit

On dates agreed with the company, it is visited by ICMA auditors, usually three. The auditors use the ICMA Audit Guide to evaluate the company.

In the final evaluation the auditors produce a report that includes the improvements to be implemented in the company so that it can meet the ICMA criteria.

The auditors can produce four types of decision:

a) The accreditation was rejected because the company does not meet the minimum criteria for accreditation.

b) The company needs to go through a period of Guided Development. In this period, the company implements the improvements which meet the ICMA criteria. This period of introduction of measures will be accompanied by an ICMA auditor and have a maximum duration of one year. When the auditor finds that the company is prepared to be audited again, he invites the company to make a further formal request for accreditation.

c) The company may have Conditional Accreditation. This may happen if all significant criteria are satisfied and in general the company deserves immediate accreditation. In this case, a report of procedures to improve is produced. The company will agree to correct procedures in the time indicated by the auditors.

d) The company may have Accreditation, if it meets all ICMA criteria.

The process is designed to facilitate the companies which can develop the accreditation according to their particular situation.

6 Eligibility

When the auditors' report is favourable to the accreditation, the company is deemed eligible, and a Report of ICMA Acceptance is produced. This report should clearly state the reasons supporting the accreditation.

7 ICMA Accreditation

The Report produced by the team of auditors is signed by them and by the company.

The Report is submitted to the Accreditation Committee which, after consideration, should grant accreditation.

If the Accreditation Committee still has some doubts about the company, it may seek further information from the company and/or auditors.

The final decision is always made by the Accreditation Committee. The accreditation committee will meet generally four times per year to make the decisions regarding accreditation.

Following a decision of accreditation, the company is formally notified, and the process of accreditation is completed.

CONCLUSION: ICMA AS COMPETITIVE ADVANTAGE

Currently, the competitive advantages of companies are based on their ability to manage their intellectual capital.

Indeed, intellectual capital in companies always existed, but now we see its importance as a creator of value. The lack of sustainability of other assets, physical and financial, has shown the need to better manage the intangible assets.

In a time when organizations are more unstable, the environment is more turbulent and differentiation is the ability they have to keep "talent", the intellectual capital management accreditation provides guarantees the ability to manage this intellectual capital.

As Drucker theorized (1993:183) "in the past, sources of competitive advantage were the labor and natural resources, now and in the next century, the key to building the wealth of nations is knowledge."

Accreditation can be an important competitive advantage for SMEs because it guarantees their partners that they have the capacity to generate relevant, shared knowledge and induce incremental innovation. ICMA is therefore a guarantee of best SMEs, which can be used in their promotion to key partners

Since the model that supports the accreditation methodology is a dynamic model in which the audit parameters may be adjusted, this approach is also dynamic and adaptable to different national contexts.

The various discussions that still exist around the concept of intellectual capital, measurement of intellectual capital and the importance of managing intellectual capital are likely to cause problems in the harmonization of

concepts, but ICMA accreditation will be a system that provides credibility and sustainability assurances at all levels.

The various investigations carried out in Portuguese SMEs demonstrate that the high innovative potential of some SMEs may be recognized and enhanced through ICMA accreditation, which is thus a tool capable of enhancing the SMEs' competitiveness.

A project that provides for the accreditation of some SMEs which are already pioneers in this accreditation is being prepared.

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HOSPITAL INFORMATION TECHNOLOGY: IMPROVING PATIENT HEALTHCARE SERVICES

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ABSTRACT

This paper describes ways in which Information Technology (IT) systems have been and can be introduced and used by hospital managers to improve healthcare delivery services. As an additional benefit, these efforts also produce substantial savings that improve hospital finances which in turn enables acquiring and maintaining better healthcare services facilities. The paper is based on an enterprise-wide strategic planning project done at a not-for-profit hospital and a home and hospital for the aged in New York City, as well as on related industry studies. These projects and studies led to the development of a theoretical framework designed to help enable hospital management and systems developers to develop and introduce such systems, a framework which is described in this paper. The framework will also be useful for management students looking for a brief comprehensive introduction to the subject. The case studies and the plans developed for these two healthcare institutions are available by contacting the authors.

INTRODUCTION

This paper originated with strategic management work done at Jamaica Hospital in Queens, NY and the Jewish Home and Hospital for the Aged in Manhattan, NY. As background for the project, the initial phase involved industry-wide studies of healthcare institutions throughout this country and abroad. During these studies, which involved both field research and a review of the research literature, many samples of which are given throughout this paper, it became apparent that advances in hospital Information Technology (IT) are having a dramatic impact on improving patient healthcare services.

BACKGROUND

By creating the "Digital Hospital", a number of hospitals in this country are leading the way in developing and using information systems to solve plaguing industry problems, including the fact that manually kept records were not up-to-date, incomplete, or misplaced and illegible physicians handwrote prescriptions (Clark, 2004; Editorial Staff, 2005A, B). Errors resulting from these problems alone have been estimated to kill over 7,000 U.S. hospital patients yearly and drive up healthcare costs by an estimated \$2 billion (Evans, 2004; Marks, 2004; Turner, 2004). Even though major costs are involved, plans are underway to do the same in overseas hospitals, for example in England. Evidently in 2004, not enough U.S. hospitals were moving into the digital area, however. As a result, in mid-2004 Secretary of Health and Human Services, Tommy Thompson supported by President Bush, unveiled an ambitious 10-year initiative to transform hospitals in this country more aggressively and rapidly (Turner, 2004; Bush, 2004). Individual states, for example Massachusetts, were also considering both government and private financial support for this effort (Peter, 2004). The focus of this initiative will be on computer entry of prescriptions, improved intensive-care unit (ICU) staffing, and easier access to individual patient records for both the patient and hospital staff by integrating patient and other hospital records into integrated databases.

ROLE OF ADVANCED AND BASIC INFORMATION TECHNOLOGY APPLICATIONS AS IMPROVED HOSPITAL HEALTHCARE ENABLERS: A FRAMEWORK

The discussion in the following section provides an overview framework developed from this study, a framework which might help provide guidance to those thinking about understanding, developing, and introducing IT systems into their hospital environment. This framework is outlined in Figure 1.

Figure 1: Major areas medical it systems are generally developed in

<ul style="list-style-type: none">Client/Patient OrientationAn Integrated Accessible Electronic DatabasePrescription Writing and DeliveryIntensive Care Units (ICUs)Telemedicine/TelesurgeryHealthcare Facilities and Their FinancingOther IT Related Systems

Client/Patient Orientation

Hospitals face specific problems, such as the difficulty to coordinate and integrate diverse customer interactions in a way that (a) makes individual customers feel that they were being treated as individuals and (b) enables the hospital to coordinate its services to these individuals. Hospitals have many divisions, such as radiology, emergency room care, test labs, prescriptions, medical nursing assistance, hospital rooms, and kitchens and food service, which provide services to patients. The doctors deal with these different divisions, as well as with individual patients, as do nurses and other staff members whose time needs to be scheduled and managed. Tracking is needed to bill patients, preferably in a coordinated way, to maintain staff schedules, and to manage all operational areas efficiently and effectively. Interestingly, many hospitals studied do not even have an integrated billing system for patients, who still receive separate bills for different department services and room accommodations. This creates some confusion among patients and their insurance companies.

An Integrated Accessible Electronic Database

Based on hospital experiences with information technology development, the starting point almost always involves building accessible integrated electronic databases, especially in relation to individual patient information, as suggested in the preceding section. The most significant applications of such databases are in the prescription writing and delivery area and in the Intensive Care Unit (ICU) area. These findings are consistent with the authors' studies of individual hospitals and the areas which might benefit most from improvements.

Prescription Writing And Delivery

Probably the most visible evidence of the new digital systems at the Children's Hospital in Pittsburgh is the trolley used by physicians when visiting individual patients. The trolley has a laptop computer and wireless network card, which physicians use to log into a program containing all the clinical information on each of their patients. The physicians fill out medication orders online and send these orders from the ward on the seventh floor to the in-house pharmacy in the basement, where a robot puts the prescribed drugs in an envelope for the nurses to dispense. All of this is made possible by the electronic patient database. This laptop enabled system significantly reduced the major problems encountered from medication errors under the old paper-based system. While medical information technology applications do not necessarily eliminate all errors – in fact they

introduce some new ones – they do substantially reduce these errors (Marks, 2004; Conn, 2005).

Intensive-Care Units (Icus)

Another major benefit of medical IT systems is found in the management and running of ICUs. For example, in late 2004, intensive care patients at Inova Alexandria Hospital were scheduled to be monitored around the clock by doctors and nurses at their bedside as well as through digital cameras, microphones, and special software from miles away (Salmon, 2004). This system will enable these distant caregivers to remotely monitor heart rates, blood pressure, respiratory rates, and other vital signs of critically ill patients even more closely than the on-site duty staff can and so provide guidance to that duty staff. An IT-based ICU system, where one doctor and nurse can keep a 24-hour watch over as many as 200 critically-ill patients at once, can boost chronically short-staffed on-site care. In addition, studies have reported as much as a 50 percent drop in ICU mortality and 17% shorter stays since the first such system was set up at Virginia's Sentara Healthcare a few years ago (Salmon, 2004; Allen, 2004).

Telemedicine/Telesurgery

One early IT development area has been telemedicine. For example, the U.S. military in Iraq set up a field hospital unit connected by computer systems to well-staffed hospital unit located elsewhere. This new technology enables treating injured people in remote location using local staff guided by expert professionals located elsewhere (Hasson, 2004). Kaplolani Medical Center for Women & Children in Hawaii has begun broadcasting live surgeries to physicians around the world. This telesurgery technology allows specialists worldwide to observe and consult with Kapiolani surgeons during emergency and other procedures. It also involves not having to move critically ill patients needing surgery, which is a major cost reduction factor and can help avoid additional medical problems caused by traveling. In addition, it enables an auditorium of medical students to observe live surgeries.

Healthcare Facilities And Their Financing

Hospitals need sufficient finances to obtain and operate these new facilities, as well as to hire and maintain expert professional staff at all levels and put into place the IT digital framework to service everyone. A variety of financial factors affect a hospital's ability to do this. For example, a hospital is dependent on insurance company payments for a substantial portion of their income. A patient's ability to pay also has an impact; and there are limits to the number of lawsuits a hospital can pursue to recover delinquent accounts and such lawsuits are time consuming and expensive. In addition, many communities expect or require hospitals to provide services for the poor.

IT solutions can be very helpful in the financial area. They enable more accurate billing of patients, faster collection of accounts payable, and easier coordination with insurance companies and government agencies, as well as better tracking of and control of staff usage (Paulik, 2004). In a very significant way, it has led to major reduction in cost-per-patient services, enabled improved health care service delivery, and reduced unnecessary loss of life.

Other It Related Systems

Integrated IT systems enable other individual patient healthcare service improvements. The following happened at Allegheny General Hospital in Pittsburgh: Nurse Candice Bena thought a 76 year old patient needed a new intravenous line but couldn't get the radiology department to install one immediately (Wysocki, 2004). Fearing the patient would develop an infection, the nurse contacted the Chairman of Medicine directly eventually. The Chairman immediately electronically contacted the Head of the Radiology department, who within two hours installed the new IV line himself. The result of such problem identification and process analysis was a 90% drop in the number of infections after just 90 days of using the system. As an additional bonus, the new system saved almost \$500,000 a year in ICU costs.

THE BENEFITS CAN BE SUBSTANTIAL AND IMPRESSIVE

In addition to these benefits already discussed, Cincinnati Children's Hospital Center, for example, which won the 2003 Nicholas E. Davies EMR (Electronic Medical Record) Recognition Award of Excellence after implementing an integrated clinical information system (ICIS) to provide clinical decision support tools including Siemens Medical Solutions (INVISION®). The results were elimination of transcription errors, a 50% reduction in medication errors, a 52% improvement in medication turnaround times, a 24% reduction in verbal orders for controlled substances, and 100% compliance with pain assessment documentation requirements defined by state regulatory agencies (Siemens, 2005).

Delnor Community Hospital also showed impressive results with HeartMath's customized technology Freeze-Framer®. After the first year, the overall employee turnover was reduced from 28% to 20.9% which led to \$800,000 in annual savings, Medicare length of stay decreased by 9%, equaling a \$1.4 million savings annually, customer satisfaction improved from the 73rd percentile to the 93rd percentile, and the hospital was ranked first in employee satisfaction based on a Sperduto and Associates study. During the second year the results were maintained with turnover down to 14% and the hospital was ranked second in employee satisfaction (HeartMath, 2005).

Other benefits included reducing patient waiting times, slashing wheelchair inventories, preparing operating rooms faster and moving patients through a hospital stay or doctor visit more quickly, seamlessly and error free, creating major cost reductions along the way in addition to improving patient healthcare – and in many instances actually reducing the death rate.

IMPLEMENTATION PROBLEMS

Although substantial gains from introducing and using medical IT systems are documented, major problems have been encountered. For example, outside physicians at many hospitals have resisted and in some instances even scuttled new medical IT systems (Turner, 2004). It is far easier to use a pen to write a prescription order or tell a nurse what to do than it is to have to learn a whole new system, no matter how fast or easy it may eventually be to use. The training needed to ease entry of the new systems takes many forms, depending on the staff involved. As Rob Turner points out, patience and persistence is the primary requirement, combined with a keen sense of the individual needs in specific hospital situations (Turner, 2004). For example, at a university hospital where most of the physicians are on staff, and so more controlled by hospital management, the transition has been easier than at hospitals where the majority of physicians are outsiders and so more independent.

There are also group training tools which can aid in implementation (Bandarouk, 2005). As might be expected, for example, the different characteristics of users centralized within an existing medical department (such as an ICU) and those of distant (decentralized) users of any new system had a major impact on the managerial support tools needed to make the implementation successful. The successful management support tools differed in several areas: time allocated (more for the decentralized group); feedback and learning opportunities (different channels and leadership styles used for each group), and autonomy and responsibility (differs by individual as well as group).

A second key problem area is the high cost of such systems. The essence of making such systems work is the integrated computer systems and databases which provide the data/information and facilitate the processing of it. This veritable digital hub involves a substantial financial investment to develop. Again, in spite of the documentable savings, time is needed to study the application of other hospitals' experiences to one's own hospital. And once an appropriate transformation plan is developed, raising the money and convincing others of the investment's value is still a long hard road to travel (Turner, 2004; Bandarouk and Sikkel, 2005).

Given the varying situation-specific needs and financial constraints, effective planning and implementation require identifying individual situation requirements in conjunction with determining the specific components of the planned medical IT system, as well as the order in which the IT transformation steps

will take – based for example on analyses similar to the ones given in the above framework (Figure 1). This is, in a sense, defining the “migration path” to be followed and the basic management principles, from planning and leadership to measurement, guiding this migration (Amatayakul and Lazarus, 2004; Skinner, 2003).

CONCLUSION

While it is important to review industry practices, the ultimate decision then is a situational one. Individual hospitals have their own special needs. For example, Jamaica Hospital and the Jewish Home and Hospital were each very distinct in the services they provided and the kind of clients they served; as a result the IT systems they developed were different in many ways. Kapiolani Medical Center in Hawaii was uniquely situated to develop its telesurgery program. At University hospitals, their close relationship with their physicians on staff on occasion enabled them to move more quickly into automated prescription processing.

External circumstances can also have an impact, as seen in Massachusetts, where the state government support was expected to encourage and facilitate medical IT systems development.

In almost all instances, available finances will have an impact on the nature and pace of medical IT systems development, as will the leadership skills of hospital managers in overcoming resistance to change encountered at almost all operational levels.

In light of these problems, currently less than 2% of all American hospitals have fully implemented electronic medical records. At this time, however, 40 hospitals have portions of such a system and many more are considering introducing such systems. This slow development pace is in spite of the fact that experience shows that these systems can save lives and dramatically affect improvement of healthcare services delivery at hospitals. Hopefully, studies such as this one, as well as government programs and incentives, will help broaden and accelerate the growing trend towards continuing medical IT systems development worldwide.

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PREDICTED EPS AND STOCK PRICES

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ABSTRACT

In order to become involved in the purchase and sales(exchange)of stocks, it is necessary for investors to investigate the predicted value of stocks of each company in the future. Obviously determination of such value would depend on prediction of the earnings power of companies in the future.

This paper attempts to review the changes in stock prices vis-à-vis announcement concerning adjustment of predicted EPS, in Tehran Stock Exchange(TSE).Results indicated that a significant relationship existed between changes in predicted EPS and changes in stock price. However market reaction has been somewhat slow.

INTRODUCTION

The profitability of a company is one of the most significant criteria in the evaluations performed by investors on that company. Income announcements of a company that are done through a public information source, offers required information to the key players in the market to enable them to evaluate the performance of the company.

Information related to the reported revenue and income of a company are quite useful to evaluate the past performance of the company and the success of its activities [Noroozi, 2005].

The actual (intrinsic) value of an asset depends on its future benefits. Securities are also considered as assets that are traded in the form of documents. It is obvious naturally that securities themselves do not hold any economic value but rather, it is their future benefits that will induce a person to pay such high prices for them.

Future benefits of certain securities are predetermined; such as in bonds with fixed interest rates, but this is not the case with common stock, and the future benefits of these stocks depend on numerous small and large factors. Among these factors include, policies of the management on production and sales, and also on future investments. Thus, future profitability plays the primary role in determination of stock value [Beaver, 1998].

Throughout the recent years, the concept of "maximizing profitability" has been criticized by theorists in the field of economics, and replaced by the term "maximizing utility"; but overall, despite minor motivations for the establishment and management of economic units, income and profitability are indicative of a healthy economic body [Shabahang, 2003].

Thus, it can be concluded that predicted earnings are potentially useful and have information content. However, the discussion has been raised due to the assumption that in efficient capital markets, the financial information such as predicted earnings are not the only information source issued by managers to the market, thus managers cannot adjust stock prices through their subjective opinions and guide the capital market and investors to their own companies. In this research, the relationship between public announcements on the predicted EPS and adjustments thereto with changes in stock price in TSE shall be investigated.

LITERATURE REVIEW

Penman (1992) illustrated in his research that income predictions are reliable. His study accounts for the significant relationship between stock price and income prediction, also illustrates the positive relationship between abnormal stock return and unexpected information about income that are transmitted through prediction.

Jiambalvo et al.(2002), investigated the relationship between institutional investors and stock price as reflective of future income. They concluded that since such investors are considered mainly optimistic and able to utilize information related to predictable income in the best possible way, thus with the increase in the ownership percentage of these investors, stock prices are more reflective of future income and thus the relationship between price and EPS was proven with regards to numerous other factors.

In one of his studies, Ramnath (2002) investigated the reactions of investors and analyzers to companies of the same industry that were reporting their income for the first time. Results reflected that a mistake made by the first company in the industry reporting its earnings per share, would contain information content for future predictions and income announcements by other companies. In other words investors and analyzers besides utilizing predictive information on EPS do also consider announcements on adjustments made to these predictions.

Shekarri Habashi (2005) investigated the level of compatibility of actual EPS in investment companies with their predicted EPS and their effects on stock price in TSE from 1999 to 2003. Results indicated that no significant relationship existed between adjustments made to EPS and stock price. However, there was a relatively weak relationship existed between levels of actualization of EPS to stock price.

Noroozi (2005) studied the impact of changes in predictions of EPS to changes in the volume of transactions in TSE, and concluded that despite the relationship existing between these two variables and their positive correlation, significant changes in prediction of EPS lead to rather smaller changes in the volume of stock transactions.

RESEARCH HYPOTHESES

Two hypotheses were made for this research based on the literature and results obtained from previous studies:

1. Announcements of adjustments on predicted EPS have information content and affect decisions made by investors.
2. A significant relationship exists between changes in predicted EPS and changes in stock prices.

RESEARCH METHODOLOGY

In this research we chose a linear regression model and a series of statistical information related to the past to prove our hypotheses. In this regard, all listed companies in TSE have been taken into consideration and their information have been extracted from files of Stock Exchange Service Company, Tadbir Pardaz system and the reports issued by capital market.

According to article 5 of the regulations for disclosure of information of listed companies in TSE (ratified in sessions held on 19/11/2002, 16/12/2002, 17/02/2003 and 09/07/2003 by the Exchange Council), companies are obliged to announce their budget and predicted annual performance based on last year's performance by latest 30 days before the start of the new fiscal year, based on actual seasonal performances promptly and by latest 20 days after the end of the season for any adjustments.

Thus, all companies and their related adjustments were considered in whole as a main group and four subsidiary groups (based on classifications of companies according to fiscal year end dates). Statistical tests were then performed to evaluate the effects of adjustments made on predicted earnings per share on stock price.

The equation of the regression model was :

$$Y = a + bx + \varepsilon$$

Y : The difference between changes in price and index

X : The adjustments made to EPS

Adjustments made to EPS are considered as independent and changes in stock price are the dependent variables.

Choosing the Appropriate Model

The linear regression models are usually useful to consider the relationship between variables. In this research the different kinds of regression models (Linear, Inverse and Quadratic) were tested, and based on R², the appropriate model was chosen:

$$y = a + bx + \varepsilon$$

Table 1-Model Summary and parameter Estimates

Fiscal Year End Dates	Equation	Model Summary					Parameter Estimates		
		R ²	F	df1	df2	Sig	Constant	b 1	b 2
Months 2,3 and 4	Linear	.235	16.593	1	54	.000	.018	.157	
	Inverse	.014	.755	1	54	.389	.036	.003	
	Quadratic	.258	9.204	2	53	.000	.019	.095	.037
Month 6	Linear	.108	11.863	1	94	.001	-.056	.116	
	Inverse	.039	3.926	1	94	.050	-.057	.005	
	Quadratic	.146	8.277	2	93	.000	-.046	.140	-.069
Months 7,8 and 9	Linear	.239	24.451	1	74	.000	-.019	.146	
	Inverse	.045	3.698	1	74	.058	-.003	.005	
	Quadratic	.261	13.623	2	73	.000	-.011	.190	-.062
Month 12	Linear	.095	79.493	1	759	.000	-.020	.115	
	Inverse	.051	40.404	1	759	.000	-.020	.007	
	Quadratic	.123	53.039	2	758	.000	-.016	.131	-.030

As can be observed in table 2, the significance level for the variables is more than 0.05. Thus, the data are normal.

Table 2- kolmogorov Smirnov Test-The significant Level of Variables

	Fiscal year Ended Month 2,3 and 4	Fiscal year Ended Month 6	Fiscal year Ended Months 7,8 and 9	Fiscal year Ended Month 12
Sig	.23	.06	.16	.51

As can be observed in table 3 below, the significance level for the F ratio is less than 0.05. Thus, the regression model is considered significant.

Table 3- Variance Analysis

Fiscal Year End Dates	R ² (Percentage)	F ratio	Sig
Months 2, 3 and 4	23/5	593.16	0.000
Month 6	10/8	863.11	0.001
Months 7, 8 and 9	23/9	451.24	0.000
Month 12	9/5	493.79	0.000
Total	11/1	618.124	0.000

Testing the Model's Parameters and Analysis of the Hypotheses

First Hypothesis: Announcements of adjustments on predicted EPS have information content and affect decisions made by investors.

Upon ensuring that all data and variables have been normal, and considering that the research contains one major group (all companies and their adjustments as a whole) and four subsidiary groups (based on

$$\left\{ \begin{array}{l} H_0 : a = 0 \\ H_1 : a \neq 0 \end{array} \right.$$

categorizing companies according to their fiscal year end dates), estimates were made for amounts to be entered in the regression model. Considering table 1, five regression equations were made for this research:

$$\left\{ \begin{array}{l} H_0 : b \neq 0 \\ H_1 : b = 0 \end{array} \right.$$

(1) $y = 0/157 x$

(2) $y = -0/056 + 0/116 x$

(3) $y = 0/146 x$

(4) $y = -0/02 + 0/115 x$

(5) $y = -0/22 + 0/122 x$

Considering these and results as summarized in table 4, the hypothesis assumed with the 95 percent level of confidence was approved.

As can be observed in the following table, and concluded from equations illustrated above, fiscal year end dates have no effect whatsoever on the results and the level of impact of (b) is almost equal in all the cases (One main group and four subsidiary groups).

Table 4- Table of Coefficients

Fiscal Year End Dates	A	b	Sig (a)	Sig (b)
Months 2, 3 and 4	0.18	0.157	0.355	0.000
Month 6	-0.56	0.116	0.000	0.001
Months 7, 8 and 9	-0.19	0.146	0.171	0.000
Month 12	-0.020	0.115	0.001	0.000
Total	-0.22	0.122	0.000	0.000

Second Hypothesis:

A significant relationship exists between changes in predicted EPS and changes in stock prices.

Considering results of the regression model as reflected in Table 4, it was approved that a positive significant relationship existed between changes in predicted earning per share and changes in stock price at the 95 percent level of confidence. However, the Chi-square test was also performed for the main group. Results of this test indicate the approval of the regression model.

In the Chi- square test, the H_0 and the H_1 have been defined as follows

$$\left\{ \begin{array}{l} H_0 : \text{No significant relationship exists between changes in predicted EPS} \\ \text{and changes in stock price (R=0)} \\ \\ H_1 : \text{A significant relationship exists between changes in predicted EPS} \\ \text{and changes in stock price (R} \neq 0) \end{array} \right.$$

Since the significance level of Chi- Square is less than 0.05, the H_0 shall be disregarded in the 95 percent level of confidence. Moreover, the Somers'd amount equals 0.38, which means that a relatively weak relationship exists between the two variables.

Table 5- The chi-2 Test

Group	Value	Sig	Somers'd
Main	298.125	0.000	0.38

CONCLUSION

This research attempted to investigate the relationship between changes in the predicted earnings per share and changes in stock price in listed companies in Tehran Stock Exchange. Results indicate the existence of a significant relationship between changes in the predicted EPS and changes in stock price. An examination of the regression equations for testing the hypotheses shows that this relationship is significant, and with the increase in the level of changes in predicted EPS, the possible level of changes occurring in stock price also increases.

Despite the existence of a significant relationship between these two variables and the positive correlation between them, significant changes in predicted EPS shall only result in very insignificant changes in stock price. Considering the fact that decision-making models of investors in TSE rely to a great extent on predicted EPS, we could probably say that this issue could be due to the asymmetry of information among the traders.

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HIGH RATE OF TEENAGE PREGNANCY IN PUBLIC SCHOOLS: THE CASE OF NKOMAZI REGION IN MPUMALANGA, SOUTH AFRICA

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ABSTRACT

Teenage pregnancies in schools in Nkomazi region are rising every year, with the latest statistics showing that pregnancy as a result of sexual abuse was more and more prevalent. Multiple reasons for the growing number of pregnant teenage girls in schools were heard at the Department of Education Provincial Summit in 2007. A research sampling of 120 schools were applied, which revealed that amongst others, challenging factors confronting young girls include peer pressure, poverty and media influence. Girls interviewed for the survey complained that clinic staff were intimidating and made it difficult to collect condoms and contraceptive pills. The study include discussions on issues raised during the research, such as cultural, religious, financial and other influences on teenage pregnancy, as well as the role of schools. Public health clinics have made birth control counseling and free contraceptives available to minors and many public schools have implemented sex education programs.

INTRODUCTION AND BACKGROUND

It is often difficult to come up with any of the origins of a human phenomenon or to put it plainly characteristic. It is a fact that since the beginning of human existence, man has been reproducing for different reasons, e.g. religion, established relationships, cultural reasons. The reasons for having a child may differ from person to person. For the purpose of this study, most teenage girls well fall pregnant for reasons even unknown to them. Some would even term their reasons mistakes. The teenager here is looked at a strictly education perspective and the performance thereto is of critical importance. The girl's secondary and tertiary education may be limited. Approximately only one half of the girls who give birth before the age of 18 complete schools (Greenberg, et al, 1986). It has been generally perceived in most communities that if a girl falls pregnant her life plans and career goals would be disrupted. The very cause of that disruption of career goals would be the essence of the research

Teenage pregnancy refers to teenage or under aged girl, usually within the ages of 13 and 19 becoming pregnant. The average age of menarche (first menstrual period) the term in everyday speech usually refers to women who have not reached legal adulthood, which varies across the world, who become pregnant. Pregnant teenagers face many of the same obstetrics issues as women in their 20s and 30s. However, there are additional medical concerns for younger mothers, particularly those under 15 and those living in developing countries. For mothers between 15 and 19, age in itself is not a risk factor, but additional risks may be associated with socioeconomic factors. One million teens become pregnant each year. According to Endersbe (2000:7) three million teens acquire Sexual Transmitted Diseases (STD) every year.

Teenage pregnancy affects all citizens of South Africa because these girls are still the dependents socially and financially within their families. Furthermore, in terms of education, the girls are still at the lower level of education. It can therefore be argued that the situation can lead into lack of educated people and lack of skilled labourers.

Teenage pregnancy has become a severe problem in South Africa, causing high dropout level among girls in schools at Ehlanzeni Region in Mpumalanga Province. Nkomazi area is in the Lowveld and surrounded by mines and farms. Children are becoming sexually active at the early age before they are mature enough to understand the consequences of their actions (Moral Regeneration Movement Update 3).

Some girls become pregnant so as to provide food for their families due to poverty. It has been observed that there are girls who have three to four children while in lower grades and are experiencing difficulties, because they must play both parental role and be scholars at the same time. These practice causes high absenteeism, which leads to high dropout rate and poor performance among girls at schools in Nkomazi area.

Statistically, the Nkomazi area has a high teenage pregnancy rate. The City Press of 19 October (2008:06) shows that Mpumalanga, of which Nkomazi area is part of, has more than 3000 schoolgirls who have fallen pregnant so far. The assumption of the researcher is that these learners are tempted to engage in transactional sex for money, as their parents are poor. The situation is also being worsened by the nearby mining companies and farms where most teenagers frequent in search for money. This encourages the teens to become sexually active. In the light of this, the researcher realized that there is a high rate of teenage pregnancy in Nkomazi Circuit.

People learn through observing others' behaviour, attitudes, and outcomes of those behaviours. "Most human behaviour is learned observationally through modeling: from observing others, one forms an idea of how new behaviours are performed, and no later occasions this coded information serves as a guide for action" (Bandura). Social learning theory explains human behaviour in terms of continuous reciprocal interaction between cognitive, behavioural, and environmental influences (<http://www.learning-theories.com/social-learning-theory-bandura.html>). The study is based on the social learning theory of Bandura. The reason behind is that it investigate the human behaviour of the teenagers who are pregnant in high schools.

PROBLEM STATEMENT

Teenage pregnancy has got a negative impact on learners' academic achievement in Nkomazi Circuit. This tendency leads to high drop out of learners. The result is that learners are not able to complete their studies.

AIM AND OBJECTIVE

The aim of the study is to investigate teenage pregnancy and its impact on the educational performance of learners in Nkomazi High schools around Nkomazi area. The objective of the study is also to find out about the relationship between teenage pregnancy and drop out rate of girls in those identified schools in Nkomazi area.

SIGNIFICANCE OF THE STUDY

- The study will provide information on opportunities and problems regarding this teenage pregnancy and dropouts.
- The study is meant to lead to information that is of practical importance in the design and updating of research in South Africa, Nkomazi area in the Mpumalanga Province.

LITERATURE REVIEW

The researcher has read the work of other authors on teenage pregnancy in order to analyse, criticize, evaluate and check the differences and similarities, and link it with the problem of the study.

A study examined was titled pregnancy-related school dropout and prior school performance in South Africa by Grant and Hallman (2006:1-21). The objectives of their study were to examine the factor associated with girl pregnancy, as well as the likelihood of school dropout and subsequent re-enrolment among pregnant school girls.

Drinking and sex are connected in another way. Some people deliberately use alcohol to overcome shyness and initiate social or sexual contact with an appropriate partner. Others believe that alcohol increases their sexual drive or performance or at least makes them feel more relaxed and able to respond to their partner.

Combining sex and alcohol has a big negative side too. Alcohol may lead many people to give in to sex when they really want to say no. Sex and alcohol also may lead to unwanted pregnancy, sexually transmitted disease (STD), violence and rape, and can cause guilt, fear and broken relationships. The problem is separating the good from bad (Book builders 2005: 160-161). The researcher justifies what is said about alcohol. Teenagers who attend bashes 6 to 6 they drink alcohol, and end up having sex without thinking, others being raped and have unwanted and unplanned pregnancy. Bashes and screwing of cars do happen in Nkomazi area; teenagers have a chance of experiencing alcohol and drugs. Lowveld Easter Show also adds in sexual behaviour and alcohol.

According to Davidson Harrison, Chief Executive Officer of Lovelife, South Africa's largest youth-targeted HIV/AIDS "South Africa has a huge teen pregnancy problem – one in three girls has had a baby by the age of 20". Johannesburg, 6 March 2007. (www.irinnews.org). Alarming figures released by a South African Provincial Education Department indicate that schoolgirl pregnancies have doubled in the past year, despite a decade of spending on sex education and AIDS awareness.

The number of pregnant schoolgirls jumped from 1,169 in 2005 to 2,336 in 2006 in Mpumalanga, the country's economic heartland and most populous province, according to statistics released in provincial parliament. It is asserted that Mpumalanga Province has the highest prevalence rate of pregnancies among teenagers, which is approximately 18,8% with the highest rate of repeated pregnancies among schoolgirls (www.hst.org.za).

The reality is that many teens are sexually active. More than half of all teens engage in sexual intercourse before age 18. Sex may come with some risks and consequences. Sex can bring pleasure and closeness. It also involves risks. For example, pregnancy and sexually transmitted diseases are risks of sex.

Teens face pressures that can create other risks. They are learning to adjust to more responsibilities. Some teens begin working. School becomes more challenging. It is not normal, for a 12 year old to have a baby. A 12 year old is not ready to parent a child (Endersbe2000:7). The researcher justifies that a 12 year old schoolgirl was pregnant and experienced complications for she was not ready to give birth. She said her step dad was sexually abusing her, her mother did not believe her. Kananda is of the opinion that teenage girls have taken this "I have rights", Kananda asked a pregnant 13 year old girl, why she became sexually active at such a young age, she told Kananda that stress had driven her into a relationship. Stress from her unreasonable parents who wouldn't buy her stuff so she could be the coolest in her school. She is too young to face this emotional challenge and is unable to decide what to do about her pregnancy, which is in its 12th week already.

When she was asked about other negative effects of teenage pregnancy, she said at least she could still attend school, others did and the teachers couldn't do anything about it. At a point Kananda didn't know whether to slap her or pray for her (City Press 26 October 2008).

METHODOLOGY

An explanation study was conducted from a positivism paradigm, where the world is guided by scientific rules that explain the behaviour of phenomena through casual relations. An inductive approach was followed that allowed the researcher to pursue data collection with theory; an approach that is dominant in social science. The epistemological basis of the study placed the researcher in an objective and value-free position, where the researcher did not impact or have an influence on the results of findings of the research.

Data supporting teenage pregnancy as a social issue in developed countries include lower educational levels, higher rates of poverty, and other poorer "life outcomes" in children of teenage mothers. Teenage pregnancy in developed countries is usually outside of marriage, and carries a social stigma in many communities and cultures. For these reasons, there have been many studies and campaigns which attempt to uncover the causes and limit the numbers of teenage pregnancies. In other countries and cultures, particularly in the developing world, teenage pregnancy is usually within marriage and does not involve a social stigma.

DOCUMENT STUDY

- Birth statistics Register of teenage pregnancy from local hospitals and Clinics
- Statistics of teenage pregnancy from Nkomazi circuit office.
- Class Register- to check absenteeism
- Admission Register- to check dropout.
- Schedules- to check academic records.

CONCLUSION

The inability of educators to introduce sexuality education at schools makes it possible to a certain extent for learners to involve themselves in unsafe and unprotected sexual practices, thus subjecting themselves to be vulnerable to STD related diseases or become young parents. The negative impact of teenage sex, pregnancy and child bearing remains a challenge to developing countries.

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MY FUTURE HAS BEEN SOLD: A NEW GENERATIONAL COHORT

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ABSTRACT

This paper addresses the issue of generational cohorts in the midst of economic upheaval. It focuses on the effects of the present disturbing economic environment on the development of a new generational cohort in Brazil, which may exhibit similarities with the Depression cohort in the United States. It furthermore develops a set of propositions that explores and advances the understanding of marketing decisions through cohort values.

INTRODUCTION

Many nations, including Brazil and the United States, will soon experience the catastrophic effects of the steepest debt crisis in their history. This phenomenon poses intriguing questions and renews the importance of cohort analysis for marketing management decisions (Motta and Schewe, 2008; Meredith, Schewe and Karlovich, 2002). Such analysis involves defining a historical context for the development of a new generational cohort, which will come of age in a social context that will display similarities to economic disturbances in different nations.

The purpose of the present study is twofold. First, this study will assess the validity of collective memory in Brazil. Second, it will develop a set of propositions for the emerging generation in Brazil, which will hold values associated with the consequences of the current economic crises. In turn, the set of propositions will be used to derive pertinent concerns for marketers within the new environment.

Birth dates have been used to cluster individuals by generation. Each generation spans about twenty five years (the period between birth and the reproductive age). Based on this model, one century comprises four generations; however, by extending the length of a generation to about 40 years, it has been found in the United States that strong correlations exist between economic cycles and generational groups. Accordingly, these correlations have been used not only to explain the cycles, but also to predict future downturns in the economy (Dent Jr., 2008).

A generational cohort is a unique concept, and it is usually associated with the concept of collective memory. It is important to distinguish (Rogler, 2002) between the concept of a cohort labeled by historical generations and the popular concept of generations, which refers to people who have approximately the same age. A historical generation is shaped by historical cataclysms, deep religious revivals, economic upheavals, and any other abrupt change that comes about in a given historical period. Closely attached to historical generations is the idea of collective memory.

Collective memory adds complexities to the concept of a generation as a well defined group. Collective memory acquires a generational meaning, mainly because common characteristics translate into values that are imprinted in each individual's mind. As these values vividly remain in each individual's memory for the rest of his or her life, they serve to determine the existence of a period in life where preferences develop. According to cohort theory, this period is between late adolescence and early adulthood, when shared life experiences lead to the imprinting of values on cohort members (Meredith et. al. 2002a).

Several studies have dealt with this phenomenon. When individuals experience social phenomena during late adolescence and the beginning of adulthood, they mention them more frequently and tend to present personal reasons for doing so (Schuman and Scott, 1989). Therefore, individuals of similar age have similar memories, or, a collective memory. Individuals in each of the three Dutch cohorts (born before 1945, born between 1945 and 1964, and born after 1964) pointed to nearly all of the same events as the most influential in the twentieth century in both the social and personal realms (Ester, Vinken and Diepstraten, 2000). In another study (Schuman and Corning, 2006) comparing the Iraq War to both World War II and the Vietnam War, interviewees that lived during the Vietnam War tended to cite this war more frequently than World War II. A comparable study (Scott and Zac, 1993) encouraged people to think of events related to national or international changes in the previous 60 years and to cite one or two that they consider especially important. Younger individuals in the Vietnam War cohort that cited this war more frequently had tendencies to consider World War II the “good war,” in which the Americans fought and defeated evil. These individuals see World War II as an event that occurred before their formative years. This vision is a “collective representation” of World War II, which is distinct from the concept of “collective memories” not so much because of the memorization, but by personal sentiments that accompany the experienced events. The fact is that the younger participants learned about the event from reports of other people, while the older participants had a direct and concrete experience with the event.

Relevance

Because of their distinct historical locations, different defining moments make one cohort differ from its predecessor because it is socialized in a different time period. The imprinted values, attitudes, and preferences are assumed to resist changes in age and in stages of the life cycle. As one cohort tends to react to the previous one, it becomes the driving force for social change (Glenn, 2005). Permanent values imprinted in individuals make them react to new events in a distinct mode (Meredith et al, 2002). As a consequence, cohort analysis has been addressed as a potential tool for segmentation research because the imprinted values, attitudes, and preferences are assumed to resist changes in age and in stages of the life cycle (Noble and Schewe, 2003). Logically, this model strongly appeals to marketers. Cohort analysis includes consumption habits because they may compose a collection of significant events in a historical moment. Furthermore, their influences at any moment will invite different consumer reactions according to the meaning different cohorts attach to them. This has been shown to occur in a variety of consumption habits, such as for soft drinks, music, fashion, personal appearance, and TV stars (Holbrook and Schindler, 1989, 1994; Kitajima and Motta, 2005; Rubens and Motta, 2005)

Brazilian Cohorts

This paper draws on cohort descriptions from published research (Meredith et al., 2002a, Motta, Rossi and Schewe, 2002) on Brazilian cohorts which provide a framework for their pertinent historical context. A brief description of six Brazilian cohorts is presented below:

Cohort I - The Vargas Era (coming of age from 1930 to 1945):

This cohort was named after Getulio Vargas, a charismatic leader who ruled the country with an iron fist amidst two coups d'état and two constitutions. Due to massive, biased, self-promotional governmental propaganda and the exaltation of national values, the people of this cohort developed a strong cult of nationalism as well as a perception of the State as being the solution for national issues. In general, people of this cohort are conservative, religious, plain, and homely.

Cohort II - The Post-War Era (coming of age from 1946 to 1954):

A strong wave of morality swept the nation during this era, and family, church, and marriage were the most valued institutions. Gambling was allegedly prohibited because the nation's moral, legal, and religious traditions were against it. The return to liberalism and the awakening desire for the consumption of goods led “having” to take precedence over the feeling of “being.” Three attributes best describe the people of this cohort today: kind, hospitable, and sentimental.

Cohort III - The Optimism Era (coming of age from 1955 to 1967):

Different scenarios bound together by hopefulness and the belief that Brazil was the “nation of the future” form this cohort with captivating ingredients, such as unprecedented political freedom, increased salaries,

fast industrialization, and euphoria. The middle class identified with the then President's joyful and liberal orientation. The President took advantage of the nation's growing nationalistic sentiment and introduced the notion of sacrifice. Overall, this cohort witnessed the transformation of the concept of democracy into a radical rejection of disorder.

Cohort IV - The Iron Years (coming of age from 1968 to 1979):

This cohort lived through a repressive regime of military dictatorship in which civil rights were significantly reduced, censorship was instituted, and political opposition was not tolerated. Taking advantage of others was praised as a virtue on TV. The harmony of interpersonal relationships was definitely broken, as wariness, suspicion, and cynicism became, for the most part, substitutes for genuine, candid, and honest relations among people.

Cohort V - The Lost Decade (coming of age from 1980 to 1991):

Even though people enjoyed an uncensored atmosphere in this decade, the country was in a period of insecurity. People in this cohort felt frustrated at the failure of economic plans developed to control monetary inflation. They also faced the materialism and the individualism of contemporary Western mass culture. Most people of this cohort felt hopeless, lacked confidence in the political and business classes, and lacked faith in governmental initiatives.

Cohort VI - The Era of Being on Your Own (coming of age from 1992 to present):

The main characteristics found in this cohort are consumerism, the attempt to recover ethical and moral values, and a movement toward globalization. People in this cohort also face a period, which, economically speaking, can be summarized by high unemployment rates and privatization, both of which have been the subject of criticism. The feeling of being on one's own was partly brought about by the mixture of promise and uncertainty about the country's future and by the novelty of the shopping mall and digital generation. Since wealth is synonymous with social and/or political power, spending practices are sound.

METHOD

According to the objectives previously stated, the method followed in this inquiry had two phases. The first phase explored the validity of the Brazilian collective memory for historical events. This phase became necessary because, although there are published studies on historical cohort definitions and memorable events in Brazil, there is no study on the validity of Brazilian collective memory similar to those found in the United States and other countries. If the existence of the phenomenon of collective memory in Brazil is established, then the ensuing implications of cohort analysis will be more sustainable.

A survey preceded by a set of qualitative interviews to determine important events was undertaken with a sample of three most recent Brazilian cohorts: people born between 1951 and 1981 (previously defined, Meredith et al., 2002a). The research is comprised of Brazilians that belong to the top two social classes (named classes A and B) according to a widely used standard called Brazil criterion. Limiting the population to the higher social classes is supported by Brazil's critical economic inequality, which excludes a high portion of the population from participating and understanding the major economic events. Previous studies (Schuman and Scott, 1989) observed that only the groups more directly involved with these changes exhibit the formations of collective memory.

Researchers distributed 810 questionnaires to a convenience sample. Due to the difficulty of prescreening social classes, they had to discard 197 of the returned questionnaires because respondents belonged to a lower social class. In addition, they also discarded 121 questionnaires due to errors in the responses. The researchers were left with 572 usable instruments for analysis from the following cohorts: 202 from cohort IV (born between 1951 and 1962), 179 from cohort V (born between 1963 and 1974), and 191 from cohort VI (born between 1975 and 1981). In regard to gender, 300 respondents were male and 272 were female. Because members of the first three cohorts were over 70 years of age, they were not included in the convenience sample. The respondents were asked to choose three out of sixteen events based on which events made them reflect the most or had the highest impact on their lives. There was also space for including other events the respondents thought were relevant.

The second phase developed an analytical framework to anchor the formulation of propositions concerning the potentially new generational cohort. This framework was based on assumptions and conjectures extracted from numerous studies done in Brazil and the United States about generational cohorts and on the published material

regarding the current economic crisis (the list of sources, such as newspapers, magazines, websites, and reports from government agencies, has been omitted from the reference list because of space limitations).

RESULTS

The first part of the results, which come from the survey, postulate that collective memory of historical events can be associated with pertinent cohorts previously defined for Brazil (see Table 1 for a summary of the results). Predictably, members of cohort IV (born between 1951 and 1962) cited the end of the military dictatorship and the return to democracy as defining moments. Members of cohort V (born between 1963 and 1974) cited the direct election to presidency, the impeachment of Collor de Mello, and the first president directly elected in many decades as defining moments. Finally, members of cohort VI cited the real plan, the plan that introduced a new currency and ended the inflation that lasted for more than four decades, and the advent of the internet as defining moments.

Table 1: Summary of Results – Collective Memory in Brazil

Event	Citations		
	Cohort IV	Cohort V	Cohort VI
Institutional ACT 5 (1968)	51%	30%	19%
Oil crisis of 1979	44%	25%	31%
End of Military Regime	57%	21%	22%
Movement for Direct Elections Now (1983-84)	41%	41%	18%
Death of President Elect Tancredo Neves before taking office (1985)	44%	43%	13%
Introduction of the Internet (1990)	28%	29%	43%
Impeachment of President Collor de Mello, the first president in a direct election in more than four decades (1992)	27%	35%	38%
Introduction of cell phones (1995)	28%	30%	42%
Devaluation of the new monetary unit (1999)	23%	34%	43%
Election of President Lula (2002)	28%	32%	40%

As expected based on the theory of collective memory, the frequency of cited events relates to the respondents' period of coming of age. It is then possible to assume that similar associations will be possible with the defining moments that will breed a new cohort.

The second part of the results shows formulation of propositions concerning the potentially new generational cohort. A synthesis of this analysis is presented in Table 2. A new social fabric may emerge, which will be markedly different from the most recent patterns. The new patterns will be risk aversion, government protection, restrained consumption, and a sense of purpose.

Risk Aversion. A risk taking attitude marks the origins of the current crisis. Many people engaged in risky undertakings, assuming that all probabilities would be in their favor. Recent Brazilian cohorts assumed this attitude (not as much as the recent American cohorts, but with intensity that merits consideration). It resulted from a stable confidence in the country's progress and hope for change. In the present historical location of a deep crisis, however, the rising generation will deplore those attitudes, considering them totally irrational, and will most likely align financial security with risk aversion. Going in the opposite direction may be no less than an immense blunder for this cohort.

As risk avoiders, they will resemble the members of an earlier cohort, who were especially averse to financial risk. The consequences of this attitude are by no means new, because risk-avoidance is used to partially explain the long delay in the recovery of the economy after the Depression both in and out of the United States (Dent Jr., 2008). Although the delay in economic recovery is certainly a shocking assumption for those who are now at the beginning of their formative years, it is indeed a plausible one. This assumption is alarming, as it may lead to attitudes and behaviors that slow progress. Fears of innovation and extreme caution in entrepreneurship may follow and may set up a scenario that no one would like see for the future.

Government Protection. Many members of the emerging cohort will find themselves jobless at may see their parents affected by a significant loss of income. They will soon understand that to be independent and to rely on oneself will not be sufficient for earning a living. The feeling of being unprotected may lead them to claim government protection more than ever before.

Analogously to older cohorts both in Brazil and the United States, this new generation may be motivated to sacrifice personal interests for their country, their families, their religion, or their businesses. Such motivation will lead them to bestow a greater value on community and family. In fact, only people who grew up in a society with a higher sense of community may ever have a true understanding of community. Nevertheless, this seems to be the current trend. The motivation for sacrifice is further fueled because much of the current suffering stems from the idea that it was right to “take advantage of others.” The new generation may blame their predecessors for having diminished the harmony in interpersonal relationships, community, and family life. Accordingly, they may assume that people have to join forces to accomplish social goals, somewhat similar to members of World War II cohorts, both in Brazil and the U.S.

Finally, the negative experiences of their predecessors with regard to employment, stock markets, housing loans, pension funds, and other investments may prompt them to look for a different mode to solve social problems. If they choose to do away with the present state of affairs, they may well see the State as a solution.

Restrained Consumption. Bearing scars of their predecessors’ overspending, the emerging cohort will vehemently question the meaning of the phrase “to live above one’s own means.” Self-discipline in consumption, which is otherwise obviously reasonable, was an illogical argument for their predecessors who experienced a long trend of painless credit and lasting economic growth. The current economic environment has prompted a radical shift in behavior.

Efforts to increase consumption will face resistance by this new portion of the population as they will be more consciousness about spending. They will perhaps not be as conscious as the people at lower income brackets who are already vigilant about such matters. However, values such as performance, ambition, wealth, materialism, success, and competition, as once identified by Hofstede, are not likely to prevail over values like quality of life, warm personal relationships, solidarity, equality, environmental preservation, and caring for others (Hofstede, 1980, 1991, 1994).

Sense of Purpose. The members of this rising generation will reassess the meaning of work, which resembles the attitudes of the Vargas Era (somewhat of a counterpart to the American Depression cohort). If unemployment persists for a long period, work for work’s sake will be the tune.

Granting that the current crisis rests significantly on ethical issues, the feeling of being deceived by their predecessors will impel this new cohort to claim a new platform of honesty and integrity. Because of this, the new generation will bear a resemblance to the Post World War II cohort (Cohort II), which experienced their coming of age after the ousting of a long-time dictator. Reacting to this period, they carried a life long struggle for ethics and religiosity.

In addition, feeling scant prospects for success, the new cohort will not only experience abandonment by older generations, but will likely hold them responsible for their misfortunes. This may cause a generational clash. A person in an individualistic culture has a tendency to disrespect social rules and to make decisions in an independent manner (Roth, 1995). On the other hand, in a collective culture, people live within a collective agreement and are more loyal to groups to which they belong, and thus they expect more protection from these groups (Kagitcibasi, 1997).

CONCLUSION

The following propositions stem from the considerations in Table 2:

Proposition 1: More communal or collective consumer behavior will be cherished as an inevitable result of the current upheaval, which stems predominantly from individualistic and egotistic behavior.

Proposition 2: Distinct value profiles and distinct needs will reinforce values of greater simplicity in lifestyles.

Proposition 3: Consumers will reduce space for luxury labels and products and for personal and portable products that accentuate individualistic, as opposed to collective or family, consumption.

Proposition 4: The imprinted values that nurture a vivid connection between friends and family will affect consumption decisions.

Proposition 5: Marketers will be challenged by the replacement of material pleasure for more human contact.

Proposition 6: Marketers will have to re-learn to praise romance as well as moral tradition and family. At the same time, they will have to deal with the fading of consumption and the loss of consumers' enchantment with superfluous goods.

Proposition 7: Marketers will confront a growing difficulty to learn from a culture of "being" and less from a culture of "having."

Proposition 8: The new consumer consciousness will demand sound moral standards, which means not merely the responsible marketing management propositions of the current generations, but comprehensive ethical management practices in order to gain reciprocity in the marketplace.

Table 2: Potentially New Generational Cohort Behaviors

Negative Experiences in the Current Environment	Shared Values of the Rising Generation	Values Imprinted for Life
<ul style="list-style-type: none"> ▪Corporate Bankruptcies ▪Individual Bankruptcies ▪Bank Failures 	<ul style="list-style-type: none"> ▪Investing is hazardousness ▪Indebtedness is reproachable ▪Fears of innovation ▪Caution in entrepreneurship 	RISK AVERSION
<ul style="list-style-type: none"> ▪Recession ▪Failures in Pension Plans ▪Low Prospect of Success ▪Job Losses ▪National Unemployment 	<ul style="list-style-type: none"> ▪Feeling of being unprotected ▪Greater value for community/family ▪Governmental solutions ▪Group/team cooperation 	GOVERNMENT PROTECTION
<ul style="list-style-type: none"> ▪Substantial Debt ▪Excessive Consumption ▪Excessive Spending 	<ul style="list-style-type: none"> ▪Restraint in consumption ▪Disdain for luxury brands ▪Greater consciousness about spending ▪Living within one's own means 	RESTRAINED CONSUMPTION
<ul style="list-style-type: none"> ▪Deficit of Business Ethics ▪Deficit of Government Ethics ▪Lack of Social Connectedness 	<ul style="list-style-type: none"> ▪Meaning of work ▪Integrity and honesty ▪Rejection of individualism ▪Simplicity in life 	SENSE OF PURPOSE

In summary, the rising generation will enter adulthood facing consumption restrictions that may produce new self-fulfillment values. Marketers could profit by studying a cohort group that experienced similar values in the past. Accordingly, they will understand the importance of generational values in consumer behavior and on management decisions. Cohort values have not only proven to be influential on purchase decisions, but have proven more influential on the course of the economy than demographic factors such as income, education level, and gender.

The propositions above unveil a possible clash between the rising generation and the current generation. The new generation will feel like the victims of a situation where consumer sovereignty will mean fewer choices. They will feel condemned to an environment they undeservedly inherited. Furthermore, as economic upheavals tend to grow more and more similar around the world, the emerging generation of Brazilians will be socializing in a much more global environment than that of their predecessors. Although they will experience events in their own culture and in their own geographic space, a global generation clash is not an inconceivable hypothesis.

The clash with the previous cohort, which abandoned serious ethical behavior in favor of personal advantage, is a result of the new generation's demand for honesty and integrity. It is doubtful whether a new cohort that fosters

such values will allow opportunity for conciliation with their predecessors. They will arrive at adulthood and will find that their future has been sold.

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THE CONSTRUCT OF SUSTAINABILITY ENTREPRENEURSHIP AS APPLIED TO A SOUTH AFRICAN VENTURE

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ABSTRACT

Entrepreneurial ventures are seen as a solution to unemployment and poverty in developing countries. For this reason entrepreneurship stays a relevant topic for academics and businessmen alike. However, growth as associated with such ventures needs to be aligned with the goals of sustainable development; that of not only being focussed on economic wealth but also environmental health and social justice. This paper investigates the construct of “sustainability entrepreneurship” and applies it to a South African business. A qualitative study was done using a case study to show how businesses can stay entrepreneurial while embracing sustainable development practices to the advantage of business, surrounding communities and the environment

INTRODUCTION

One of the challenges for businesses is to establish themselves as entrepreneurial ventures. Being identified as such a venture relays certain characteristics of creativity, innovativeness and a drive towards economic wealth and profit. Another concept introduced to business is that of sustainable development. Combining the two concepts leads to a construct called “sustainability entrepreneurship”.

Sustainability entrepreneurship is a new concept that has been addressed by some authors in the last few years (O'Neill et al. 2009; Tilley and Young 2009). Separating this construct from other terminology seems to be a challenge and some of the characteristics from sustainability entrepreneurship have been linked to the concepts of sustainable entrepreneurship (Mathew 2009) and eco-entrepreneurship (Gibbs 2006) to mention a few.

Sustainable development was first defined by the Brundtland Commission (WCED 1987) as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”, and is acknowledged as comprising an economic, environmental and social dimension. This would seem on the surface to contradict the very essence of entrepreneurship, the aim being creation of continual economic wealth. Milton Friedman (Friedman 1970) stated this very clearly in his article “The Social Responsibility of Business is to Increase its Profits”, showing that profit and price should be determinants for business relationships and not social responsibility. However, business objectives has changed, and customer demand to a great extent determines business practices and values. These are all reflected in the construct under discussion.

The purpose of this paper is to report on sustainability practices in South Africa and the occurrence of the characteristics of “sustainability entrepreneurship” from a developing countries perspective. This will be done by first introducing the concepts of entrepreneurship and sustainable development, followed by a discussion on literature linking the two concepts. We contend that the construct of sustainability entrepreneurship is a real one. A qualitative research approach was followed by reporting on a case study on a South African farm and its practices. Interviews were conducted to determine if the farm can indeed be recognised as an entrepreneurial venture and if they comply with what is seen from a global perspective as sustainable development practices.

This leads to a factual conclusion on sustainability entrepreneurship in developing countries such as South Africa and a discussion on the possibility of including such business practices in other businesses.

RESEARCH METHODOLOGY

A qualitative approach was followed, using a case study to determine if successful sustainable development practices can be found in South Africa. A semi-structured questionnaire was composed to ensure that all aspects of entrepreneurship and sustainable development goals are addressed while still leaving space to report on new developments not foreseen by the researchers. The research questions are: Is the inherent characteristics of an entrepreneurial venture compatible with the goals of sustainable development in a South African context? This leads to a conclusion on the concept of sustainability entrepreneurship and how it can be achieved. It is also important to include reasons as to why entrepreneurial ventures should become sustainability driven.

LITERATURE STUDY

Entrepreneurship is a concept that is well-known and has been discussed since the original writings of Schumpeter (Schumpeter 1934). Various definitions exist, with scholars isolating different aspects of what they believe the definition should include. These include innovative behaviour, strategic management practices, and opportunity recognition (Nieman and Niewenhuizen 2009).

In South Africa, as a developing country, entrepreneurs are seen as primary creators of business and therefore as a solution to the problems of poverty and the high rate of unemployment (Co et al. 2006).

For the purpose of this paper we define an entrepreneurial venture as a business that continues to look out for new opportunities in order to show positive change, contributing to the main purpose of creating economic wealth, while embracing innovative and creative practices and accepting risk in the process of combining the required resources in the light of possible sacrifice and short term failure.

Sustainable development started as a discussion mainly focussed on environmental issues. Investigations into sustainable development started during the late 1960s in the United States of America (USA) and this had a role over effect on the rest of the world (Beaver 2000). There was a shift in government and society when they started to realise that the environment, economy and social well-being was interconnected. The interconnection between these three elements was acknowledged by the 1987 World Commission on Environment and Development (WCED). The commission recognised the limitations imposed by the state of technology and social organisation on the environment's ability to meet society's needs and stated that the essential needs of the world's poor should be given overriding priority (Blignaut 1995).

Since the inception of the WCED, conceptualisation of the term, sustainable development had an important influence and helped shape the political, social and environment landscape in which businesses operate (Bonnal et al. 2002). This resulted in the 1992 Earth Summit where business leaders, politicians and Non-Government Organisations (NGOs) widely accepted that because environmental sustainability, economic growth and social equity are interlinked, none of them can be solved without solving the other two (Barrow 1997). However, providing one accepted definition still seems illusive. (Labuschagne et al. 2005), states that "the concept of sustainability is understood intuitively, but it remains difficult to express it in concrete, operational terms".

The Brundtland report also paved the way to the 2002 Earth Summit that took place in Johannesburg, South Africa; very apt as this was a country in the throes of political change and widespread human rights changes directly related to the concept of sustainability.

Sustainability from an Environmental view

The discussion on sustainable development was for a long time mainly focussed on the environmental element. In the late 1990's, there was a change and authors such as (Elkington 1998) started to stress Planet, People, Profit (PPP).

A new developing concept is that of eco-entrepreneurship. However, this refers not to sustainability or sustainable business practices, but more towards starting and developing businesses within the eco-industry. In order to be truly sustainable these practices must be linked not only to environmentally conscious practices and activities, but also to economic and social practices. In order to be an environmentally sustainable entrepreneur, the business person must have some system, policy or procedures in place to minimise the negative impacts

his/her business has on the environment. One way to ensure such practices, can be by incorporating ISO9000 and complying with other reporting initiatives like GRI or business criteria like Globalgap.

The problem is that many smaller entrepreneurs cannot afford the compliance costs involved with systems like ISO 9000 and reporting initiatives, while the bottom line will always remain the realisation of a profit.

In South Africa it is voluntary to conform to ISO 14001, but legislation has been promulgated to transfer the burden of proof regarding environmental management, to organisations. Furthermore there are various other pieces of legislation such as the National Environmental Management Act 107 of 1998, Protected Areas Act 57 of 2003, Biodiversity Act 10 of 2004 and Air Quality Act 39 of 2004. It must be mentioned that most of these are industry related.

An example of entrepreneurial thinking within the sustainability debate is recognised by an extract from the Harvard Business Review, in the early 1970's that ran a ground-breaking article arguing that the 'ecology movement' can supply lucrative new markets for business expansion rather than merely being a drain on economic activity (Quinn 1971). According to (Elkington and Burke 1989), innovative business solutions can be used to improve the environment and to provide the basis for new business prospects unseen by mainstream firms. This line of thinking was followed by other authors (Bennett 1991; Berle 1991; Blue 1990) in the early 1990s that lead to a more explicit examination of environmental entrepreneurship. Terms such as 'environmental entrepreneur', 'green entrepreneur,' 'eco-entrepreneur' and its derivation 'eco-preneur' were developed. There seems to be uncertainty in academic circles regarding the use of concepts like environmental entrepreneurship, eco-entrepreneurship, green entrepreneurship and sustainable entrepreneurship, thus creating the need for further discussion on terminology.

Sustainability from an Economic view

Most of the researches on business sustainability focus on economic sustainability. Traditionally the blueprint for business success has been to maximise your profit while at the same time provide a productive environment and job security for your employees as well as to supply customers with products or services at a price they are prepared to pay (Armour 1991). (Asiedu and Gu 1998) explained that businesses viewed themselves as an island or a castle and that outside interest should not prescribe to it. Following this line of thinking (Azapagic and Perdan 2000) argue that although businesses made philanthropic contributions to society since the early 19th century, social problems were considered the responsibility of government and society in general, because "the business of business is business". This is also reflected in the quotation from Friedland, as mentioned in the introduction.

Drivers in achieving sustainability outcomes from an economic perspective include international and national initiatives; support, pressure, pull and push factors. Table 1 indicates some of these initiatives. From a national perspective, an example of pressure is included in the King Report; this report lead by Judge King, investigated local/national governance issues related to sustainable development. International financing and international trade agreements also contribute to economic decision making.

Table 1: Drivers for the incorporation of business sustainability

		Push	Pull	Support
Pressure	Push	<ul style="list-style-type: none"> International Financing Corporations e.g. World Bank Investors looking for evidence of good corporate governance and effective management of risk Social responsibility Investment Evaluations (eg. Dow Jones SI and JSE) Employees 	<ul style="list-style-type: none"> Sustainability Reporting International trade agreements International Actions e.g. Global Compact Customers expecting proof of SA 8000 certification requirements 	Pull

<ul style="list-style-type: none"> • King Report • Civil society expectations • International Standards and guidelines • Introduction of sustainable development into government policies and other Government's actions 	<ul style="list-style-type: none"> • Corporate Social Responsibility Performance Frameworks • Sound Corporate Governance • Sustainable Development Frameworks • Responsible Care Principals
Pressure	Support

Sustainability from a social view

Most scientific discussions of the social dimension trail into further discussion of economic and environmental aspects of sustainability. Sustainability therefore needs to be more clearly defined in terms of the social aspect of the definition. The other reality is that social sustainability has various dimensions; depending on the different scientific fields, continents and countries. The social dimension of sustainability as applied to a business, concerns the businesses' impacts on the social environment in which it functions. The social environment encompasses the workplace, local or community life, as well as the impact that the business has on national and global level. The GRI have compiled Social Performance Indicators in line with documents and treaties such as the ILO Tripartite Declaration Concerning Multinational Enterprises and Social Policy, OECD Guidelines for Multinational Enterprises and other ILO Conventions and United Nations Universal Declaration of Human Rights.(GRI 2002)

This paper focuses on all three dimensions of sustainability, yet it is important to address social sustainability as a concept that forms an integral part of Southern African way of life. One concept that addresses this importance is that of Ubuntu. Ubuntu is a basic belief or value of *motho ke motho k batho ba bang*, which directly translated means "a person is a person through other people", emphasizing the importance of community. Ubuntu is a concept that represents the core values of African life: respect for another human being, for human dignity and human life, collective sharedness, obedience, humility, solidarity, caring, hospitality, interdependence, and communalism. It reflects values of being sympathetic, caring and sensitive to the needs of others, being respectful, considerate and kind (Kamwangamalu 1999). The cardinal belief of Ubuntu is that a man can only be a man through others (Mbigi and Maree 1995). The effect of Ubuntu is a value that defines and controls an individual, to the extent that such an individual owes his/her existence to the existence of a group (Kamwangamalu 1999). The very essence of Ubuntu unfortunately also has a dark side: failure to meet the expectations of this value leads to harsh punitive measures which include burning of property and assassination (Blankenberg 1999). Summarised it boils down to "in African culture the community always comes first"(Venter 2004). The former president of South Africa, Thabo Mbeki, explains it as a way of being that is deeply embedded in the African culture. This emphasises how important this aspect of sustainability is in the South African context and is reflected in businesses by worker expectation of employer provisions.

The activities of entrepreneurs in the social environment and their organisations are no longer viewed as less important when compared with the activities of commercial entrepreneurs; rather they are perceived to have a greater than ever role to play in contemporary society (Farmer et al. 2008). According to (Mair and Marti 2005) even though the field is becoming one of growing academic enquiry, questions arise over the terminology, with both "social entrepreneur" and "social entrepreneurship" criticised as being inadequately defined concepts and their connection with commercial entrepreneurship being scrutinised.

Having discussed all three pillars of sustainable development, it must be said that the role of entrepreneurship in resolving environmental, social and economical challenges is emerging as debatable subject. Conventional theory from environmental and welfare economics, for the most part argue that the market failures inherent in the economic system prevent entrepreneurial action from solving environmental problems, and in reality

frequently motivate environmentally degrading entrepreneurial actions (Pigou 1932) (Tietenberg 2000) (Cropper and Oates 1992) (Bator 1958). In contrast, some authors endorse entrepreneurship as revenue for resolving failure in the markets. (Coase 1974) (Buchanan and Faith 1981) (North and Thomas 1970) (Demsetz 1970) and, more specifically, environmental issues (Anderson and Leal 2001, 1997) (Dryzek 1997) summarises the areas of consensus: “Economic growth should be promoted but guided in ways that are both environmental benign and socially just“ The sustainability entrepreneurial venture is thus a business recognised within the definition of an entrepreneur, while achieving its main purpose of creating economic wealth and profit, together with advancing environmental health and social equity. It must be stated that sustainability entrepreneurship differs from sustainable entrepreneurship in that sustainable entrepreneurship refers to entrepreneurial practices that are successful in the long term, but does not necessarily embrace sustainability (as discussed under sustainable development) practices.

CASE STUDY

ZZ2 is an agricultural enterprise operating in Mooketsi, Politsi, Polokwane and Musina in the Limpopo Province, Ceres and Riebeeck-Wes in the Western Cape and Langkloof in the Eastern Cape. It was registered as a private company in 1966. The ZZ2 brand is a well known icon in South Africa and has a proud history. When the Anglo Boer War ended in 1902 a measure was introduced whereby farmers would get a registered number to brand their cattle. Burt van Zyl, grandfather of Bertie van Zyl - considered the founder of the ZZ2 farming enterprise – registered the brand number ZZ2 in 1903. The brand has migrated over time from a cattle brand to a brand representing all of ZZ2’s products. ZZ2 currently produces tomatoes, onions, avocados, apples, pears and stone fruit. It also has a sizable herd of cattle. In terms of the tomatoes ZZ2, grows them, packs them and transports them to the National Fresh Produce Markets around the country. A small percentage of the tomatoes are supplied directly to the supermarkets via an off-market agent.

ZZ2 does not only produce for the local market, but also exports avocados to Europe, the UK and Scandinavia. They export apples, pears and stone fruit to Europe, the UK, Canada and the Far East. This means that the business is exposed to various risks. Climate is probably the biggest risk. Too much rain, drought, frost, hail, wind and storms invariably impacts on crops and quality of produce. Global warming is having an ever increasing effect with changing weather patterns. Diseases and pests are also a considerable risk. Another risk involves capital expenditure as operations the size of ZZ2 require considerable financing. Changes in the external environment like interest rates, exchange rates and the global economic crisis affect consumer spending patterns and could also negatively affect the business.

Consequently, according to ZZ2 “the only constant at ZZ2 is change”. It is a very dynamic company not averse to change and although it is not looking to increase the number of hectares it plants, it is focussed on improving yields (both in terms of tonnage and in terms of quality). Technology plays an important role at ZZ2 and a number of pre-eminent scientists regularly assist ZZ2 with matters relating to soil health, pests and diseases. They constantly strive to improve their systems, agricultural practices and management methods. Entrepreneurship within the company is encouraged.

“We are never content with what we are doing; opportunities are always sought especially when it comes to improving processes and systems”. A good example here is cultivar choice; at any one time ZZ2 has 30 different cultivars planted that it is doing trials on. Business opportunities are also sought and thoroughly analysed for their viability.

Even though ZZ2 is an economically viable business, they have to contend with challenges found in the South African context. Government support is limited and contrary to most western countries, South African farmers do not receive subsidies. Other problems are related to changing weather patterns, shortages of water, high interest rates, the global economic slowdown and imports becoming more expensive with the weakening of the Rand (the South African currency). This forces them to embrace new innovative practices on a business and farm management level. One example is “Natuurboerdery®”, directly translated as “nature farming”. *Natuurboerdery* is an approach to commercial farming that aims to harness the laws and energies of natural ecosystems for healthy and sustainable crop production without sacrificing the benefits of technology and science. Since 2002, the ZZ2 farming enterprise implemented a programme for the gradual conversion of all its farming activities, including tomato, onion, avocado and apple production, from a predominantly conventional chemical to a more ecologically balanced nature farming approach. Micro-nutrient adjustments are based on soil chemistry and regular sap analysis. In this way ZZ2 is a frontrunner in its field. It has a sizable share of the

tomato market and very few growers have been able to make the technological move to nature farming as ZZ2 has done.

From the above it would seem that ZZ2 is indeed an economically healthy business. However, sustainability issues are also addressed. The business employs in the region of 8000 employees at any one time. The workforce is made up of a combination of seasonal and full time employees who are all employed in full compliance with all the relevant labour legislation. This means that as a minimum standard, they comply with health and safety issues, minimum wages and basic social provisions. In addition to national legislation they also provide added social benefits. ZZ2 contributes to the funding of the primary school on its premises in Mooketsi and works in close co-operation with the Department of Education. They finance and manage 13 crèches for the children of employees where educational programmes are run and balanced meals are provided. There are two clinics on the farms with qualified nursing personnel and a doctor visits once a week. Mobile clinics visit the outlying farms. ZZ2 has two of its own ambulances to transport patients. A number of educational programmes are run to inform employees' about health-related matters. Examples include cholera and HIV programmes. All of this takes place while working closely with the Department of Health, indicating an awareness of the importance of stakeholder involvement and communication. Both permanent and seasonal employees receive the same benefits. Housing, water and electricity are provided. ZZ2 also facilitates a life policy for all employees. This is quite remarkable, as none of these benefits are compulsory in the South African context

ZZ2 also takes part in sustainability partnerships; together with the Makgato Community Property Association they are partners in the Munnik Conservancy. ZZ2 and the PHEEA Communal Property Association consisting of some 450 families are involved in the Diphiring Conservancy. Sports days including touch rugby, soccer and volley ball are held on the premises, to encourage healthy social activities. This indicates ZZ2's acknowledgement of the importance of their staff component and their social responsibility. From a development perspective they provide staff with the opportunity to "work and promote development of skills, mutual loyalty and respect while expecting performance and promoting the development of human potential". This also leads to performance rewards with respect to competency, ability and mastery of techniques and technologies. ZZ2 also encourages open communication and consensus, while "we commit ourselves to fair labour practices, terms of employment, equal employment, elimination of discrimination, and safe and healthy workplaces".

The *Natuurboerdery* project is aimed at protecting the environment while at the same time providing healthy nutritious food. ZZ2 "probably has more land dedicated to environmental and conservation projects than it actually farms". They want to "utilise the working environment responsibly by conserving and using resources sustainably; to manage nature sustainably and; to protect the diversity of our natural and cultural heritage and encourage symbiosis". *Natuurboerdery* within the ZZ2 context implies a balanced approach towards the chemical, physical and biological components of fruit and vegetable production systems. An approach to ensure long-term sustainability has been implemented and involves balancing the mineral elements of the soil, increasing organic components in the soil, improving soil microbial life and diversity, managing pests and diseases and an integrated water management policy.

As an agricultural exporting business, they are compliant with GlobalGap, Tesco's Natures Choice (including ETI and SEDEX requirements), HACCP and Fairtrade, private regulation business criteria systems focussed on ensuring sustainability practices. From a local perspective they comply with Woolworths Hygiene and Ethical audits.

FINDINGS

Table 2 shows a comparison of indicators of an entrepreneurial venture and that of sustainable development practices, with reference to practices found on the farm used in the case.

Table 2: ZZ2 practices and indicators of sustainability and entrepreneurship

ENTREP RENEU	Important indicators	CASE STUDY
	Continues to look out for new opportunities	<ul style="list-style-type: none"> • "We are never content with what we are doing; opportunities are always sought especially when it comes to improving processes and systems".

		<ul style="list-style-type: none"> • “Business opportunities are also sought and thoroughly analysed for their viability”.
	Positive change	<ul style="list-style-type: none"> • “the only constant at ZZ2 is change”. • It is a very dynamic company not averse to change and although it is not looking to increase the hectares it plants it is focussed at improving yields (both in terms of tonnage and in terms of quality)”.
	Creating economic wealth	<ul style="list-style-type: none"> • “...ZZ2 is an economically viable business”
	Innovative practices	<ul style="list-style-type: none"> • Natuurboerdery®
	Accepting risk	<ul style="list-style-type: none"> • “Another risk involves capital expenditure as operations the size of ZZ2 requires considerable financing”.
SUSTAINABILITY PRACTICES	Economic sustainability	<ul style="list-style-type: none"> • “...ZZ2 is an economically viable business” • The business employs in the region of 8 000 employees at any one time. • Produce for the local market, and export
	Social sustainability	<ul style="list-style-type: none"> • “Sustainability partnerships” • “...finance and manage 13 crèches for the children of employees” • “...contributes to the funding of the primary school” • “...two clinics on the farms” • “...educational programmes” • “Housing, water and electricity are provided”
	Environmental sustainability	<ul style="list-style-type: none"> • <i>Natuurboerdery</i> • ZZ2 “probably has more land dedicated to environmental and conservation projects than it actually farms”. • Organic products have been considered and the <i>Natuurboerdery</i> is based on organic principles. • GlobalGap, Tesco’s Natures Choice (including ETI and SEDEX requirements),

Sustainability entrepreneurship is found in South Africa. ZZ2 is a very good example of how sustainable development practices can be followed by an entrepreneurial venture, leading to positive change for the business (in terms of profitability) and also long term sustainable change to communities and the environment.

CONCLUSION AND MANAGEMENT IMPLICATIONS

The fundamental purpose of entrepreneurship is profit driven; this had the effect that economic prosperity was initially the only focus of entrepreneurial ventures. This has, however changed since the Brundland Report and more and more business ventures start focussing on environmental and social issues. The question still asked is whether the change in focus impacts negatively or positively on the bottom line and more empirical research is necessary to address this question and provide clarity in order to motivate more entrepreneurs to start with

sustainability practices. More *consciously* driven consumers grouping together and putting pressure on producers to change to more holistic sustainable business practices is a reality for global businesses. The challenge facing new and established entrepreneurial ventures is to set the goals for social and environmental sustainability in line with economic goals.

Worldwide, the progress toward “sustainable development” has caused firms to implement policies and practices that reflect what is called a “triple bottom line” approach (economic, social and environmental performance) right through their operations and supply chains to demonstrate fiduciary responsibility. These strategies also enable innovators to differentiate themselves, reduce risk, and position themselves for future competitive advantage over competitors less attuned to trends. Triple bottom line philosophy and sustainable business models have become an imperative part of the corporate leadership agenda with progressive and entrepreneurial firms.

Until very recently, environmental issues uniformly were considered peripheral to the core of business. They were viewed as the responsibility of environmental managers and an unfortunate source of additional overhead expenses. Since business’s role in the sustainability challenge cannot be ignored, business should start addressing the sustainability issue. Because of the nature and complexity surrounding sustainability, businesses can’t do this on their own. According to the 2002 World Summit, the three pillars of the tripartite world; business, government and society will have to work together in partnership to solve the challenges and to achieve true sustainable development. This can already be seen from the practices by ZZ2 as related in the case study. It is evident that successful entrepreneurial ventures can follow sustainability practices, contributing to surrounding communities and the environment while still achieving positive change and growth. This is essential, especially in developing countries where poverty and unemployment is rife.

Some management implications are:

- Positive change can be brought by following sustainability practices
- Partnerships are a solution to share costs while at the same time, still achieve social outcomes for business stakeholders like employees and surrounding communities.
- Sustainability entrepreneurship is a real construct that must be embraced by growing businesses.

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THE COMPILATION OF MATH PATTERN FOR PRODUCTIVITY OF MANAGERS' SERVICES BASED ON ORGANIZATIONAL CLIMATE IN IRAN

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ABSTRACT

The main objective of the present study is to investigate the relationship between organizational climate and the productivity of managers' services and determining math pattern for productivity based on organizational climate. The population of the research consists of managers who work in Educational, Public Services, Industrial, Higher Education, Tax and Charity Organizations. 1181 managers and 3547 staff were selected. The research tools were the questionnaires of organizational climate (Litwin & Stringer, 1968) and productivity (Smith et al., 1998). The results of applying the analysis of multi-variation regression are as follows:

*A) There is a relationship between the organizational climate and the productivity of the managers' services.
B) The math pattern for the productivity of the managers' services in Educational, Public Services, Industrial, Higher Education, Tax and Charity organizations based on organizational climate are as follows:*

1) Productivity = $0.64 \times \text{organizational climate} + (-22.62)$

2) Productivity = $0.73 \times \text{organizational climate} + (-15.825)$

3) Productivity = $0.65 \times \text{organizational climate} + (-29.19)$

4) Productivity = $0.85 \times \text{organizational climate} + (-11.219)$

5) Productivity = $0.66 \times \text{organizational climate} + (-10.04)$

6) Productivity = $0.63 \times \text{organizational climate} + (-15.74)$

INTRODUCTION

Tendency toward completeness is one of the human being's characteristics, and it has been considered as the most important factor which has made him progress in the history of his lifetime. Productivity is also one of the indexes of achieving completeness in manmade systems and human being's intentional activities. From the very beginning, the origin of attempt to promote productivity has been the human being's nature which has tendency toward completeness, and nowadays, regarding the increasing shortage of resources as well as increasing competitiveness in world economy, it is necessary to promote productivity in all aspects of life. Different countries try continuously to increase their national, industrial, commercial, and educational productivity levels. They attempt to promote their productivity by applying different management methods. Managers have an important role in increasing productivity.

Hersey and Blanchard (1988) believe that the role of the manager or leader of an organization is significant because he confronts all environmental variables which are around him. Managers should enjoy eminent characteristics and utilize studies and research findings related to management in order to apply suitable methods regarding the organization situation. They should also provide a favorite organizational climate in order to pave the way for achieving the organization goals.

LITERATURE REVIEW

According to French et al. (1985) the organizational climate of a collection has a direct and steady relation with the perception of the organization members about its cultural features. This perception affects the people's feeling, attitude, and behavior in their workplace. Boulden (1992) also believes that the organizational

climate is an environment in which people work and it is a reflection of staff attitude and the style of organization management. The organizational climate consists of a system of value which defines what the method of doing something is and which behaviors are acceptable. According to Schneider (1990), the organizational climate has been broadly defined as the common perception of policies, activities, and organizational procedures either formal or informal which members can observe them. According to Owens (1991), the concepts of both organizational culture and organizational climate are structures which deal with the same fact, and the people's behavior in organizations is not the result of interaction with the direct and tangible event, but it is the result of interaction with the intangible powers in the environment.

The organization size is among the effective structural factors which affect organizational climate. The results of a study show that in smaller organizations, there is a more open and truthful environment as well as a friendly organizational climate. In addition, the professional status of an individual in the organizational hierarchy can affect his perception of organizational climate (e.g. Steers, 1977; Sofianos, 2005; Erbsich, 2004; Fouts, 2004). The study carried out by Burns and Stalker (1961) shows that the repetitive technology like production line causes a kind of organizational climate which is inflexible rule based; therefore, the staff innovation noticeably decreases. There is little information about the effect of the organization external environment on its internal environment. Nevertheless, the environmental changes can affect organizational climate. For example, in economical conditions, the organizations may have to fire some of the staff, and this makes the staff feel that the organizational climate is threatening and not supportive (Ekrami, 2002). There are a lot of studies (Seraj, 2005; Karami, 2005; Wilson, 2005; Durcikova, Galletta & Butler, 2004; Lambert, 2004; Fouts, 2004; DeMeritt, 2005; Jackson, 2005) which confirm the effect of management policies and activities on organizational climate. For instance, it has been known that the following factors cause staff to take responsibility in achieving the group and organization goals: presenting feedback to the staff, individual independence, job identification, paying attention to environmental changes in the work place, fixing staff in suitable posts, salary, relation, reward, and encouragement.

Cherrington (1989) believes that the factors affecting organizational climate include management values, leadership style, economical situation, organizational structure, staff's characteristics, forming unions, organization size, and work nature. According to French et al. (1985), available theories and the results of studies which have been done, are not enough for introducing the best organizational climate. Litwin et al. (1968) state that it is meaningless to tell the manager how to manage things. The manager chooses a climate that is necessary for highly favorable performance. The manager first gathers the related information (about the gap between the favorable climate and the present climate in his unit), then he chooses the programs and operations needed for reaching such a climate. Steers (1977) believes that if the organization goal is to achieve favorable feedback and performance, the climate that is tending toward success will be more suitable; while if the organization wants to satisfy its staff, a friendly climate will mostly suit it. The results of a study done by Timm and Peterson (1986) show that there are factors like trust, shared decision making, listening to the reports made by high level people, and attending to the high performance goals in a strong organizational climate .

In a study, Halpin and Croft (1963) identified six kinds of organizational climate which are on a continuum. Moran and Volkwein (1992) quote these as follows: open, closed, autonomous, controlled, paternal, and familiar. In the field of searching and investigating organizational climate, Likert also has presented the diagram of organizational characteristics called "profile of organizational characteristics" (POC) which contains eight dimensions of the fundamental characteristics of an organization. Regarding his theory of the four management systems, these dimensions consist of leadership process, motivating forces, relation process, penetration-interaction process, decision-making process, the order of goals, the process of supervision and achieving educational goals (Gibson et al., 1973). In addition, Stern and Steinhoff have presented another formulation of organizational climate (Steers & Porter, 1979). Stern like Halpin believed that the human personality can be compared to the personality of an organization. He, based on the studies of Henry A. Murray, a psychologist, took the concept of "need-press" as a factor which forms the human personality. Murray believed that the personality is the result of dynamic interaction between (internal) need and press (Owens, 1991).

After carrying out a great number of studies, Litwin and Stringer (1968) compiled a fifty-item questionnaire for organizational climate which introduced nine indexes. The given indexes are as follows:

1. Structure: The staff's feeling towards the posed stress due to organizational atmosphere, rules, policies, procedures, and rigid official regulations.
2. Responsibility: People ought to feel that they are responsible of their own decisions not in a way that whatever they do should be checked by their supervisors.
3. Reward: The feeling of the staff towards rewarding the good performance, fair payment, and achievement policies.

4. Risk-taking: The feeling of challenge in work and organization; is well-considered risk-taking is encouraged or the safest way is to do your duty?
5. Warmth: The feeling of warmth and kindness in the workplace and the development of informal and friendly groups.
6. Support: The feeling of help and cooperation among the staff and the managers and emphasis on face-to-face support.
7. Standards: To give priority to goals, and norms of performance; emphasize on carrying out the duties properly; accepting challenge for individual and group goals.
8. Conflict: The managers and staff's tendency to hear opposite ideas and views; the emphasis on settle the conflict instead of avoiding or ignoring it.
9. Identity: The attachment feeling of the individual towards the organization and that he considers himself an effective member of a working team.

Litwin and Stringer have showed that the leadership style is among the factors that affect organizational climate. In addition to this, there are stable evidences of the relationship between organizational climate and other factors like emotional intelligence (Rogers, 2005), organizational learning (Jimenez, 2004), and job satisfaction (Stevens, 2005). Therefore, in order to fully achieve the organizational goals, the managers should supervise the organizational climate and create a suitable work environment to increase the productivity of the organizations.

The word “productivity” was posed by Quesnay for the first time in 1776 (Sumanth, 1998). In 1776, Adam Smith mentioned his ideas about work productivity, assigning of work tasks and specialty for profit rise, reducing tiredness, growing use of technology (Nayudamma, 1980). Regarding the concept of productivity, Smith refers to efficiency and specialty and believes that work should be assigned based on the people’s efficiency and productivity. Economists like Sinver defined productivity based on the worker’s physical, mental, rational and intelligent quality as well as his physical and mental power and skill. But the revolution in productivity has been done by Taylor from (1881) which can be considered as the history of formal and scientific studies about the productivity management (Taylor, 1947). In the 19th century, Litter defined productivity as the power of production (Sumanth, 1998). Mahoney (1988) believes that productivity includes efficiency, effectiveness, and change. In addition, scientists like Mescon et al. (1986), Boone and Kurtz (1991), Monga (1997), Robbins (1991), Ranftl (1989), Koontz et al. (1986), Stoner and Freeman (1992), Schermerhorn (1989), and Landel (1986) believe that productivity includes efficiency and effectiveness of performance, and increase in the productivity level in an organization is the result of the efficiency of management which equals Wright (1989) summarizes the obstacle which exists in the route of reaching productivity as follows: lack of direction, weak organizational structures, the systems of payment and management. In other words, the management of productivity is the programming process, coordinating and monitoring the productivity program in the organization. A productive manager is a person who takes responsibility for doing important tasks (Lam & Ngee, 1987). Kopelman (1986) considers environment, the features of the organization, work characteristics, and individual characteristics as the four main factors which affect productivity.

“The International Organization of Work” has divided the factors which affect the organization productivity into two main groups:

A. External factors (uncontrollable): Those factors which affect the organization from outside and they are not under the control of people or managers of that organization. In order to improve the performance of the organization, the external factors affecting the organization management and efficiency should be pinpointed and the organization should adapt itself to the changes of these external changes. These factors include financial rules and regulations, international politics, tax rules and statements, political, economical and social relations and factors.

B. Internal factors (controllable): These factors are under the control of people and managers of the organization. They can be used to promote the productivity of the organization if the contemplative managers apply them correctly (Prokopenko, 1992).

In his investigations, Sumanth (1998) has found seventy different ways by which managers can promote the productivity of organization. These ways have been classified as five main groups based on technology, human resources, product, work (process), and material. This classification includes all ways based on the engineering of traditional industry, market (buying and selling), controlling systems, research on operation, computer engineering, management, psychology, behavioral sciences, and so on. Studies show that productivity has meaningful relationship with the factors that follow: the styles of leadership and supervision (Foroutan, 2005; Akbari, 2005; Engle, 2004; Poxes, 2004), the quality of work life (Karimvand, 2004), managers’ education (Zamani, 2004), observing the principles of human relations (Chenari, 2004), emphasizing on team work (Chiu,

2005), managers' thought styles (analytic) (Rahmati, 2005), organizational climate (Barari, 2005), managers' entrepreneurship (Hosseinzadeh, 2005).

Compiling a questionnaire for measuring the productivity, Smith et al. (1998) refer to the following issues: the existence of effective relationship among people, fair decision-making in the organization, The interest and readiness of people to discuss educational programming and subjects, supporting the new staff, the usefulness of public gathering, the mutual respect between staff and managers, encouraging staff to offer genuine thoughts, letting the staff state their ideas regarding the programs for improving the staff's status, the staff participation in decision-making, offering a clear perspective of the future by the management team, Devoting appropriate to in order to raise the staff's status, the staff's interest in working in their organization, devoting time to pose important issues in the meetings, discussing the degree of staff's attainment of goals, and appreciating those who work precisely and enthusiastically.

Regarding the ideas of the scientists like, French (1986), Hunsaker (1986), Boulden (1992) and Ekvall & Ryhammer (1998) who have emphasized on the importance of organizational climate and its role in increasing the productivity of organizations as well as the related studies done by Baumgardner (1988), Litwin & Stringer (1968), Vaughan (1983) and Witt (1985) which show that there is a relationship between organizational climate and productivity, the researcher of the present study is going to investigate the relationship between organizational climate and productivity in some of the organizations in Iran in order to identify the effect of the nine factors of organizational climate on productivity of the managers' services in the organizations while he takes the different environmental, economical, political and social factors into account.

The importance of the organizational climate factor as one feature of the organizations' environment and its effect on the productivity of the managers' services has made the researcher pose the following research questions:

1. Is there a relationship between organizational climate and the productivity of the managers' services?
2. What is the math pattern for predicting the productivity of the managers' services based on organizational climate?

The purpose of the present study is to find whether there is a significant relationship between the organizational climate and the managers' productivity. The second concern of the study is to find whether there is a mathematical pattern for predicting the managers' productivity in Educational, Public Service Industrial, Higher Education, Tax and Charity Organizations based on the organizational climate.

RESEARCH METHODOLOGY

In this research, the statistical population includes headmasters of all high schools in 20 Zones of Tehran city, the managers of different official departments in Public Services of eastern Tehran province (including 5 towns), the managers of National Company of Petro-Chemical Industries (including 14 companies), the Management of Development, managers of different sectors in Islamic Azad University, Zone 8 (including 19 branches), Tax managers of Tehran province (including 24 towns), Charity managers of Tehran province (including 10 towns). Based on the nature of research, it is necessary to ask each manager's three staffs or teachers to give their comments about the organizational climate and the productivity of the managers' services.

Two hundred and eighteen High School headmasters, 52 managers of Public Services, 349 managers of National Company of Petro-Chemical Industries, 200 managers of Islamic Azad University, 208 managers of Tax organizations and 154 managers of Charity organizations were randomly selected using the following

formula: $n = \frac{z^2 (\delta^2)}{d^2}$. The research sample was based on the managers' population, but the questionnaires were

given to three staff who were under supervision of each manager. In other words, the whole sample was as follows: $[(218 + 52 + 349 + 200 + 208 + 154) \times 3] = 3624$

The questionnaire of organizational climate designed by Litwin and Stringer which includes 50 items with four options [the questionnaire has nine dimensions: structure, responsibility, reward, support, risk taking, warmth, standard, conflict, and identity], and the questionnaire of the productivity of managers' services designed by Smith, Stole, and McCall which includes 17 items with 5 options (all items assess the productivity factor and refer to the efficiency and effectiveness of the managers' performance). At first, the questionnaires were distributed randomly among some staffs who were under the managers' supervision. Then, the probable ambiguities and problems were removed or clarified. Finally, the questionnaires were adjusted and administered. Based on the calculations done, the coefficients of Cronbach's Alpha, which are the indexes of the items internal

similarity, in Educational, Public Services, Industrial, Higher Education, Tax and Charity organizations for organizational climate were 0.76, 0.97, 0.89, 0.71, 0.77 and 0.77 respectively. The indexes for productivity of managers' services were 0.95, 0.88, 0.94, 0.88, 0.81 and 0.89 respectively.

RESEARCH FINDINGS

Tables 1 to 6 present the statistical characteristics of the distribution of some variables in educational, industrial, higher education, tax, Public Services and charity organizations.

Table 1: The subjects (managers group) in terms of the variables of sex, education, field of study and years of service in sample group (n=218) in Educational organizations

female	male	Diploma, Associate Diploma	Post graduate	Master/ Ph.D.	Engineering	Basic Sciences	Humanities	Service Less Than 15	Service 15-22	Service More than 23
99	199	15	177	26	84	42	92	62	105	51

Table 2: The subjects (managers group) in terms of the variables of sex, education, type of work (job) and years of service in sample group (n=349) in Industrial organizations

female	male	Diploma, Associate Diploma	Bachelor /Post graduate	Service Less Than 10	Service 10-20	Service 20-30	Service More than 30	Official/ staff	Operational
8	318	41	285	63	155	91	17	105	221

Table 3: The subjects (managers group) in terms of the variables of sex, education and years of service in sample group (n=200) in Higher Education Institutions

female	male	Diploma	Post graduate	Master / Ph.D.	Service Less Than 5	Service 6-10	Service More than 11
72	128	77	101	22	60	109	31

Table 4: The subjects (managers group) in terms of the variables of sex, education and years of service in sample group (n=208) in Tax organizations

female	male	Diploma, Associate Diploma	Post graduate	Master / Ph.D.	Service Less Than 5	Service 6-10	Service More than 11
30	163	55	115	23	20	75	95

Table 5: The subjects (managers group) in terms of the variables of sex, education and years of service in sample group (n=52) in Public Services

female	male	Diploma, Associate Diploma	Post graduate	Master	Service Less Than 5	Service 6-10	Service More than 11
143	15	121	35	2	87	57	14

Table 6: The subjects (managers group) in terms of the variables of sex, education and years of service in sample group (n=154) in Charity organizations

female	male	Diploma, Associate Diploma	Post graduate	Master	Service Less Than 5	Service 6-10	Service More than 11
22	131	73	69	7	13	46	85

In the present study, to answer the research questions, the Linear Multi-Variation Regression has been used by applying SPSS software.

The present research has been carried out based on the different scientists' ideas and the previous studies which have shown that there is a relationship between organizational climate and productivity. However, the researcher has been determined to find the extent to which the independent variable (organizational climate) as well as its different dimensions predict the dependent variable (productivity); therefore, he has applied the multi-variation regression. Besides, it should be mentioned that the obtained data have been quantitative (scale) and the data distribution has been normal and of metric kind.

Tables 7 to 12 present the summery of the coefficients of multi-variation regression related to the 9 dimensions of organizational climate which affect the productivity of the managers' services in educational, industrial, higher education, tax, Public Services and charity organizations.

Table 7: The statistical characteristics of the distribution of some variables in charity organizations (n=154)

Charity organizations	Variables	B	Beta	t	Sig
	constant	-3.24		-0.45	--
	support	0.49	0.11	1.64	--
	reward	0.44	0.10	1.74	--
	warmth	1.09	0.26	3.29	0.01
	identity	0.81	0.17	2.90	0.01
	standard	0.13	0.02	0.44	--
	risk taking	0.78	0.16	2.90	0.01
	conflict	0.04	0.01	0.13	--
	structure	0.38	0.13	2.13	0.05
	responsibility	-0.05	-0.01	-0.21	--

Table 8: The statistical characteristics of the distribution of some variables in tax organizations (n=208)

Tax organizations	Variables	B	Beta	t	Sig
	constant	-2.95		-0.79	--
	support	0.80	0.20	4.41	0.01
	reward	0.79	0.23	4.95	0.01
	warmth	0.48	0.11	2.70	0.01
	identity	0.60	0.11	2.52	0.01
	standard	0.56	0.15	3.63	0.01
	risk taking	0.67	0.14	3.51	0.01
	conflict	0.55	0.11	2.75	0.01
	structure	-0.02	-0.01	-0.18	--
	responsibility	0.01	0.01	0.06	--

Table 9: The statistical characteristics of the distribution of some variables in Public Services (n=52)

Public Services	Variables	B	Beta	t	Sig
	constant	-19.910		-2.571	0.01
	support	0.451	0.098	1.279	--
	reward	0.154	0.033	0.498	--
	warmth	0.399	0.097	1.291	--
	identity	0.402	0.084	1.133	--
	standard	0.475	0.110	1.621	--
	risk taking	0.597	0.129	2.121	0.05
	conflict	1.629	0.289	4.790	0.001
	structure	0.774	0.234	3.352	0.001
	responsibility	0.636	0.111	1.822	0.05

Table 10: The statistical characteristics of the distribution of some variables in higher education (n=200)

Higher Education	Variables	B	Beta	t	Sig
	constant	-4.784		-2.056	0.041
	support	-0.206	-0.042	-0.629	0.530
	reward	0.899	0.205	2.868	0.005
	warmth	0.833	0.205	3.041	0.003
	identity	0.169	0.040	0.849	0.397
	standard	0.708	0.191	2.810	0.005
	risk taking	0.442	0.090	1.353	0.178
	conflict	-2.276	-0.054	-0.960	0.338
	structure	1.200	0.383	5.527	0.000
	responsibility	-0.135	-0.038	-0.549	0.583

Table 11: The statistical characteristics of the distribution of some variables in educational organizations (n=218)

Educational organizations	Variables	B	Beta	t	Sig
	constant	-6.345		-1.59	0.112
	support	0.55	0.12	2.11	0.035
	reward	0.83	0.22	4.37	0.000
	warmth	0.94	0.21	3.51	0.005
	identity	1.32	0.28	4.79	0.000
	standard	-0.06	-0.135	-0.305	0.76
	risk taking	0.74	0.11	2.61	0.096
	conflict	1.04	0.18	4.57	0.000
	structure	-0.04	-0.20	1.526	0.12
	responsibility	-0.05	-2.276	-1.245	0.21

Table 12: The statistical characteristics of the distribution of some variables in industrial organizations (n=349)

Industrial organizations	Variables	B	Beta	t	Sig
	Constant	-18.30	--	-8.80	0.000
	Support	0.24	0.21	3.09	0.004
	reward	0.21	0.17	3.06	0.003
	warmth	0.19	0.16	3.63	0.001
	identity	0.19	0.15	3.63	0.001
	standard	0.002	0.15	3.63	0.001
	risk taking	0.003	0.05	1.22	0.434
	conflict	0.003	0.06	1.33	0.459
	structure	0.004	0.08	1.34	0.463
	responsibility	0.001	0.04	1.72	0.675

The followings are the results of applying some tests and data analysis:

There is a significant relationship between the organizational climate and the productivity of the managers' services.

In the proposed pattern, the dimensions of identity, reward, warmth, conflict, support, and risk taking in Educational Organizations, the dimensions of structure, risk taking, conflict, and responsibility in the Public Services Organizations, the dimensions of support, reward, warmth, identity, standard, conflict, risk taking, responsibility, and structure in the Industrial Organizations, the dimensions of structure, reward, warmth and standards in the Higher Education Institutions, the dimensions of reward, risk taking, warmth, support, standards, conflict and identity in the Tax Organizations and the dimensions of structure, risk taking, warmth and identity in

the Charity Organizations are factors which are effective in increasing the productivity of the managers' services.

In order to predict the productivity of the managers' services, by considering the organizational climate of the work environments, using the Linear Multi-Variation Regression in Educational, Public Services, Industrial, Higher Education and Tax Organizations as well as Charity Organizations, the following formulas can be used:

- 1) Productivity = $0.64 \times \text{organizational climate} + (-22.62)$
- 2) Productivity = $0.73 \times \text{organizational climate} + (-15.825)$
- 3) Productivity = $0.65 \times \text{organizational climate} + (-29.19)$
- 4) Productivity = $0.85 \times \text{organizational climate} + (-11.219)$
- 5) Productivity = $0.66 \times \text{organizational climate} + (-10.04)$
- 6) Productivity = $0.63 \times \text{organizational climate} + (-15.74)$

In addition, the productivity of the managers' services can be calculated based on the effective variables on organizational climate for Educational, Public Services, Industrial, Higher, Tax and Charity Education Organizations using the following formulas respectively:

- 1) Productivity = $0.22 \times \text{warmth} + 0.23 \times \text{reward} + 0.28 \times \text{identity} + 0.18 \times \text{conflict} + 0.12 \times \text{risk taking} + 0.13 \times \text{support} + (-6.345)$
- 2) Productivity = $0.23 \times \text{structure} + 0.13 \times \text{risk taking} + 0.30 \times \text{conflict} + 0.11 \times \text{responsibility} + (-19.91)$
- 3) Productivity = $0.21 \times \text{support} + 0.17 \times \text{reward} + 0.17 \times \text{warmth} + 0.15 \times \text{identity} + 0.15 \times \text{standard} + 0.06 \times \text{conflict} + 0.05 \times \text{risk taking} + 0.04 \times \text{responsibility} + 0.008 \times \text{structure} + (-18.30)$
- 4) Productivity = $0.38 \times \text{structure} + 0.21 \times \text{reward} + 0.21 \times \text{warmth} + 0.19 \times \text{standard} + (-4.784)$
- 5) Productivity = $0.23 \times \text{reward} + 0.14 \times \text{risk taking} + 0.11 \times \text{warmth} + 0.20 \times \text{support} + 0.15 \times \text{standards} + 0.11 \times \text{conflict} + 0.11 \times \text{identity} + (-2/95)$
- 6) Productivity = $0.13 \times \text{structure} + 0.16 \times \text{risk taking} + 0.26 \times \text{identity} + 0.17 \times \text{warmth} + (-3/24)$

CONCLUSION AND DISCUSSION

Promoting productivity and protecting its growth is one of the management's main goals. In fact, the basis of the productivity management is to provide suitable condition for acquiring the highest performance. The process of productivity management basically contains change, and change can never be done easily. In order to achieve the desired changes, the needed background should be provided, and the organization should experience some serious variations. In addition, the management ought to recognize and cope with the factors that are against these desired changes.

Regarding the subject under investigation, and the factor of organizational climate in explaining the managers' productivity, the obtained results show that there is a significant relationship between organizational climate and the productivity of the managers' services in different centers. As French et al. (1985), Boulden (1992), and Schneider (1990) show that organizational climate depends on the organization members' perception of the characteristics of the organization culture and the staff's attitude toward it, and it can emphasize the effect of this important factor on the productivity promotion. However, the results of the studies done by Burns and Stalker (1961) show the effect of the organizational climate which has tendency toward rules and is not flexible on the reduction of innovation in the staff's performance. While, the existence of a friendly atmosphere (Steers, 1977) and the prominence of factors like trust, shared decision making, support, the willingness of top staff to have relationship with the staff under their supervision, listening to the reports from the high rank people, and considering the goals of high performance (Timm & Peterson, 1986) can lead to job satisfaction and improvement in the staff's performance which ultimately lead to productivity promotion. Therefore, the findings of the present study are in agreement with the results obtained from the aforementioned studies.

Furthermore, Findings of the present study are in agreement with other studies concerning the components of organizational climate and their effects on the level of productivity; the results of studies about the dimensions like leadership style (Seraj, 2005; DeMeritt, 2005); The dimensions of structure, risk taking, conflict, responsibility (Barari, 2005); trust, respect, and less worry about creating relationship (Erbisch, 2004); salary, reward and appreciation, assessing tools for performance, relationship, structure, and leadership style (Fouts, 2004; Poxes, 2004; Karimvand, 2004; Chenari, 2004; Akbari, 2005). On the whole, the results of the present study and other studies show that productivity has a high correlation with the factor of organizational climate and its related components.

Regarding the results of this study, and recognition of the factors which are related to productivity of the managers' services in educational and industrial centers as well as Public Services, it is concluded that the factors which can be effective in achieving the highest productivity are as follows: the existence of a suitable organizational climate in which there are cooperation and assistance among managers and other employees, their mutual support, trust creation, helping employees do their tasks, offering suitable rewards based on the services provided, the appreciation of suitable jobs, ignoring the mistakes that employee do not make on purpose, creating a friendly relationship, acceptance of criticism, encouraging employees to express their ideas.

Additional to that, It can be suggested that, based on present research, various Educational, Public Services, Industrial, Higher Education, Tax and Charity Organizations affect organizational climate by application of various factors in relation to increasing productivity with identification of various other factors which will have a connection with productivity factors and it is for increasing better productivity.

In addition, in order to increase the productivity of the organizations, it is necessary to apply a valid instrument (e.g., Litwin and Striger's questionnaire) in order to specify the organizational climate and its nine dimensions. Then, based on the obtained results, an appropriate management is applied in order to promote the organizational climate. Every now and then, this continuous evaluation of the organizational climate should be carried out. Furthermore, regarding the importance and the value of productivity in the organizations, it is suggested that this research is down in other organizations and to examine the effect of other variables whose efficiency in the promotion of organization productivity has been proved by the experts to see the extent to which they increase the level of productivity in that particular organization.

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COMPARATIVE ANALYSIS OF PERSONAL CONSUMPTION EXPENDITURE TRENDS IN EU-27 AND CROATIA

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ABSTRACT

Personal consumption represents the most significant part of GDP (around 60% in EU) and as such has huge influence on country's economic flows. A special focus of this paper is placed on its analysis in Croatia, and EU countries. The research results proves the basic research hypothesis saying that the share of personal consumption in the GDP of a certain country is decreasing as the level of its development is growing higher. The comparative analysis shows that in nearly all EU-15, housing accounts for the largest share of household expenditure (around 28%). This pattern is inverted for most of the ten new EU countries where food accounts for the largest share.

INTRODUCTION

Essentially, there are only three things we can do with our income: we can consume it, we can save it, or we can pay taxes with it. This paper concentrates on the first issue – the issue of consumption. In quantitative terms, personal consumption represents the most significant part of the overall aggregate demand. Its share in the gross domestic product (GDP) distribution in most of the European countries amounts to 58-59%. Within the distribution of the overall world production, personal consumption accounts for more than 60%, and looking at the USA alone, it accounts for 70.2% of GDP in 2008¹). The research analysis explores the consumption expenditure trends in Croatia over the last forty years. Further on, the comparative analysis of personal consumption expenditure concentrates on the personal consumption structure in the EU-27 and Croatia in the last decade. As it absorbs the greatest part of the current production, personal consumption exerts influence on aggregate expenditures, value of realised input, movements of employment, investments and savings. In the long term, changes in the value and structure of personal consumption determine the economic flows: economic growth and development, GDP movement, structural changes in production and economy, standard of living and quality of life of the population. Considering its importance, and previously mentioned significance in absorbing the GDP main hypothesis of this research is created:

Personal consumption expressed as a percentage of gross domestic product decreases depending on development level of a certain country.

The examination of personal consumption in this paper includes: 1) movement of personal consumption value and its relative share in the realised GDP and 2) household budget allocation for certain goods and services, that is consumption structure of the household sector. A comparative analysis of the personal consumption share in the GDP of Croatia and the EU respectively shall point at the main differences of the expenses structure of the national product and shall also answer the question of how does the amount of household income influence the personal consumption structure. So far, the subject of personal consumption has aroused interest of few researches in Croatia. In order to carry out a comparative, harmonised research in this area, the following data have been used as data sources: the data from the Household Expenditure Surveys collected by the Central Bureau of Statistics of the Republic of Croatia, the Eurostat and the OECD.

This paper is divided into five main parts. After introductory part the second part reflects the main theories behind the concept of personal consumption function. Methodological issues and problem definition are explored in the third part. The fourth part, analyses the personal consumption trends over the last forty years in Croatia. In continuation an analysis of the personal consumption structure in Croatia and in the EU member countries over the last decade follows. The most important conclusions are presented in the last, the fifth part of the paper.

THEORETICAL BACKGROUND

Consumption includes the total quantity of goods and services that people in the economy wish to purchase for the purpose of immediate consumption. As such, it is one of the main determinants of an economy's aggregate demand. Other determinants of aggregate demand include investment and government expenditure (with net trade taken into account for open markets), which are also defined in terms of desired rather than actual expenditure. Taking the case of a closed economy, it is possible to define aggregate demand ($Y=C+I+G$) as the sum of consumption, investment, and government expenditure. Actual figures for individual components show that consumption is the most important part of aggregate demand. The rest is divided between government spending and investment (with shares of about 20% each) and net exports. This may seem unexpected, especially as we know that in majority of developed countries government spending reaches between 45-50% of GDP²⁾, and everybody is complaining about big governments. But it must be realized that the huge majority of government expenditure is on items such as social security payments, which, while not counted on the above model, would be counted as consumption expenditure when the benefit receivers bought goods within the economy. Only government purchases of goods and services are injections into the circular flow of income. It does not include transfers.

A Theory of the Consumption Function

The relation between aggregate consumption or aggregate savings and aggregate income, has occupied a major role in economic thinking ever since Keynes made it a foundation of his theoretical structure in *The General Theory*, published in 1936, during the Great Depression. Keynes took it for granted that current consumption expenditure is a highly dependable and stable function of current income – that „the amount of aggregate consumption mainly depends on the amount of aggregate income (both measured in terms of wage units) (Keynes, 1936, 96). Keynes' theories centre on the consumption function equation:

$$(1) \quad C=c_0+c_1Y_d$$

which shows that the consumption level is influenced by an autonomous figure (c_0) and a constant fraction of income (c_1). Keynes theorized that the autonomous figure would always be positive (c_0) and the fraction of income (c_1) would lie between one and zero, varying according to the individuals in the economy. This factor of income was named the marginal propensity to consume, and was included because „...men are disposed, as a rule and on the average, to increase their consumption as their income increases, but not by as much as the increase in their income” (Keynes, 1936, 96).

There are two main theories which are recognized as significantly building on Keynes' work: the first, Permanent Income Hypothesis, was developed by Professor Milton Friedman; the second, the Life-Cycle Hypothesis, by Professors Franco Modigliani and Alberto Ando. Both theories model the behaviour of households and have predictions for the movement of consumption over time (Slesnick, 1998, 52). Although similar in many ways, these two theories should be examined individually.

Permanent Income Hypothesis and Life-Cycle Hypothesis Theories

The Life-Cycle Hypothesis is very similar to the Permanent Income Hypothesis, but it assumes that permanent incomes are calculated over individuals' entire life spans. In examining why people spend the amount they do, a logical starting point is to ask what goals they have. Two goals seem reasonable for a great many people. First, they prefer a higher standard of living to a lower standard of living. In other words, people want the highest level of consumption spending they can get. Second, most people prefer to have a roughly constant standard of living

through time. Put together, these two goals suggest that people try to maintain the highest, smooth consumption path that they can get.

The main assumption behind Permanent Income Hypothesis is that people prefer their consumption to be smooth rather than unpredictable; that is, they prefer to buy a similar quantity of goods from week to week, from month to month, and so on³⁾. In order to do this, people will instead look to their long-term income prospects, which is known as their permanent income, and adjust consumption to this rather than actual income. It should be noted that Keynes' theory had included a form of permanent income, in that it was assumed that workers would not spend all their allocated money on the day they were paid, rather they would spread consumption over the month (or however long between salaries)⁴⁾. The idea that people have fluctuations in income that they want to smooth is the basis of the life-cycle hypothesis of consumption. In series of articles (Ando, Modigliani, 1963; Modigliani, Ando, 1957; Modigliani, Brumberg, 1954) in the 1950s and 1960s, researchers asked why people save. The life-cycle hypothesis can be expanded to take into account uncertainty of when death will occur, the existence of social security, the interest rate, savings and various patterns of lifetime earnings. It does not deal well with what should happen if incomes fluctuate erratically over time, but for this situation another theory, the permanent-income hypothesis provides an answer.

The permanent-income and life-cycle hypothesis are not contradictory theories, but theories that nicely complement each other. Furthermore, an increase in the consumer income causes changes in the personal consumption structure, it distorts existing and establishes new relations between prices of certain products and services. For example, low income households shall spend relatively higher amounts of their income on food and non-alcoholic beverages. Potential income increase decreases (in relative terms) the amount of expenditures for basic necessities, and increases the expenditure amount for other goods and services. This paper shall seek to prove this hypothesis.

METHODOLOGICAL ISSUES AND PROBLEM DEFINITION

State and international bureaus of statistics regularly collect and analyse data on personal consumption. These data point at the allocation of a disposable household income for specific goods or group of goods and services in a given time frame: on a monthly, quarterly or annual basis. The Household Budget Surveys (HBS) contain data on household structure according to age, gender, family relations of household members, their employment and level of education, ownership titles over housing or its renting and the possession of durable goods. It provides a description of living conditions of individual households. Such surveys represent a quality basis for various economic and social analyses, as well as for reaching economic and social policy measures. The data from the HBS, especially the ones pertaining to the standard of living, are important for shaping and implementing appropriate social, tax and family policies (Denona Bogović, 2002, 624-625). Since 1998, Croatian Central Bureau of Statistics has been carrying out the HBS based on the representative sample. This Survey is in line with the EU recommendations on methodology and the international standards and classifications. It is being conducted on an annual basis and data for it are being collected throughout the 12 months (Central Bureau of Statistics, 2008, 193).

Numerous theoretical and practical researches point at the mutual connection between the personal consumption value and structure on one side and the reached level of development of a certain country on the other. The following regularities in the movement of personal consumption value have been proved on the basis of many researches that included countries with different levels of development (Denona Bogović, 2002, 625):

- a) A higher relative share of personal consumption in the realised GDP and a low per capita value point at a country's lower economic level of development with a dominant primary sector;
- b) As a country makes a transition to a higher economic level of development, the personal consumption share in GDP is decreasing and the border tendency towards personal consumption is declining, whereas its per capita value is parallelly increasing; and
- c) In the context of high economic level of development, the share of personal consumption remains on the level of approximately 60% of GDP, whereas the personal consumption value per capita is significantly increasing.

RESEARCH ANALYSIS

The research analysis consists of two main parts. The first part, analyses the personal consumption trends over the last forty years (1966-2007) in Croatia. In the second part of the research the personal consumption structure in Croatia and in the EU member countries over the last decade is explored.

Trends in Croatian Consumption Trends over the last forty years

Significant systematic and applicable researches of private consumption in the Republic of Croatia which could be used as a source of comparison with examinations carried out in the developed, especially European countries, have not yet been conducted. Along with a transition to market economy which requires standardized monitoring of macroeconomic flows, Croatia started to implement a HBS (Central Bureau of Statistics, 2008). The Figure 1 presents the long-term development of personal consumption in Croatia over the last forty years.

Figure 1: Personal Consumption Development in Croatia



Source: Calculated according to Denona Bogović (2002), Eurostat (2008a).

During the overall research period, the proportion of personal consumption in GDP in Croatia has been below the average of countries having the same level of development. The average share of personal consumption in Croatian GDP for the period between the years 1966-1980 amounted to 61.4%. This entire period is characterised by a moderate economic growth which influenced the increase in the standard of living and the quality of life among population (Denona Bogović, 2002, 626-627).

The period between the years 1980-1990 is characterised by an economic stagnation and a decline of macroeconomic parameters. The economy lost its impetus, entered a period of stagnation as well as the zone of negative growth rates (the average annual growth rate was -0.75%). The average share of personal consumption in Croatian GDP in that period of time was 46.4%. A drastic deterioration in the personal consumption proportion is noticeable during this decade, reaching an average of 49.9% GDP. During that period, personal consumption declined faster than the national output. Such unexpected movements of the personal consumption proportion in Croatian GDP resulted from the planned economic system at the time when resources were not allocated according to the strict market criteria⁵⁾. The personal consumption proportion in Greece in 1985 was 71% of GDP, in Hungary 63% of GDP, in Poland 62% of GDP and in Portugal it accounted for 66% of GDP (Denona Bogović, 2002, 627). The actual policy of financing the part of public needs (at that time treated as common needs), which is a policy different from the ones in the market economy countries, had its influence on the amount of the personal consumption share in the social product until 1990. By various institutional forms (funds, budgets, self-governing interest groups), certain population needs such as health care and education have been financed out of the state budget. In market economies these needs are largely financed out of personal consumption, whereas until 1990 in Croatia they were financed out of means intended for public expenditure. As a consequence, the policy of financing public needs also shaped the movement of the personal consumption share in the realised GDP.

After the year 1990, all economic activities experienced a sudden decline as a consequence of transition crisis and economic system transformation. In the period between the years 1990-2000, the average share of personal consumption in Croatian GDP was 58.04%. The period between the years 1991-1995 was the period of main war operations of the Croatian War of Independence and also the period of unfavourable macroeconomic trends. A

negative average annual growth rate went under -6%. At the time when the country faced worst war destruction, the consumption share in GDP was lower (in 1992 it was 55 %), and towards the end of the period, in the year 1995, it amounted to 58.8%. Significantly different trends are observed in the period between the years 1996-2000. GDP growth rates became positive, and the share of personal consumption in GDP ranged from high 62.2% in 1997 up to moderate 57.1% in 2000. The following period, the period including the years 2001-2007, is the period of positive macroaggregate trends. Thus, the GDP growth rate was positive during the whole period and it ranged from 4-6% (CBS, various volumes). The average share of personal consumption in GDP was 55.7%. The following years can be especially singled out: the year 2005 as the year with the highest share (57.5%), and the year 2007 respectively as the year with the lowest share of personal consumption in GDP (52.3%). The following table depicts the personal consumption structure in the Republic of Croatia expressed as a percentage of GDP in the period 1966-2007.

Table 1: Structure of Croatia's Consumption (in % of total), 1966-2007

	1966.	1970.	1975.	1980.	1987.	1990.	1995.	1999.	2000.	2002.	2004.	2007.
1. Food	54.7	47	46.2	45.5	51.5	57.5	53.0	42.4	36.1	36.1	35.6	35.5
2. Clothing and footwear	13.9	13.2	11.1	11.4	11.3	14.6	11.0	7.5	10.1	8.9	8.1	7.9
3. Housing and energy consumption	11.2	11	9.6	10.5	10.9	6.1	18.0	13.3	13.3	13.7	13	13.3
Existential Goods	79.8	71.2	66.9	67.4	73.7	78.2	82.0	63.2	59.5	58.7	56.7	56.7
4. Durable Goods	4.5	4.5	5	5	4.1	2	5.0	5.9	4.9	5.5	5.4	5.4
5. Health	2.7	3.9	4.5	4.3	4	3.3	3.0	1.8	2.1	2.2	2.4	2.6
6. Education	-	-	-	-	-	-	-	0.7	0.7	0.7	0.7	0.9
7. Culture and recreation	6	6.8	6.6	6.5	5.1	4.4	3.0	5.7	6.7	6.4	6.5	6.2
8. Transport and communication	3.7	8.5	10.8	10.8	7.9	7.5	5.0	13.1	15.0	15.9	17.2	16.8
9. Miscellaneous	3.3	5.1	5.4	6	5.2	3.7	2.0	9.6	11.2	10.6	11.1	11.3

Source: From 1966-1999: *Revenues and Personal Consumption Survey in Croatia*; from 2000-2007: *Statistical Yearbook*, Documentation of Central Bureau of Statistics of the Republic of Croatia, various volumes.

As can be seen from the given table, the structural changes of personal consumption in the period between the years 1966-2007 showed positive movements. An increase in the household purchasing power had a positive influence on the personal consumption structure: the share of food decreased by 1980 at an average annual rate of -1.3%, and total disposable household budget allocations for existential goods decreased at the rate of -1.2% (Denona Begović, 2002, 634). A decrease in the expenditure share for food from 57.5% in 1990 to 53% in 1995 can be explained by the appearance of a new form of consumption in a transition period. Numerous households have bought off the then socially-owned flats, so that a new expenditure for repaying flats was added to already existing costs. As the average wage per household in this period fell from 416\$ to 259\$, that is it decreased by 38%, households were forced to decrease their food expenditures in order to be able to pay off mortgage instalments. The share of durable goods for the overall observed period increased for 20%. This was influenced not only by an increase in the purchasing power, but also by favourable conditions for the purchase of durable goods, which led to households being increasingly equipped with durable goods. Expenditures for necessities of higher hierarchical level, intended for improving the quality of life among population, were on the constant increase in the observed period. This led to an increase in one of the items under personal consumption which includes expenditures for hotels and restaurants, that is *Miscellaneous*, from 3.3% in 1966 to 11.3% in 2007.

Analysis of Consumption Structure in EU and Croatia

This part of research compares the movement of the personal consumption share in the gross domestic product of Croatia and the EU. The purpose was to show differences and similarities regarding Croatian consumption with the other EU countries, as well as the purchasing power intensity among population. The following table shows the movement of the personal consumption share in the GDP of some selected countries.

Table 2: Personal Consumption Proportion as a Percentage of GDP (in %), 2000-2007

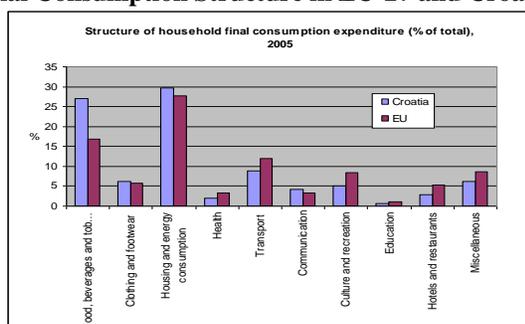
	2000.	2001.	2002.	2003.	2004.	2005.	2006.	2007.
EU-27	58.7	58.8	58.5	58.5	58.2	58.3	57.9	57.4
Czech Republic	52.5	51.9	51.2	51.7	50.3	49.1	48.8	48.1

Greece	72.4	72.6	72.9	71.1	70.2	71.3	71.7	71.2
Luxembourg	40.7	41.9	41.9	37.7	37.2	35.4	33.2	32.3
Croatia	62.8	63.4	56.9	55.2	54.4	57.5	56.6	56.3

Source: Eurostat (2008b).

The conclusion reached by analysing these data pointed out that the personal consumption share in the GDP of most of the countries ranged around 50% or more. The countries with the consumption share in GDP lower than 50% are: Denmark (49.0), the Czech Republic (48.1), Sweden (46.7), the Netherlands (46.6), Ireland (46.2) and Luxembourg with 32.3%. In contrast to Luxembourg which has the lowest share of personal consumption, Greece has the highest one, amounting to 71.2%. Greece is followed by Bulgaria (69.1), Romania (67.3) and Cyprus (66.3). With its 56.3% in 2007, Croatia found itself completely within the EU-27 average (57.4), unlike Macedonia, which has by far the largest personal consumption share accounting for 77.4%. The older, and also the more developed EU-27 member countries have on average smaller share of consumption in GDP, whereas the new member countries “distorted” this average by having higher shares. Of interest is also a mild trend in the personal consumption decline over the last two years, as in the overall EU average, as well as in the majority of the member countries. Given the current economic crisis, such a negative trend is expected to continue for some time to come. Apart from the share of personal consumption in GDP, an important indicator of the level of development and the differences among the countries is the structure of personal consumption. The following figure therefore shows personal consumption structure in the countries of the European Union and in Croatia in the year 2005.

Figure 2: Personal Consumption Structure in EU-27 and Croatia in 2005 (in %)



Source: Eurostat (2008b); Central Bureau of Statistics (2008).

It is obvious that an extremely high share of expenditures for personal consumption in Croatia is related to food, non-alcoholic beverages, alcoholic beverages and tobacco (even 35.5%), while the personal consumption for the mentioned items in the EU-27 amounts to 19.4%. While the expenditures for clothing and footwear of the average EU citizens account for 5.7% of the overall consumption, for the average Croatian household this expenditure accounts for 7.9% of the overall consumption. On the other hand, whereas housing, water, electricity, gas and other fuels costs, as well as furnishings, household equipment and regular maintenance of the house account for 31.1% of the overall consumption of the average household in the EU, in Croatia the same accounts for 18.7%. Some other, more important differences in consumption can be observed when it comes to recreation and culture, where for the EU households it accounts for 8.4% and for Croatian households to 6.2% of the overall consumption. The same is true of expenditures for hotels and restaurants: the EU average is 5.3%, and the Croatian is 3.2%. Other items included in the consumption structure are more or less the same and there are no greater differences.

The consumption habits of European vary substantially among the member States. Factors such as culture, tradition, household composition, income and degree of urbanization can influence habits in each country. The accession of ten new Member States in 2004 has made those differences even more obvious than before. In nearly all old Member states (EU-15) housing accounts for the largest share of household expenditure (around 28%). The other basic necessity (food) occupies second place in most cases. This pattern is inverted for most of the ten new Member states, where housing ranks second far behind food, drinks and tobacco (Eurostat, 2008b, 112).

CONCLUSION

The analysis of the personal consumption trend in the Republic of Croatia shows that the entire observed period of time can be divided into 3 parts. In the first referential period of time between the years 1966-1980 the personal consumption structure showed a positive trend. The share of expenditures pertaining to existential goods was decreasing, followed by a gradual increase in the expenditures for durable goods and other goods and services. The second analysed period included the years between 1980 and 1995. Those were the years characterised by an economic crisis, a transition to market economy and the Croatian War of Independence. At that time, food expenditures were drastically increasing and expenditures for durable goods and other products and services suffered a visible decline. It was only after the year 1995 that the data on household expenditures in Croatia started to show positive trends. A decrease in the share of expenditures for food and basic necessities was obvious, and relative expenditures for durable goods, as well as other goods and services increased. The research analysis of personal consumption in EU and Croatia show that the personal consumption in old EU member countries, takes part in their GDP, with between 39% and 56% on average, whereas the share of consumption in the new and future member countries of the EU exceeds 60%, somewhere even 70%. The above mentioned parallel proved the basic research hypothesis saying that the share of personal consumption in the gross domestic product of a certain country is decreasing as the level of its development is growing higher. In other words, those two parameters are inversely proportional.

By observing the final consumption of the private EU-27 households between 2002-2006, it can be concluded that personal consumption of some of the old EU member countries (like Finland, Sweden, Denmark and Luxembourg) was slowly decreasing in the last two years, whereas it was constantly increasing in the new member countries (like Slovenia, Bulgaria, and Rumania). A decrease in the personal consumption in the old EU member countries can be explained by a market saturation and by reaching a peak. As distinguished from the old EU member countries, markets and economies of the new and future EU member countries (and Croatia belongs to this group) are still young, still not sufficiently developed, and their personal consumption is expected to grow further. Personal consumption expenditure in EU and Croatia weakened during the last two quarters of 2008 due to inflation hike and deteriorated consumer confidence caused by current financial crisis. Strong increases in the prices of existential goods put pressure of vulnerable groups in society and have regressive distributional effects. Such situation changes a way of consumption expenditure – delaying major durable goods purchases and turning to savings. Therefore, policy makers should not only focus on inflation but target net wealth, since this is the transition mechanism between asset prices, debt and consumption. Fiscal policy must become more radical, visible in public spending on housing and infrastructure as well as more redistribution policies.

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ENDNOTES

1) See more detailed in Eurostat (2008).

2) In Croatia, the government spending in the period 1994-2003, was on average around 50% of GDP (Ott, 2003, 39). General government expenditure as % of GDP in 2007, reached 44,6% in United Kingdom, 48,1% in Finland, 53,8% in Sweden and 37,4% in United States (OECD, 2008).

3) Milton Friedman's *Permanent Income Hypothesis* originates from the basic intuition that individuals would wish to smooth consumption and not let it fluctuate with short run fluctuations in income (Meghir, 2001).

4) The results of Manitsaris (2006) research, based on annual data (1980-2005) for selected 15 EU member states show strong support for the permanent income hypothesis.

5) Namely, all until 1980 the priority regarding distribution was given to investment expenditure. This resulted in the personal consumption proportion in Croatian GDP below average. An accelerated economic development required huge investments. In such way, personal consumption resources for national outcome allocation were limited (Denona Bogović, 2002, 628).

THE IMPACT OF INFORMATION TECHNOLOGY ON EDUCATION DURING THE TWENTY-FIRST CENTURY

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ABSTRACT

This paper examines the impact of information technology on education during the twenty first century. Education and technology constitute the key to human progress. This progress and the use of information technology will continue at a very rapid rate in the future. The dynamic technological development has made lifelong learning a necessity forcing more adults to return to school. The advances in technology have introduced new teaching strategies into the classroom. The Internet technology adds value to education, enhancing access to needed information and facilitating learning. Computers used in teaching have become very powerful tools for instructions and have brought revolution in education. The distance learning and the Internet are used to provide college education. It is therefore necessary to technically train the college faculty so that they will have the skills needed for teaching their courses. There will be the need to restructure the curriculum in order for it to provide students with a wide range of skills and abilities needed in the dynamic global environment of the future.

INTRODUCTION

The key to human progress is a combination of education and technology (Fodge, 2006). During the twentieth century, it took the teaching profession forty years to bring into the classroom the technological innovation of overhead projector that was then commonly used in bowling alley. This century, the pedagogical approach provided by multimedia has revolutionized the education in colleges and transformed it completely. The advances in information technology have brought new issues and new teaching strategies into the classroom. The use of computers in teaching has become a very powerful tool for designing, developing and delivering instructions. The distance education and the internet are used to provide college education. The teaching tools that remained the same for more than a century have changed frequently. Therefore, there will be need to retrain the faculty so that they could acquire the skills needed for designing and teaching their courses. The colleges will be faced with very serious threat of faculty marketing and delivering their personalized courses. There will be need for the educational curriculum to match the need of the future society. The curriculum should be internationalized. It should provide students with a wide range of skills and abilities. Colleges must therefore invest tangible portions of their budgets to incorporate information technology in their curriculum so that it will be able to prepare the students for the global economy.

The increasing concerns about the breakdown of the traditional walls in education and the decline in enrollment are making colleges to actively explore the opportunities of distance education (Cutshal and Waltz, 1997). The distance education has been in existence since the early part of last century in the form of correspondence course like those of Wolsey Hall in United Kingdom. The distance education has been enhanced during the last decade by the growth in World Wide Web, closed-circuit cable television, satellite e-mail, voicemail and video conferencing. Several factors have contributed to this. One factor is the growth in the population of older students. Working adults, according to Okula (1999), can conveniently fit any class work of distance education

into their busy schedule because there is no need to commute to a campus and meet at a particular time. According to Kasper (2001), the college student population will continue to increase because the extraordinary dynamic development in information technology has made lifelong learning necessary for survival. The Internet will enhance and expand information gathering through other media. In order for the students to keep up with the dynamic environment of information technology, colleges are restructuring their curriculum and regularly updating them within a period of three or four years to provide students with the required mix of technical and non-technical skills and knowledge which they need in the business world (Maier and Gambill, 1996).

Technology is changing in an increasing rate and shaping the environment dramatically. The impact of information technology on education is an issue that is most debated and very interesting. The older technologies, like the slide projector, movie projector and overhead projector aimed at instructing the student but the aim of the newer technologies, such as virtual universities, is economic: to increase the number of students and at lower cost (Hajjar, 2008). The internet was initially used as a tool in government and educational institutions. However, in the early years of the last decade, it became a global communication highway (Fruehling, Keven and Sebastian, 1997). During this century, it has transformed the education completely. Emphasis, as Ives and Jarvenpaa (1996) put it, is on education “just in time” for the task they are doing. The roles of college professors have changed to those of facilitators because the students are taking greater control of their education. Although abacus emerged in Asia about 5000 years ago as the first computer, the punch card machines used as the first computers in business to process transactions were not used until the 1960s. Since then, we have witnessed the rapid development of information technology which has given the organizations the power to conduct and manage business globally with less expensive preparation and dissemination of information (Wessel, 2004).

REVOLUTION IN EDUCATION

Technology, through the use of computers, has brought changes that helped businesses improve productivity, both quantity and quality. The information technology will be revolutionary. It will drive change in education as manufacturing drove change during the industrial age. The rate of change would continue to accelerate and create what Thompson (1995) called the “challenges and opportunities of today and tomorrow.” The revolutionary technological change will set the stage for a new dynamic environment in education as never before. It will change how the instructions are delivered in higher education.

The revolution, which is taking place in education today, results from the use of technology. According to the United States’ Department of Education, there was an increase in the use of computers to learn from 54.65% in 1984 to 80.2% in 1996 (Jurist, 1999). In 1997, 7% of all college students took college courses in some form of distance education. There were 13 million traditional students who attended the regular “brick and mortar” classes while one million took courses through cyber-colleges (Holden 1999). During the fiscal year 1998, 38 states implemented technology standards of technology graduation requirements. By 1994, several changes had taken place as a result of using technology in the classroom. Classroom activities became more student-centered with teachers’ roles moving from expert fact teller to collaborator. The classroom becomes an educational forum where students and teachers learn from each other. The instructional goals have moved from memorization to inquiry and understanding and it has moved from accumulation of facts with respect to knowledge acquired to the transformation of the facts. As a result of these, assessment of educational programs now emphasize criteria-referenced portfolios that show students actual performance quality and achievement instead of multiple-choice instruments that are norm-referenced (Jurist, 1999).

Educational technologies are used today as a tutor, a tool, and for exploration and communication. It is used as a tutor to give allowance for absenteeism, interests and learning styles. It is used for exploration and expanding ones knowledge and as a tool for research. It is commonly used for communication such as e-mail and the web. Technology is also used as an instrument for furthering education reform. Some of the ways technology advances reform in education includes teaching basics in a way that extends beyond drill practice, training students to think, and making learning authentic. It changes the way educators teach to active inquiry. It builds a better teaching force through networking with colleagues in other disciplines and businesses. It provides information rapidly to parents thereby strengthening the home-school connection. Moreover, it gets students excited and enhances their interests in class-work.

There are three major disadvantages of using information technology in education. The first category deals with monetary costs: including capital costs, installation costs, hardware and software costs and support personnel costs. The second set of costs are space costs, including cost of the room used as computer lab and the fact that the rooms used as computer labs can accommodate fewer students. The third element of costs involve time costs – It costs more to keep teachers increased instruction time to remain knowledgeable of advances in information technology, (Tissue, 1997).

Technology will improve the quality of higher education and lower its cost. The traditional higher-education system will not disappear but only those who are rich will patronize it. A large number of people will adopt distance education because of its very low cost, convenience and quality. It will be like the proverbial promise of Edison that he would make electricity so cheap and convenient that only the rich will think of burning candles (Baird, 2000). The study of Wayland and Swift (1995) showed that the population of part-time non-traditional students in college doubled from 3 million to 6.1 million within the 20 years, 1970 to 1991. The pedagogical approach that is provided by the multimedia will revolutionize education and transform it completely. It will provide a more efficient use of time and a greater wealth of information in a way that will increase learning because it will gear the information to match the learning capabilities of the students (Gatlin-Watts, Arn, and Icordmeier, 1999). E-commerce will change the way education is taught because of the new strategies that are possible using the sophisticated technology. E-commerce involves buying and selling and exchange of information on the web. It is also known as virtual commerce and was predicted to grow to more than \$1.3 trillion in 2003 from \$43 billion in 1998 (Jones, 2000). The curriculum for college courses must therefore be modified and restructured in order for colleges to be able to train the students technologically proficient and develop in them entrepreneurial attitude. It should be internationalized to meet the needs of the global economy.

WHAT DISTANCE EDUCATION IS

Distance Education, according to Johnson (1999), is the medium used to provide instruction to students who are separated from the instructor by physical location. Swift, Wilson and Wayland (1997) described it as the separation of students and instructor during the learning process of educational delivery. It is different from the traditional classroom where lectures are taught the students within the four walls of the institution. There are several forms of it used today including correspondence courses and interactive classrooms located in different facilities. Johnson (1999) provided several different forms of distance education in Universities and Colleges today. The California State University located at Chico provides instructions via a Satellite Education Network to thousands of students in California and across United States of America. It also provides instruction to a sister Institution in Tokyo, Japan. The local television stations are used by the Delaware Valley Distant Learning Consortium to broadcast credit courses to students in Delaware, New Jersey and Pennsylvania. In Georgia, the Georgia Statewide Academic and Medical System (GSAMS) provides a distance education network that links about 400 classrooms located throughout the State. The Indiana Higher Education Telecommunications System (INETS) transmits courses over a two-way audio and one-way video system to over 250 sites in the State. Iowa Community College broadcasts a Social Science Course to four other sites through a fiber-optic system. The Western Governor's University is a consortium that shares educational resources with 16 western States and territories.

Various technologies have been used in traditional forms of media to increase learning levels. These include filmstrips, videotapes, and overhead projectors. Computer technology has introduced new spices of multimedia. The use of multimedia in the classroom of today presents endless possibilities to college professors. These according to Evert (1996) include; disc players, CD-Rom players, scanners, and text information visual images. Others allow teachers to develop a custom-made presentation using a vast amount of information. Today's multimedia technology provides the learners the opportunity to participate actively in the learning process because it is interactive. Students can respond to and post questions, hypothesize and experiment.

There are many kinds of multimedia. It includes authoring or scripting, CD-Rom, hypermedia, interactive multimedia, scanner and voice/sound digitizers. Authoring is the software, which allows participants, students and professors, to control information sequence when creating presentations. The CD-Rom has a capacity equivalent to the capacity of hundreds of floppy disks. It is capable of storing over 600 megabytes of data. The hypermedia organizes information in nonlinear fashion similar to a web. The interactive multimedia combines

videodiscs, moving sequences, with two audio tracks and a computer. The scanner copies into the computer any form of graphics. The voice/sound digitizer provides capability to record any sound to be included in media presentation.

Nixon & Helms (1998) also gave several delivery approaches used for distance education. These include paper-based correspondence course, videotaped, two-way video/two-way audio real-time course (both interactive and non-interactive). The non-interactive one provides the students the opportunity only to hear or to hear and see the lecturer. The interactive one provides participants the opportunity to hear and see participants at remote sites and discuss with them through desktop microphones, which can be activated by touching. The distance education develops a virtual that joins students and professors in two or more remote locations.

REASONS FOR USING DISTANCE EDUCATION

There are several reasons why Institutions of Higher Education adopt distance education programs. These include; increasing enrollment, expanding to new markets, and improving program quality so as to remain competitive and to enhance internalization. It helps colleges to expand in to new markets. The enrollment of students in the remote sites causes increased college enrollment, which results in the increases in financial resources. Distance education provides working adults the opportunity to receive college education without leaving their jobs: Distance education makes it possible for professional development programs for employees to be transmitted into the company's facilities from college campuses. Such development programs are needed for employees to update and maintain their college training at cutting edge for employability (Alch, 2000). Distance education, according to Follows (1999) and Thompson (1995) enhances instruction. It encourages the students to actively involve in discussion-related activities with students in other locations. It provides a very relaxing and less stressful environment and opportunity for students to stay at their homes and take college courses. Years ago, non-traditional programs were looked upon as inferior to the traditional one. Research has shown, according to Efendiogulu and Murray (2000), that there is no difference in education through distance education and the traditional one. The distance education provides opportunity for the students to engage in problem solving and critical thinking. The students are able to engage in experiential group exercises, which enhance the learning process.

It was assumed for a very long time that the major function of education is to teach students to think and act more rationally. This assumption is valid today only in research issues. According to Leavitt (2000), teaching students to think and act rationally is not the key to the education in the modern age. In order to be able to synchronize with the volatility and speed of the accelerating world, and the interconnectedness, we must abandon our core academic values and reshape our traditional belief. For a very long time, the traditional education forces the students in to the schedule of classes in a tightly scheduled gulag as if in a prison, which is out of place with the realities of today. There will be too many opportunities and challenges in the real world that students, knowing where the actions are, will not be willing to match in steps in their colleges but will move into the real world with their entrepreneurial talents and abilities.

The use of computer technology in teaching has significant effect on education. It has improved the quality of education and is making students internalize knowledge. They are able to acquire the skills that are vital for success in the business world. A major, challenge for educators is what Montelpare and William (2000) called the development of a learning environment that is flexible enough to allow students with a wide range of computer skills to enroll in the course. In 1962, T.S. Elliot wrote "where is the wisdom we have lost in knowledge? Where is the knowledge we have lost in information?" In this age of Computer Assisted Instruction, the professors will be responsible for providing their students the opportunities that will help them move from the level of information provided, to the level of acquisition of knowledge and eventually to that of wisdom where the students will develop action as a result of the knowledge acquired.

In the study of Montlepare and William (2000), some problems of using the Internet in the curriculum were identified. The first was the limited computer skill of many of the students. Only a few students had the needed computer skills. The second was the difficulty of getting students to overcome any computer roadblocks. The third was the feelings of frustration when students are left behind. This always led to the problem of loss of time in moving all students to a common level. Another problem identified was negative feelings on assignment when students cannot keep up. One other major problem was equipment break down or inability to access the

computer. This may lead to cancellation of class. There are other possible problems like not having a computer. If students do not have their own computer at home or in the dormitory, there will be a long waiting time in the computer lab. Sometimes lack of needed experience of the lab assistants may be a problem, this may make the time to complete assignment to be longer. Since technical problems will be on-going, there will be need to always have back up plan in place and work methodically to prevent problems or minimize them. Necessary change should also be made to make the computer accessible to everyone. A possible problem that may occur is the expert professors who may like to stay in their homes and market their self-designed products or transmit their personal lectures from the comfort of their homes.

OBSTACLES TO DISTANCE EDUCATION

As distance education continues to grow, there are many problems that must be overcome. Cost, according to McDonald and Gibson (1998) is a major obstacle to distance education because of inability of institutions to afford the cost of the needed technology to remain competitive. Jing-Zheng and China (2005), felt that the major problems are caused by the learners' individual differences, language incompetence, attitudes, motivation and confidence. Demirbilek and Cilesiz (2002, classified the problems into six categories: comfort level of learners with technology, level of their interactions, level of their psychological readiness, technical shortage, individual cultural characteristics and the environment. Moreover, distance education requires different forms of communication compared with traditional education and according to Isman and Altinay, (2005) requires adapting to changes by increasing the capacity to know and to do things. In order to reduce these problems to minimum, there is need to introduce qualified communication process using face-to-face interactions among participants to prevent the feelings of isolation.

CONCLUSION

This paper examines the challenges of technology to education. The revolution that is taking place as a result of the use of technology in teaching was discussed. The information technology, most especially the use of distance education presents both opportunities and challenges to education. Majority of the Institutions of Higher Education are still searching for directions. Many are thinking of how they could get necessary funds to implement information technology in their campuses so as to improve pedagogy and strengthen their competitive positions. It has been assumed for a long time that management is a rational process and that the prime function for education is to teach students how to think and act more rationally. This assumption is valid today only in research issues but not in the education. Teaching students to think and act rationally, according to Leavitt (2000) is not the key to the education in modern management. Since the students at any level of education will be required to work in a dynamic information environment, there is need to transform the classroom, where they will be learning, into a very powerful dynamic learning environment which uses distance education to enhance learning. There are many issues that pose as obstacles to distance education. These could be reduced using good communication process and face-to-face interactions among participants.

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A REVIEW OF SUPPLY CHAIN SYSTEMS FOR FRESH FRUITS AND VEGETABLES IN TURKEY

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ABSTRACT

There are three significant cases for fresh fruits and vegetables (FFV) trade in Turkey; wholesale markets, and producer and export unions. The most significant case is the wholesale market system. Domestic trade of FFV, other than organic products and food industry ingredients, is subject to wholesale market regulation in Turkey. The existing Wholesale Market Law enforces entry and exit of FFV to wholesale markets before reaching retailers and final purchasers. It is aimed with this paper to recognize the operation of the wholesale markets with the help of a SWOT analysis, detecting rooms for development for Turkish FFV supply system.

INTRODUCTION

Turkey, with its adequate ecological conditions, is very suitable for fruits and vegetables production. The total area devoted to fruits and vegetables production constitutes 7.7 % of the aggregate agricultural lands according to the 2006 TURKSTAT data. In addition, the total vegetables production including melons in 2006 was more than 23 million tonnes and total fruits production including olives was almost 15 million tonnes. Therefore, the sum of fruits and vegetables was 38 million tonnes, 43-45 million when off-record production is included, which is almost 38 % of total vegetative production in Turkey, and is equal to 4 % of the world supplies and the amount of production has been increasing, relatively more for vegetables.

Turkey has a capacity to produce around 45 million tonnes of fresh fruits and vegetables per year, which is around 4 % of the world production. In addition, the export value of fresh fruits and vegetables rose to 1.2 billion \$ in 2006 with a 16 % rise in comparison with the previous year. Turkey is a net exporter of fresh fruits and vegetables, deducting imports of mainly exotic and tropical fruits and vegetables which counts for 57 million \$ in 2006.

Besides, Turkey is a net exporter of fresh fruits and vegetables and export value in 2007 was \$ 1.4 billion according to the data retrieved from TURKSTAT. When processed and dried products are included, the total exports rises to \$ 3 billion. In contrast, Turkey mainly imports exotic and tropical products and the import level was \$ 67 million for 2007.

When the domestic sales of fresh fruits and vegetables are assessed, it is seen that with some exceptions all fresh produces need to enter into local wholesale markets in Turkey. Therefore it is essential to understand the structure of the wholesale markets in Turkey and the actors and processes involved in the system to pre-empt domestic supplies of fresh fruits and vegetables. Accordingly, the paper involves overview of the wholesale markets, with reference to the recent legal and practical developments, and the general situation in the EU. The strengths and weaknesses as well as developmental opportunities of the system are interpreted in the following sections.

WHOLESALE MARKETS IN TURKEY

Marketing channels, the pathways that the products pass through after they are produced until they reach to the final consumers, involve processing, storage, packaging and labelling routes according to Gunes, (1996) and Emeksiz et al. (2005). All these processes become abruptly important when highly disposable fresh fruits and vegetables are considered. In this sense, marketing channels have a unique organisational structure in Turkey. Fresh fruits and vegetables are generally marketed through non-governmental channels. Main channels are the

private sector, dealers and commissioners and local wholesale markets as indicated by Emeksiz et al. (2005) and Ozkan (2006).

Before proceeding it is necessary to identify the marketing channels considered in fresh fruits and vegetables marketing described by Yurdakul (2002;) and Akbay et al. (2005).

1. Direct Selling: Some producers prefer to sell their products near the production place or in open markets. These products are generally sold off-the record.

2. Indirect Selling: Indirect sales of fresh fruits and vegetables involve intermediaries and can be made through different ways.

Figure 1: Indirect Marketing System

PRODUCER	Cooperative		Retailer	CONSUMER		
PRODUCER	Wholesaler	Dealer	Retailer	CONSUMER		
PRODUCER	Dealer	Wholesaler	Retailer	CONSUMER		
PRODUCER	Local Purchaser	Dealer (Production Place)	Wholesaler	Dealer (Consumption Place)	Retailer	CONSUMER

One of the indirect selling ways is sales to dealers and commissioners at the production place in order not to bear the transportation and packaging costs. Commissioners sell these fresh fruits and vegetables to retailer and wholesaler channels to approach the green grocers, bazaars, markets and super markets.

Another marketing channel is facilitated from agricultural cooperatives and to retailers. A relatively longer marketing channel incorporates dealers, commissioners both on the production and wholesaler side. As the marketing channel gets lengthier, the producer price declines and the consumer price of the product increases as indicated by Akbay et al. (2005).

The wholesale markets are established as regulatory bodies for fresh fruits and vegetables marketing in 1960. In 2005, it was become a legal enforcement to bring fresh fruits and vegetables to the wholesale markets before they are sold in the district under municipal authority. This enforcement also aimed to enable full recording of the products, which had been lacking without implementation of the above mentioned system as declared by Emeksiz et al. (2005) and Akbay et al. (2005). Therefore, wholesale markets are physical market places where suppliers and initial demanders and professional agents meet and where prices and quantities are determined. Cadilhon et al. (2003) has also emphasized that wholesale markets are effective institutions especially when producers are not market-oriented enough.

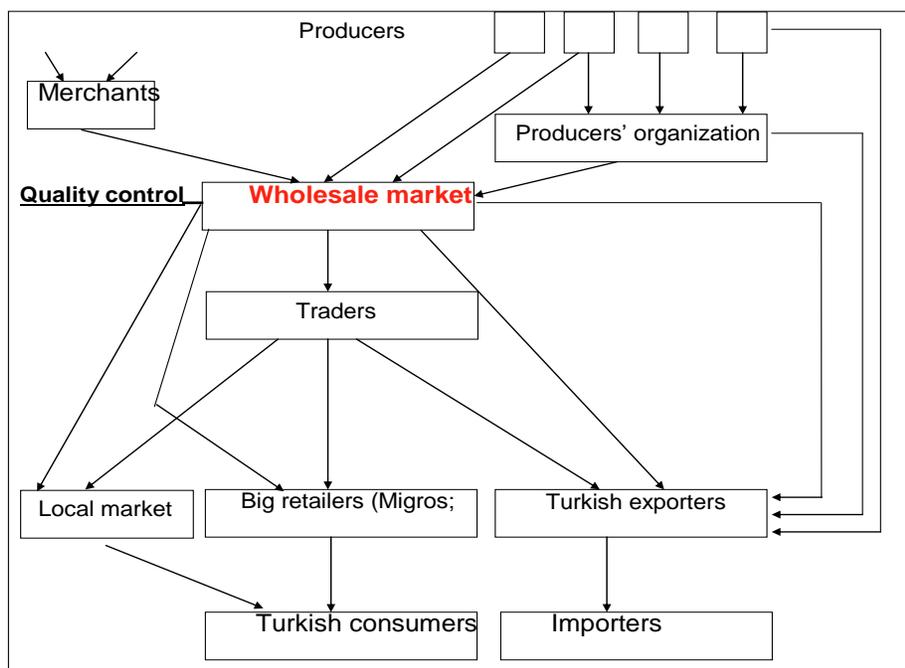
STRUCTURE AND OPERATION OF WHOLESALE MARKETS

There are 180 wholesale markets in Turkey that are locally dispersed and that operate under authorities of municipalities. These wholesale markets are structured to receive fresh fruits and vegetables on a daily basis and enable consumers and/or processors to meet with the producers. Therefore, with some exceptions, entry of fresh fruits and vegetables to wholesale markets is a requirement.

The institutional structure is composed of administrative bodies and actual actors that take place in sales as declared by Ozkan et al. (2005). The wholesale markets are administered and all activities including entry and exit, storage and sales are supervised and audited by the coordinators entrusted by municipalities. In addition, there exists a jury board, directed by a public officer recruited by the local Directorate of Industry and Commerce to solve legal disagreements between the parties.

The individual producers are either real or legal persons and are enforced to sell their fresh produces at the wholesale markets unless the product amount is low and the amount is not authorised by the municipalities to be sold at local markets.

Figure 2: Fresh Fruit and Vegetables Marketing Chain in Antalya



Commissioners are powerful collectors that buy products from producers at a commission discount and exchange the products and sell them to retailers like shopping malls, catering firms and green grocers. Ozkan (2006) notified that these intermediaries also receive up to 8 % of the sales revenue as commission receipts.

Commercials are real or legal entities that buy products from commissioners and sell in domestic or foreign markets on their own behalf. These traders are entitled to give freight bills to purchasers and to transfer 0.1 % of the sales amount to Chambers of Commerce. Besides, authorised exporters are free of the wholesale market charges.

In addition to the real persons, collective representatives take their own places in the wholesale markets as well. For example, producer unions and cooperatives that are legally titled are able to represent their members and undertake sales activities on behalf of their members. Yet, besides being defined by the law, representation by producer unions and cooperatives is still very low within the sector. There are also civil associations representing commissioners and traders and negotiating in favour of their members mainly in disagreement and arguments.

The pricing in the wholesale markets creates considerable financial load for the producers. Ozkan reported in 2005 and 2006 that producers who bring their products to the wholesale markets are entitled to pay 8 % commission to intermediaries, 2.4 % agricultural withholding tax, 2 % municipality tax, 1 % Retirement Agency receipt and 1 % VAT. The total sales price reduction accruing to producers is 14.4 %.

However, there is another problem occurring because of the 'double taxation'. Due to legal impediments announced in 2007, entering in the wholesale market in both of the cities became a requirement, if the product is transferred between cities to reach retailers and final consumers. This meant 11.44 % additional price load, a new transfer from producers and consumers to commissioners and local governments. This legal requirement was abolished due to strong arguments. Recently, the producers or collectors are entitled to pay 2 % municipal tax if they collected the products from origin wholesale market and they are not enforced to enter into the market in the destination city. Yet, small retailers, unable to find direct selling opportunities, have to make double entry and they still pay the additional 11.44 %.

Even if wholesale market entrance turned into enforcement for producers and intermediaries, there are some out of market sales options, permitted by the law.

- *Direct sales of from producer to consumer:* Producers are allowed to sell in local area if amount of the product they sell is authorised by municipal authorities.

- *Sales organised by producer unions:* Producer unions, which represent more than 50 producers, are authorised to sell out of the wholesale market to real persons without getting charged for market services.
- *Sales of exportable products out of the wholesale market*
- *Sales of raw materials to food industry*
- *Sales of organic products:* Organic products are marketed under specific certification standards.
- Acknowledged sales when 15 % of the sales price is prepaid to the municipal authorities as a tax.

In order to pre-empt the wholesale markets in Turkey, it is also important to give information on the situation in other countries, mainly members of the European Union (EU). There are wholesale market organisations, embracing processed foods as well, in the EU countries. Yet, as Ozsu (2005) indicated there is no direct enforcement regarding entry to the market in wholesaling processes and such enforcement is regarded as an action against free competition. Besides, the service revenues of the municipalities are decoupled from sales volume and attributed to the area occupied and vehicle entry to the market as notified earlier by Cadilhon (2003).

The experiences of Western European markets are exemplary to the sense that they gather many kinds of fresh foods both primary and processed and they do not enforce direct product entry. Rather the objective is to ease small retailers' access to fresh produce, fruits and vegetables at the first sense and to consider quality standards like EUREPGAP seriously for sustainability of healthy food supplies to the citizens. Besides, producer organisations are being supported since 1996 and more than 1.400 product-specific organisations are authorised to sell products of their members as notified again by Ozsu (2005).

SWOT ANALYSIS FOR WHOLESALE MARKETS IN TURKEY

Strengths

- The system enables free market composition and correct cyclical price signalling due to the situation of the supply and demand forces.

Weaknesses

- There is huge amount of off-record sales in contrast of the recording requirement due to heavy wholesale market service costs;
- There are too many wholesale markets to run a separate system within provincial districts and municipal authorities have to face with location-related arguments;
- The many number of wholesale markets and their lack of adequate physical infrastructure disable implementation of modern marketing techniques;
- The system lacks quality pricing and there is limited quality differentiation;
- The system is far from assisting small, individual retailers due to price cuts, double taxation and transportation costs and the sales price rises in metropolitan cities, deterring the consumer from small retailers.
- Even if exportable products are allowed to be sold out of the market, some products are withdrawn for exports, creating quality and health problems in accordance with lack of standardization.

Opportunities

- As producer unions and cooperatives become more institutionalised, the farmers will have more opportunity to collectively bargain for price;
- The municipal revenues will help upgrading the market infrastructures, if fully utilised, and improvement in storage facilities will lead to upgrading in service quality, storage opportunities and hygiene standards.

Threats

- Quality pricing and hygiene standards could not be achieved in the given infrastructure and organisational system, which is an incompatibility when EU standards are considered;
- The pace of cooperation building between producers with reference to product segments is far from being effective.

DISCUSSION AND RECOMMENDATIONS

The review of the system revealed mainly the drawbacks of the wholesale markets in Turkey in terms of fresh fruits and vegetables marketing. Even if the system is favourable on price determination grounds, the producer prices are deducted and consumer prices are inflated due to service provision fees and complexity of inbound transfer of products.

The quality based pricing could not be reached under the existing system. This constitutes a drawback for free competition. Besides, the infrastructure problems and lack of storage and packaging units lead to quality and value losses preventing the achievement of quality standardization that the consumer desires. The lack of quality standardization results in quality regime discrepancies between Turkey and the EU and final consumer dissatisfaction.

The wholesale marketing system needs to be re-adjusted to assure competitive power of small retailers and satisfaction of final consumers that shop in modern retailers both on price and quality. Yet, these are not adequate to establish a compatible supply management system, since the entry requirement needs to be softened and alternative product recording schemes needs to be incorporated. This also means giving opportunities for development of modern retailing techniques that embrace direct channelling between producers and retailers and empowerment of producer organisations as it is the case in specially Western Europe.

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CO-CREATING EXPERIENCES IN THE EVOLVING INTERACTIVE MARKETSPACE

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ABSTRACT

Marketing communications literature has departed from unidirectional models of communication towards increasingly emphasising the omni-directional interactivity in which companies and customers are co-creating the communication process. The proliferation of the Internet and World Wide Web (WWW) in recent years has resulted in the creation of new social and marketing spaces, and a new form of interaction and identity formation. Whilst cost benefits and profit derivation of the Internet and other hypermedia-mediated communication environments have been the focus of much research, the majority of these assessments have left many assumptions unarticulated. Questions about how the present communication content and interactivity is different from the evanescent monolithic one-to-many communication models have been avoided. This paper investigates these deficiencies.

INTRODUCTION

Previous research into marketing communications and the Internet has tended to focus on either business to business (Hoffman and Novak, 1996; Kalakota and Robinson, 2000) or the ways in which computer-mediated marketing environments are ostensibly unique and operationally distinct from the traditional consumption process. Little attention appears to have been paid to the role of consumer in the evolving medium (Ozuem, Howell and Lancaster 2008). One might argue that it is important to attempt an understanding of the changing roles of consumer in the consumption process. Academics and practitioners are addressing the theory and practice of marketing communications and the Internet with the aim of understanding the influence of the emerging medium in the consumption process. Increased understanding of computer-mediated marketing environments championed by Internet technologies should enhance the design of reflective and effective marketing communication programmes between marketers and consumers which should, in turn, lead to effective relationships within the consumption process.

Computer-mediated marketing environments, a commercial and pedestal facet of Internet technologies, provides marketers with a malleable context that can be used to deliver content to consumers in a variety of ways. This capability highlights the distinction between the information in marketing communication and the vehicle used to deliver the information: that is, content differs from communication. Also, the versatility of the Internet as a context for mediated communication means that marketers can integrate different modalities of marketing communications into a strategy that combines online and offline tactics to meet strategic objectives (Coupley, 2001).

Whilst there is a great deal of literature that explicitly foregrounds the interactive marketplace, Hoffman and Novak (1996) have offered a new marketing paradigm for electronic commerce that has become the aspic lodestar of this exploration. On the basis of the seismic changes in the interactive marketplace, the authors identified two broad categories of consumption processes (Presence and Telepresence) and treated consumers in hypermedia computer-mediated environments to experience telepresence (Steuer, 1992), the perception of being present in a mediated, rather than real-world environment. In my opinion, following this line of thought points to an expansion of perception and the experience of presence beyond the presence. Hoffman and Novak

urged the decoupling of hypermedia-mediated environments from the transcendent and yet, surprisingly, offered few suggestions for accomplishing these dichotomous environments in the consumption processes.

When one talks about computer-mediated environments, much that drives interaction does not exist in users' exteroceptive experience. Rather, consumers experience seemingly introspective and unipolar environments. Hoffman and Novak, in particular, influenced practitioners and researchers to start grappling with the consumers' interactive trajectories in the evolving marketplace environment. Increased understanding of computer-mediated marketing environments championed by Internet technologies should, in turn, enhance the design of reflective and effective marketing communication programmes between marketers and consumers, leading to effective relationships within the consumption process. The study assumes that computer-mediated marketing environments, a commercial and pedestal facet of Internet technologies, provides marketers with a malleable context that can be used to deliver content to consumers in a variety of ways. This capability highlights the distinction between the information in marketing communication and the vehicle used to deliver the information: that is, content differs from communication. Also, the versatility of the Internet as a context for mediated communication means that marketers can integrate different modalities of marketing communications into a strategy that combines online and offline tactics to meet strategic objectives (Ozuem, 2004; Coupey, 2001; Varey, 2002, p.346).

FROM MONOLITHIC MEDIUM TO HYPER MARKETPLACE INTEGRATION

The integration of various conventional and hegemonic media into a hyper electronic marketplace heralds a new vista within the consumption process, providing a flexible and dialogical access between marketers and consumers in a way that undermines the instrumental and functionalist view of communication and providing fundamental opportunities where consumers are no longer passive recipients of communication but active participants in shaping their communication reality. Despite the alienation of asymmetrical marketing communication models as perpetuated in the technical-rational view of the nature and purpose of knowledge premised in the pedagogical scientific approach, marketing practitioners are prevalently and universally incorporating the emerging marketing medium as nothing more than informing technology. As a result, practitioners seek assumed *cause-effect type action-outcome situations* in which marketing communications are wielded toward the achievement of rational objectives in aberration of the sediments of social exchange reality of the communication medium (Varey, 2002, 2005; Hackley, 2004; Ozuem *et al.*, 2006).

Driven by the perpetuation of the mainstream quantification models, practitioners are obtusely ambivalent toward the voidance and inapplicability of the conventional monologic models. The absence of understanding resulting in the continual deployment of a mechanistic communication model may impede practice, which undermines the trajectories of development in marketing theory and practice concomitant to a dominance and exclusivity of economic thinking and values and a limitation of marketing to transactions involving exchanges (Buttle, 1990, 1995; Varey, 2000). There is a power effect of this ideological mainstream marketing, which tends to diffuse within the professional practice with less cognisance of the interactive apocryphal epoch of mediated marketing environment (Hackley, 2001: 106-107). In a recent study, Varey (2005) cautions that the nature and role of 'communication' has been 'taken-for-granted' and likewise marketing communications is far more than consolidated and associated to product promotion activities. Therefore, there is a need for conceptualising marketing communication in the evolving interactive marketplace with the primal task being to facilitate understanding in culturally and socially-constructed environments.

In past years, much has been reported on the cost effectiveness of a Web presence in the Business to Consumer (B2C) area and the predominant aspect of the Internet marketing- Business to Business (B2B) Carl and Shapiro (2000); Hagel, (2000); Hoffman and Novak (1996). However, research in Web marketing theory and practice is not well developed. What does exist indicates that the written text, a predominant trait of the World Wide Web (WWW) and the creation of virtual communities are important aspects of the Web marketing process. Whilst the literature pertaining to a Web presence is not exhaustive, it does provide some possible clues for conceptualising the nature and segments that have evolved from this paradigm. Prior to this study, there was not a great deal of information available about marketing communication trajectories in cyberspace as virtually all extant models espouse the passive one-to-many communications. Web presence research took place in managerial,

organisational, health therapy and educational settings and focused on cost effectiveness and social support derivations (e.g. Epston and White, 1994; Berthon *et al.*, 1996; Wellman, 2000; Burrows and Nettleton, 2000).

CO-CREATING UNIQUE EXPERIENCE IN THE MARKETPLACE

The Internet is a model of distributed computing that facilitates interactive multi-dimensional many-to-many communication. As such, the Internet supports discussion groups (Usenet news and moderated and unmoderated mailing lists), global information access and retrieval systems such as the near ubiquity of the World Wide Web. The WWW, the first and current networked global implementation of a hypermedia computer-mediated environment (CME), is increasingly being recognised as an important emerging commercial medium and marketing environment (Hoffman and Novak, 1996; Ozuem, Howell, and Lancaster, 2007; Pires *et al.*, 2006). The proliferation of the Internet and World Wide Web (WWW) in recent years has resulted in the creation of new social and marketing spaces, and a new form of interaction and identity formation. Whilst cost benefits and profit derivation of the Internet and other hypermedia environments have been the focus of much research, the majority of these assessments have left many assumptions unarticulated and avoided the questions of how the present communication content and interactivity is different from the monolithic one-to-many communication model. Consumers, hitherto receivers of the unidirectional mode of communication, have been transformed to potent participants in the emerging networked economy.

The potential of the networked economy, especially its prominent prototype-Internet, has not only created a global economy but a means of communication through the popularity of the WWW. The inherent potential of the World Wide Web on the Internet as a commercial medium and market has been widely documented in the relevant literature (Evans and Wurster, 1999; Hoffman and Novak, 1996; Armstrong and Hagel III, 1996; Deighton and Barwise, 2001; Blattberg, 1996; McKenna, 1995). For example, Kiani (1997) contended that the increasing popularity of the Web has given many consumers, marketers and users a new experience. Despite the fact, however, that this is recognised as a central issue in the marketing and marketing communications literature, there is still a lack of rigorous cross-industry empirical research on interactivity and benefits of accessing the evolving marketplace.

Hoffman and Novak (1996) perspicaciously pointed out that the Internet, and particularly the World Wide Web, has some unique characteristics that make it central to the perceived paradigm in the way in which goods and services are likely to be marketed in the future. Hoffman and Novak proposed that the World Wide Web is a virtual, many-to-many hypermedia environment incorporating interactivity with both people and consumers. Thus the Web is not a simulation of a real world environment, but an alternative to the real-world, where consumers may experience telepresence (Steuer, 1992), the perception of being present in the mediated world, rather than a real environment. Hoffman and Novak maintain that users of the medium can provide and interactively access hypermedia content and communicate with each other. The authors assert that two unique properties, machine-interaction and person interaction, have contributed to the rapid diffusion of the Web as a commercial medium over the last few years. Corresponding to Hoffman and Novak's ontological perspectives of the uniqueness of the Internet, and *inter alia* its archetypical facet, the World Wide Web, Blattberg *et al.* (1994) counter that marketing is shifting into a new phase which they called fifth phase. The authors, by tracing the historical development of the market and identifying five different stages of market development, explained the ways in which the information revolution would probably transform the firm and marketing function. The Internet is a new form of mass communication. Mass communication, while itself being a relatively new phenomenon, has always involved controlled broadcasts to passive audiences. As in most marketing communications, the mass audience has never had any significant input, or control, over the content of mass communication. With the nascent Internet, these characteristics of mass communication have forever changed. On the Internet we find massive numbers of organisations and individuals broadcasting information to a massive number of audiences.

MARKETING IN A POSTMODERN CONTEXT

A shift is underway in some areas of the marketing arena. It is undeniable that the shift in which marketing operates is changing irrevocably, affecting consumers in a global landscape. The consumer is becoming more of an abstract concept, alternating identities between the extremes of cyber-consumer and traditional buyer. Conventional heuristics and techniques that have pervaded and been deployed successfully for years are seen as increasingly less effective as marketers grapple with the enigma that is the new consumer. Several terms are used to describe this nascent movement, such as postmodernism, post-structuralism, post-positivism, constructivism and social constructionism (Brown, 1995; Turkle, 1996; Berthon and Katsikeas, 1998; Malpas, 2001, *ibid*). For the purposes of this study, the term postmodernism will be used because it implies and characterises the social phenomenon inherent in the network economy. Postmodernism is a rubric of praxes and thoughts that 'dis-embodies' the information age, and thus offers unique insights into information-rich contexts such as the Web where most developments in marketing are taking place.

As Best and Kellner (1991) noted:

Postmodern theory provides a critique of representation and modern belief that theory mirrors reality, taking instead 'perspectivist' and relativist positions that theories at best provide partial perspectives on their objects and that all cognitive representations of the world are historically and linguistically mediated (p.4)

The project of modernism with its 'subjects' such as centripetal mode of communication (the monolithic-passive mode of communication) comprises the efforts to develop objective knowledge, absolute truths, universal morality and law, and autonomous art (e.g. Harvey, 1992; *cf* Best and Kellner, 1991: 5-6). It is the sustained attempt to free human thinking and action from the irrationality of superstition, myth and religion. It comprises the basic summons towards human emancipation, clearly enunciated in the Enlightenment. It has at its heart the idea of the 'rational subject' as the primary vehicle for progress and liberation. It stresses unification and harmonious presentations. Its themes could, in contrast to postmodernism, comprise integration, differentiation, objective reality, linear time and delineated space, orthodoxy, unity and foundationalism (Berman, 1983).

Modernism is a more coherent movement (because it values coherence), which has at its heart one fairly distinct core philosophy, ideology and belief system. In contrast postmodernism is characterised by multiple beliefs; postmodernism in some of its many guises actively seeks to undermine ideology and belief (e.g. Derrida, 1976). Postmodernism seeks to subvert and debunk the assumptions underpinning previous ages, thought systems and discourses. The embryonic marketing paradigm falls in line with postmodern frameworks and turns to softer epistemologies that emphasise contextual methodologies and decentred landscapes. The constituent landscapes offer a theory for the felt experience of multiple inner voices. Although our extant communication models were traditionally presented in consistency (unidirectional communication models), feelings of fragmentation abound now more than ever. A growing number of researchers and marketing professionals (Hoffman and Novak, 1996; Tapscott *et al.*, 2000; Negroponte, 1995; Blattberg *et al.*, 1996; Pires *et al.*, 2006) argued that these feelings of fragmentation characterise the postmodern aesthetic cultural background.

According to Baker (2001), the fragmentation of markets is one of three main forces identified as driving the emergence of a new style of marketing, one that focuses on meeting the challenge of the postmodern consumer. Baker, echoing Brown, described consumers as 'shopping on speed' as they hunt for something worth reading, wearing or buying. Contributing to this is the unceasing proliferation of products and the endless stream of advertising, as well as consumers' disconnected lifestyles. Other drivers of this shift to a new style of marketing can be summarised as the desire for consumer 'experience'. By experience Baker means the positioning of self and identities in cyberspace in fragmented themes where reality becomes blurred with hyper-reality: the fake becomes more real than the real. And finally, consumers are becoming more marketing literate. They are no longer passive absorbers of marketing messages. As such, the observed has not only started playing games with the observer but in some circumstances dictates which game is to be played. McKenna (2001: pp.4-5) of McKenna Consulting Group gave quintessential expositions of the changes inherent in today's marketing landscape.

McKenna stated:

The kind of marketing we're seeing today is a descendant of past practices. It evolved along with twentieth-century mass production mentality, and it has become something of a

pseudopsychological propaganda machine. Today is at once a corporation's most assertive public face and its most undefined and elusive activity. Marketing, like total quality management, is becoming a distributed and shared responsibility within the enterprise. We can no longer view it from a single perspective, just as it no longer operates through only one medium. These changes occurred for several reasons. For one, marketing hasn't kept up with the evolution of technology and business processes, causing it to fall into a malaise with its reliance on the pure broadcast model. While technology has become more and more transparent and adaptive, many marketing strategies have remained static models of a bygone era. Brand, now the centre of all marketing activities, has been misinterpreted as attention, showmanship, events, and celebrity – even market valuation. In addition, consumer means and method of interaction are changing, as is the whole marketplace, thanks to cultural, social, and economic forces. What we do know is that interactive consumers are not passive, as past marketing supposed. They are not anaesthetized couch potatoes mindlessly absorbing images and messages. They're proactive, but they're also overwhelmed, oversaturated, and, for the most part, passive to mass media advertising.

Similarly, Gergen (2001) perspicaciously pointed out that the romantic and modern beliefs about the self are falling into disuse, and the social arrangements that they support are eroding. This is largely as a result of social saturation. According to Gergen, emerging technologies (such as the Web) saturate us with the voices of humankind – both harmonious and alien. As we absorb their varied rhymes and reasons, they become part of us and *vice versa*. Social saturation furnishes us with a multiplicity of incoherent and unrelated languages of the self. For everything we 'know to be true' about ourselves, other voices within respond with doubt and even derision. Gergen indicated that the fragmentation of self-conceptions corresponds to a multiplicity of incoherent and disconnected relationships. These relationships pull us in myriad directions, inviting us to play such a variety of roles that the very concept of an 'authentic self' with knowable characteristics recedes from view. The fully saturated self becomes no self at all.

Gergen likened the saturated self with the condition of postmodernism. And that postmodernism does not bring with it a new vocabulary for understanding ourselves, new traits or characteristics to be discovered or explored. He proposes that its impact is more apocalyptic than that: the very concept of personal essences is thrown into doubt. Selves as possessors of real and identifiable characteristics such as rationality, emotion, inspiration, and will, are dismantled. Gergen (2001) emphasised that the postmodern condition is generally marked by a plurality of voices vying for the right to reality – to be accepted as legitimate expressions of the true and the good. As voices expand in power and in presence, all that seemed proper, right-minded, and well understood is subverted (*ibid*). In the postmodern world we become increasingly aware that the objects within which marketers interact are not so much in the 'real world' as they are products of perspective. In such a situation, processes such as emotion and reason cease to be real and significant essences of persons; rather, in the light of pluralism we perceive them to be imposters, the outcome of ways of conceptualising them. Under postmodern conditions, persons exist in a state of continuous construction and reconstruction; it is a world where anything goes that can be negotiated. Each reality of self gives way to reflexive questioning, irony, and ultimately the playful probing of yet another reality. The centre fails to hold.

As noted by Berthon *et al.* (1996) fragmentation is apparent in a number of spheres in cyberspace. First, cyberspace offers the ultimate in niche marketing: millions of discussions groups, newsgroups, special interest groups, and a greater diversity of product and service than any high street. Indeed, a significant amount of the material placed on the Internet is designed to reach a single person, handful of people, or a group less than 1,000 (Besser, 1995). Berthon *et al.* argued that the very fact that people find companies on the Web, rather than vice versa as in traditional media, means that the premise of mass marketing is eroding and irrelevant in the network economy. Berthon *et al.* emphasise that people experience and behave differently in the new medium, with the Web seeing a fragmentation of consensus about issues and 'selves'. In a subsequent study Newell *et al.* (2001) argued that cyberspace can be described as an interactive and decentred technology, which therefore has the potential for multiple interpretations and effects. As Newell *et al.* pointed out, cyberspace is often promoted as a technology that enables processes of communication, collaboration and social coordination. The subsequent section looks at the historical antecedent of Internet technologies' greatest manifestation – the World Wide Web.

FINAL REFLECTIONS

In summary, understanding the new marketing paradigms cannot be separated from the postmodernist philosophical underpinnings. To say the least, new marketing paradigms enable understanding of postmodern marketing. Recent technological advancement, especially the burgeoning of Internet architectures as a commercial and communication medium, has provided some marketing novelties. Notable amongst these marketing novelties is the evolving and enhanced interactivity between companies and consumers. Interaction between companies and consumers is no longer based on monolithic flow but on uncircuitous and omnidirectional trajectories where perceptions are co-created and consumed. Creating such a new platform in marketing demonstrates a paradigmatic shift in concordance with postmodernist leanings. The current paper puts the consumer's perception at the centre stage of discussion and distinguishes it from the functional, intellectual and pragmatic craftsmanship that surrounds the current thinking in marketing practice. It highlights computer-mediated marketing environments as a concatenation of marketing communications media grounded in fragmentary and defragmented open architecture, a nascent architectural provision where consumers are no longer passive recipients in the consumption process but co-equivalents in making fundamental decisions melded in conative frameworks.

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GAMBLING OR STRATEGIZING? CEO COGNITIONS AND PERCEPTIONS OF SUCCESS IN THE GLOBAL MERGERS AND ACQUISITIONS GAME

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ABSTRACT

Repeated but largely inaccurate predictions of success are central to the continued popularity and profligacy of mergers and acquisitions. Drawing from theories of strategic discourse, decision making, and individual agency and based on the empirical context of a large international banking acquisition, we develop a model of CEO predisposition for the interpretation of M&A success. The model proposes an array of factors influencing chief executive predictions and subjective judgments of success even in the face of conflicting evidence.

HIGH RISK, HIGH STAKES AND LOW REWARDS?

Mergers and acquisitions are risky transactions, but CEOs masterminding acquisitions tend overconfidently to predict their success (Heaton 2002; Malmendier and Tate 2005; Billett and Qian 2008). The evidence from more than a century of merger, acquisition and takeover activity weighs very strongly against the fulfillment of such expectations (e.g., Dewing 1921; Agrawal, Jaffe and Mandelker 1992; Moeller, Schlingemann and Stulz 2005). Why then do chief executives incline so strongly toward anticipating and judging their transactions as successful? In this paper we examine factors influencing corporate leaders' expressed interpretations of success (or less frequent interpretations of failure) in the merging of multinational companies. Rather than approaching mergers and acquisitions (M&A) from the operational perspective of joining together systems or the financial perspective of stock price variations, our research addresses the subjective assessments evidenced by centrally networked agents with visible media profiles in multinational arenas. Intercorporate combinations have been frequently examined from financial, economic, strategic and cultural perspectives. Except notably in the work of Vaara and colleagues (Vaara 2003; Vaara, Kleymann and Seristö 2004; Vaara, Tienari and Laurila 2006), they have been relatively neglected as sociopolitical events constructed through the calculated use of language viewed through a critical lens. Drawing from theories of strategic discourse, decision making, and individual agency in a multinational context, we contribute to this underexplored area by inquiring into articulations of M&A success or failure.

We study the research question conceptually as motivated by a particular case. This case involves an unprecedented consortium of three large banks (Royal Bank of Scotland, Banco Santander, and Fortis) from three different countries (UK, Spain and Belgium) undertaking to acquire a fourth large bank (ABN AMRO of the Netherlands). In this collaborative and hostile takeover, a fifth firm comes into play: the investment bank (Merrill Lynch) uniquely advising the consortium. As counselor to all three firms, Merrill Lynch (which in late 2008 was taken over by Bank of America) proposed boundary-pushing combinations of financing initiatives (rights issues, equity swaps, and leverage) to be followed by integration tactics selected by each acquiring firm (in brief, conquering the acquired firm, collaborating with the acquired firm, or divesting the acquired firm).

Based on our theoretical framework and the details of this case, we develop propositions to elucidate the hard-held images of initial success, reluctantly forfeited only as disaster arose for at least two of the acquiring firms.

EMPIRICAL CONTEXT AND THEORETICAL APPROACH

Examining documents describing the RBS-Santander-Fortis collaborative and incompletely consummated acquisition of ABN AMRO in 2007-2008, we first identify major cultural, financial and transformational aspects of this attempted record-breaking deal in the international banking industry. Featuring the viewpoint of top executives as portrayed in the US and European business media, we have begun to track how leadership tactics and pronouncements change within the unfolding M&A transaction. The composite represents a tale of high expectations, innovative underwriting arrangements, amiable interorganizational leadership interactions, prompt regulatory agency approval, cautious shareholder and stakeholder approbation, and seemingly smooth initial execution. The global credit markets crisis imploded shortly after the three-way acquisition had received the required regulatory sanctions and each acquiring bank had entered the early implementation phases for subsuming or selling its share of the target. Revelations from each bank of ethical breaches and large losses quickly followed.

Part of our methodological challenge has been to collect extensive business media content in the two main languages (Dutch and English) representing multiple involved countries (Belgium, the Netherlands, UK and US). Our research design includes data collection from leading general and financial newspapers as well as other news outlets. An extensive array of public documents—from the international business press, EU/EC documents, and corporate publications—is commonly available in a high-profile transaction such as the RBS-Santander-Fortis intended acquisition of ABN AMRO. We concentrate on the Fortis part of the acquisition to take advantage of our respective scholarly cultural and linguistic backgrounds (Dutch, French and English-speaking Belgian and native English-speaking US) and also to highlight the strongly transformational aspects of a deal nearly catapulting the mid-rank bank Fortis into the top tier.

The experiences of the acquiring banks provide valuable insights into the total acquisition and postacquisition milieu. Each firm had its own serial acquisition history creating organizational traditions and climates conducive or inhibitory to fulfilling the focal deal (see Appendix for additional detail). Briefly by way of background, it is helpful to know that Barclays PLC (UK) first courted ABN AMRO (Netherlands), which then received a hostile takeover bid from an international consortium composed of the Royal Bank of Scotland PLC (UK), Fortis NV (Belgium and the Netherlands), and Banco Santander SA (Spain). The three partners had complementary interests based on their respective competitive competencies and geographic domains. The European Commission sanctioned the collaborative bidding and dismantling plan. RBS, the lead player, targeted the ABN AMRO global corporate bank (including the Dutch wholesale business) and the US division; Santander, the second member of the consortium, selected the Italian and Brazilian subsidiaries; Fortis corralled the remaining operations in the Netherlands, including the private banking and asset management businesses.

Transformational organizational change and competitive repositioning have sometimes occurred in large M&A transactions. At their most metamorphic, these transactions have created business entities of vastly revised form and function in the international marketplace. The banking industry has witnessed its share of gargantuan consolidations to form global leviathans such as Citigroup, UBS and ICBC. Moreover, large-scale banking M&A deals have been a bellwether for transformative combinations in other industries. Such were the presumptive success expectations of the three acquiring firms in the ABN AMRO transaction.

By studying a transaction that moved quickly from inception to near-cataclysmic denouement, we have had the advantage of reviewing both real time and recently retrospective media assessments. The span of events runs rapidly from acquisition offer (April 2007) to acceptance (October 2007) to adulation amidst imminent expansion (November 2007-May 2008) to unanticipated financial downturns and retreat (June-July 2008), stockholder rebellion (July-August 2008), and emergency nationalization measures (October 2008), ironically culminating in a form of reverse acquisition with ABN AMRO prospectively again dominating Fortis in Dutch retail banking markets (November 2008). Frequent changes in the top positions occurred, and executive

departures eased by enormous golden parachutes—severance severely disproportionate to both the economic climate and the performance of the firms—provoked fervent outcries (December 2008). Secondary data collection for additionally understanding the historical context has further informed our investigation of the MNCs combining, diverging, and recombining in new ways.

This study draws from the literatures on actor-oriented, sociopolitical perspectives within international organizational settings (e.g., Geppert 2003; Geppert, Williams and Matten 2003; Dörrenbächer and Gammelgaard 2006; Scherer, Palazzo and Baumann 2006); the role of media in business and society (e.g., Lamertz & Baum 1998; Mazza & Alvarez 2000; Vaara, Tienari & Laurila 2006; Watson 1998); M&A purpose, implementation and performance (e.g., Agrawal & Jaffe 2003; Healy, Palepu & Ruback 1992; Moeller, Schlingemann & Stulz 2005); decision making in situations of high risk and uncertainty (e.g., Staw 1976; Staw, Sandelands & Dutton 1981; Tversky & Kahneman 1974); and strategic discourse manipulations accompanying leadership as a language game (e.g., Coffee, Rose & Lowe-Ackerman 1988; Hirsch 1986; Hirsch & Andrews 1983; Pondy 1978; Robichaud, Giroux & Taylor 2004; Westwood & Linstead 2001). Our contribution centers on an enhanced understanding of the intersection of individual and shared interests in politically sensitive and fiscally volatile business situations involving many countries, dealmakers and organizations. We contend that the more competitive, pressured and financially constrained the acquisition context, the more labile the leadership. Labile means changeable in a potentially unsteady way. We apply the term here to an adaptability provoked by economic exigencies, where that adaptability may range from productive to destructive as corporate leaders under fire struggle to adjust to adversely changing circumstances.

Our approach presumes knowledge as a social construction reflecting subjective realities and micro-political disharmonies. The aspects of language (e.g., tone, secrecy, openness, ambiguity, uncertainty) conveyed in the media illuminate embattled interorganizational boundaries, which in turn help explain why mergers and acquisitions between MNCs are so difficult. While the languages of the erstwhile combining firms (Fortis and ABN AMRO) overlap, suggesting the possibility of kinship, the national and organizational cultures of the two firms have been distinct, creating an atmosphere of distance. The Fortis experience with ABN AMRO contrasts with the experiences of RBS and Santander regarding their respective acquisitions of parts of the former Dutch global financial giant. The stories of subsidiary and headquarters managers and affiliated financial advisors, as portrayed in numerous documentary sources, reveal the incongruities and conflicts in merging organizations across borders. The irony is that the merging firms were already multinationals with operations in many nations, yet the different headquarters locations (even when Fortis had dual Belgian and Dutch headquarters) represented unique deeply-rooted economic, historic and political identities imperiling interactions among the key actors from each firm. These inter-firm, cross-border clashes of the merger exist alongside the established intra-firm, cross-border conflicts within the MNC (Dörrenbächer and Gammelgaard 2006). Sociopolitical dialectics of conflict and cooperation, autonomy and interdependency, subjugation and support appear in the interactions of competing individuals or interest groups merging firms across national boundaries.

TOWARD A SOCIOPOLITICAL-LINGUISTIC FRAMEWORK FOR UNDERSTANDING EXPRESSED SUCCESS OR FAILURE IN THE MERGING OF MULTINATIONA FIRMS

The previous section described the empirical context motivating the current conceptual inquiry. The present section provides our emergent framework concerning success-laden interpretations. We review prognostications and expressions of success or failure in mergers, acquisitions and takeovers and offers critical reflections on leadership utterances. In particular we provide theoretical perspectives on individual agency and sociopolitical influences in multinational settings, international media representations of large interfirm combinations, the performance of merged firms, judgment and decision making, and the strategic use of language by corporate leaders. (Note that the terms merger, acquisition, or takeover may be used relatively interchangeably. Apart from shades of meaning, as will be further remarked, there are no legal or regulatory distinctions.) In conclusion we discuss implications and future research directions.

M&A Popularity, Implementation and Performance

Although growth by intercorporate combination remains popular in economies worldwide, dilemmas such as disgruntled employees, disenfranchised stakeholders, and widespread elective or imposed departures abound, intensifying fiefdom and communication issues already problematic within the constituent firms. The odds of a successful transaction—whether we determine success by shareholder value, accounting performance measures, lack of divestiture (that is, the acquired firm is not eventually sold off), employee morale, globalization, innovation, or market share—are undisputedly low (Moeller and Schlingemann 2005; Moeller et al. 2005). M&A deals have been a classic form of organizational disruption, with typically adverse results on multiple measures. Yet the lure of worldwide expansion and favorable returns means these transactions persist as fashionable strategic tactics despite the human and financial costs.

Corporate unions can depress shareholder value on the acquiring side (e.g., King, Dalton, Daily and Covin 2004) but have nevertheless the potential to build competitive advantage for MNCs in a global economy with increasingly permeable boundaries (Adler and Dumas 1975; Eun, Kolodny and Scheraga 1996). The worldwide diffusion of their products and services sustains the viability of many firms (Lessard 1973). Consolidation within industries becomes a strategic imperative in competitive product markets where size advantages firms in negotiating contracts and receiving government protections. Beyond the proven financial benefits to target firm shareholders, expansion through M&A confers symbolic rewards on the acquiring corporations and their chieftains. Intercorporate combining thus functions concurrently as a strategic tool, a vehicle for leadership expression, and a means of status enhancement (see Podolny 1993).

The theoretical relevance of major business combinations additionally stems from the tenets of institutionalism and population ecology. According to institutional theory, certain firms (often those large and established) set the standards for others to mimic to achieve legitimacy (DiMaggio and Powell 1983; Zucker 1987). In the reasoning of population ecology, certain firms (again often those that are large) dominate niches based on organizing for initial conditions, but lack the capability for large-scale change (Hannan and Freeman 1977, 1984; Carroll, Delacroix and Goodstein 1988). Both institutional and population ecology theories predict imperfect responsiveness to environmental contingencies. Yet contrary to the lockdown of inertia, mergers arguably constitute a response to global competition, domestic deregulation, accelerating stock prices, and technological advances (Shull and Hanweck 2001).

Not the M&A negotiation but rather the postacquisition integration poses the greatest challenge to most dealmakers (Birkinshaw, Bresman and Hakanson 2000). The economic goals flourish or falter depending on the ease of implementation of the deal (Datta 1991; Datta and Puia 1995). Human factors, cultural compatibility, and sociopolitical nuances compel increased attention to non-financial considerations such as balancing CEO attention among competing constituencies (Allred, Boal and Holstein 2005). Framing the transaction as partnership rather than conquest-oriented can assist with the transition period. Alternatively, being very clear on the dominant role of the acquirer can simplify the mandate for streamlining operations and resource allocation across two firms (Welch 2001). Either way, the CEO can succumb to personal and external pressures to put the most positive spin on a difficult process: to reassure shareholders and analysts that financial milestones will be met while soothing organizational members and community stakeholders as to the smooth functioning of the firm and regard for outside interests.

Proposition 1: The more extreme the acquisition goals and the more difficult the postacquisition integration period, the more the CEO will be inclined proactively and repeatedly to label the transaction a success.

The Role of the Media in Business and Society

The importance of M&A transactions further arises from the ubiquitous presence of corporations in daily life and the “24-7” media presence. Reflecting corporate immanence, the rise of investor capitalism has meant greater activity and influence on the part of individuals and institutions buying or selling equity and debt positions in capital markets (Useem 1993). The previous era of managerial capitalism vested wide latitude in the general power and decision making authority of chief executives and boards of directors (Berle and Means 1932; Chandler 1977; Lorsch and MacIver 1989). Fewer individuals owned stock, scrutinized corporate governance,

or demanded executive accountability. The growth of public and private pension plans (as institutional investors pooled the assets of growing numbers of individuals), coupled with prolonged exuberant markets and the concomitant economic prosperity (punctuated by periodic downturns) has corresponded to the increased presence of institutional shareholders on boards and individual shareholders as vocal stakeholders.

Reinforcing the rising shareholder voices, industry analysts and the business media came to exert greater influence on corporate governance, to the extent that executives began to woo these forces for favorable reviews (Khurana 2002). Moreover, corporate top leadership and the media more and more adopted a symbiotic relationship as the business press depended on corporate misadventures for attention-grabbing news, and CEOs looked to the business press to affirm their stature and performance (e.g., Bryce 2002; Berenson 2003; Wade, Porac, Pollock and Graffin 2006). Thus the business press increasingly became an arbiter and interpreter of firm actions and various business affairs especially in the US and EU (e.g., Micklethwait and Wooldridge 1996). The media-CEO relationship can be close and sometimes sympathetic but also still clear-sighted and not sycophantic. Journalists may project the impressions corporations wish to convey yet later offer more penetrating judgments regarding the honesty, practicality, and longer-run implications of corporate decisions.

By audience rule (as in life-or-death decisions by the crowd in the gladiatorial arenas of ancient Rome), success is success when the mass market of investors says it is so—except that investing as a commonplace has not necessarily made deep knowledge of firms or markets a commonplace, which again leaves open the way for the media to express (or reject) CEO interpretations and influence investor perceptions of failure or success.

As an example of the transition from laissez-faire capitalism to media-fuelled investor capitalism and the increased power of the press, we consider types of M&A deals and the interaction of CEOs and the business press in asserting a typology. While no legal disambiguation exists for the terms merger, acquisition and takeover, distinctions surface in the phrasings of corporate public relations and business reporting. (We refer to phrasings both voiced by CEOs and quoted by business journalists, or used by business journalists on their own initiative.) Based on our evolving systematic examination of M&A coverage in the business press, mergers suggest bilateral negotiation, agreement, and goodwill, including a low premium and a post-transaction management and ownership structure with proportionate representation of the partnering firms; acquisitions may have amicable negotiations, but the senior management of the acquiring firm usually dominates the combined entity and pays a high premium to propitiate the target management and shareowners; takeovers imply elements of force. That is, while acquisitions and takeovers both presume the hegemony of the acquirer, takeovers further involve overtly predatory and coercive behavior, including deep cost cutting, extensive job reductions, and rapidly enforced removal of the target top management.

Differentiating deals becomes an issue of both journalistic semantics and corporate strategy. Although “mergers” may center on opportunities for revenue growth and “acquisitions” and “takeovers” on the benefits of organizational slimming and cost savings, at the most basic legal level, one firm purchases another—thus essentially all mergers, acquisitions and takeovers are “acquisitions” fundamentally (see Flom 2000). Economically it can be argued that all intercorporate combinations are inherently cost-cutting measures (Harford 2005). The financial objectives espoused by corporate governance usually emphasize synergy realization or revenue escalation over cost reduction (Oliver 2001), as illustrated by the prevalence of the word merger in the vernacular. In the spirit of “firms do not shrink their way to greatness,” the business press usually writes more favorably (at least initially) of revenue increases to bolster the long-term financial profile of the firm than of cost reduction or downsizing for shorter term defensive purposes (Vaara and Tienari 2008).

Proposition 2: Sometimes helped and sometimes hindered by the business media, CEOs select and vary their descriptors for the M&A transaction to best convey the image of success.

Actor-Oriented, Sociopolitical Perspectives in Multinational M&A

Issues of personal as well as corporate power and politics are salient yet often latent in mergers and acquisitions, as witnessed by the profusion of public camouflage versus private disarray throughout the course of these transactions (Vaara 2002). Key individual actors and coalitions can facilitate or threaten the successful merging of MNCs (Haspeslagh and Jemison 1991). This perspective shifts the level of analysis downward. Amidst the combative or cooperative interactions of diverse individuals and interest groups, firm-level strategy

recedes to context and micro-level rationales and tactics advance in prominence (Geppert 2003). Individuals align with each other based on shared interests that may be at odds with the corporate agenda. Different interests become manifest in different clusters of allies. Dramatically differing stakeholder expectations—stemming from disparate national identities, unique corporate cultures, and omnipresent threads of self-interest—surface in individual and group-level gamesmanship (Dörrenbächer and Geppert 2006) in the enlarged transnational social space of the merged or merging multinational firms (Dörrenbächer 2007). The CEO becomes the focal point for transforming contested ground into common ground (Heifetz 1994). CEOs function as architects of major M&A transactions (Balmaceda 2006), and as formally-recognized leaders in powerful, high-status positions, they must adjudicate between coalitions vying for their attention and other resources. This responsibility translates into the pressure to present a flourishing and unified transaction, which CEOs often erroneously perceive as a simpler task than openly acknowledging and coping with conflict and dissent (Finkelstein 2003).

Proposition 3: The diverging expectations of various individuals and interest groups influence the tensions and assessments of the M&A transaction as elided in the success-oriented language of the involved CEOs.

Decision Making in Situations of Extreme Risk and Uncertainty

The very riskiness and high stakes of multinational (or domestic) acquisitions contribute to dealmaker tenacity and unwarranted expressions of optimism. Escalation of commitment (Staw 1981) and disregard for sunk costs (Datta, Rajagopalan and Zhang 2003) bind CEOs to faltering strategic maneuvers. The publicity and extensive press coverage surrounding large deals further complicates retreat. An advertisement for a well-known management consulting company describes a champion decision making style as “40% information, 60% interpretation.” The stated proportions must be impressionistic, but the relative weightings are suggestive of truth. Individuals start with information as a raw input, which heavily filtered and processed becomes interpretation, the results of which tend to be viewed by individuals as logical and ordained. In fact the processing of information can be quite subjective with essential biases prevailing (Tversky and Kahneman 1974). Decision making under pressure can skew subjectivity even further (Staw, Sandelands and Dutton 1981; Dutton and Jackson 1988). As high-risk business maneuvers offering the elusive promise of high rewards, M&A deals pressure their strategists toward achieving—or assessing—success.

Proposition 4: The larger and more public the M&A transaction, the greater the probability that CEOs will internalize overcommitment and predict and pronounce deal success.

Leadership as a Language Game

Having previously considered language specifically as expressed through the media, we now turn to language as a weapon or means of command. Language serves multiple purposes—for instance, in organizational settings and elsewhere, language reveals motivation and emotion (Pierce 1995), contributes to culture formation (Boje 1991), and defines the public roles of key contributors (Gabriel 2000)—and the relationship between language and power is complex (Robichaud, Giroux and Taylor 2004). For instance, we might reason that the more powerful a CEO is, the less subterfuge he or she employs because power affords protection for speaking directly. We can also argue the opposite, that more powerful CEOs essay linguistic subterfuge to preserve their influence by intentionally confusing and thereby controlling listeners. As observed by Pondy (1978), leadership is a language game designed simultaneously to provide the stability of routine and to provoke constrained change. (Leaders desire innovation but not at the price of regime disruption.) The previously described selection of terms for M&A transactions displays CEO positional power and control and reflects both executive decision making and the sociopolitical construction of reality. What is real is what we perceive to be real as mediated by interactions and articulations around us (Berger and Luckmann 1967).

The sociopolitical construction of M&A transactions provides a more nuanced event portrait than the straightforward legality of which firm presents as the acquirer (buyer) and which as the target (seller). As previously proposed, different terms (merger, acquisition or takeover) may be selectively applied to the same transaction. Although one term may predominate, it may not be immediately apparent which term in the seemingly contradictory mixture of language represents the true nature of the deal. What begins with the ideal of a merger, where senior management from both participating firms plan to share in the governance of the

combined entity, may end with the reality of acquisition, where the culture and management of one firm have displaced those of another. *Retrospective rationalization and re-labeling of the transaction may still contribute to impressions of success. In these situations, failure arises not with respect to original expectations but rather with the inability to effectively reformulate after the event.*

The distinction among M&A types occurs as well in the details and implementation of the transaction, such as whether the merged firm leans more toward the acquirer or target in its headquarters location, management structure, or name. The merged firm name inclusive of both acquirer and target infamously functioned as a Trojan Horse for dominating intentions by the acquiring firm in the 1998 cross-border creation of DaimlerChrysler (see Financial Times 2000; Vlasic and Stertz 2000; Schneider 2001 on how Daimler-Benz converted the merger-of-equals deal with Chrysler into a takeover). The acquiring management may preserve the target name not only to succor dealmakers from the target side but also because using the better-known, more illustrious and historic name enhances the brand equity of the product portfolio. A prestigious name for the blended firm further lends an aura of success to the combinatorial transaction.

The deliberate deception of the target by the acquirer promotes the guise of success as does an apparent interpersonal affinity between the acquiring and target CEOs (Wall Street Journal 1998). As became more pronounced beginning in the 1990s global merger wave, CEOs from both sides of the transaction (acquiring and target) played prominent roles as strategists, arbiters, and interpreters of the increasingly larger transactions (Holmstrom and Kaplan 2001). The joint leadership language voiced from these positions of prominence had a false bonhomie, occasionally revealing but more frequently obscuring the darker reality of deal terms and ramifications (Howe 2002). Often aided by the business press (Vaara and Tienari 2008), many acquirers hid the intent for dominion behind the fuzzy friendship and inclusivity of the merger label. Whether acquiring CEOs initially portrayed themselves more as allies or enemies of their target counterparts, the working bonds between the two dealmakers were unlikely to outlast the first anniversary of the transaction (Financial Times 2003).

The choice of M&A performance measures has depended partly on the CEO and the firm's strengths of the moment (Hamel 2000) and partly on analyst expectations (Berenson 2003). For instance, postacquisition momentum may be assessed on the basis of equity enhancement (increase in share price and total market capitalization, see Dymski 1999), accounting performance measures (such as asset productivity or operating cash flow returns, see Healy, Palepu and Ruback 1992; Agrawal and Jaffe 2003), or innovation performance improvement (the number or combinations of new products brought to market, see Ahuja and Katila 2001). Even with the post-Sarbanes-Oxley vigilance in financial reporting requirements, CEOs can still influence the currency of communication with shareholders and the media, picking and choosing language and measures to present M&A deals to their best, most successful-seeming advantage (O'Brien 2007). The numbers announced become part of the selective rhetoric of performance.

Proposition 5: The more prominent the CEOs involved, the greater the declared friendliness between the acquiring and target CEOs, or the more changeable the announced measures of performance, the greater will be the expressions of and attributions for success.

DISCUSSION AND IMPLICATIONS

From our perspective emphasizing the importance of subjective success, merging concerns irrational actors in inefficient markets. Large M&A deals not only constitute important corporate strategic and political devices in the global economy, they herald the externally-oriented borderless perspective increasingly urged on modern managers. Interpretations of merger success or failure arise in the context of individual and coalitional level dynamics involving leadership, power, influence, rank and status. Rather than reflexively following the dictates of personal utility maximization, irrational actors manifest varying blends of collective and self-interest. Based on our emergent model of interpreted success, individuals in key management or reporting positions use calculated language to assert their favored rationales for and consequences of merging. Moreover, CEOs (perhaps in conjunction with their financial and legal advisors, directors, and contingently-compensated senior executives) deploy carefully selected terms to rationalize the intent and impact of transactions often conceived from aggressively expansionist agendas.

By using the subjective vernacular of M&A transactions to understand interpretations of success or failure, we build on the language-related research of previous merger eras, beginning with the Hirsch (1986) exploration (from *ambushes to golden parachutes*) of the diffusion and acceptance of hostile takeovers, followed soon after by the Coffee, Lowenstein and Rose-Ackerman (1988) compilation (*knights, raiders and targets*) on the causes and consequences of these antagonistic annexations. Hirsch (1986) investigated the political-cultural framing of the hostile takeovers emblematic of the US in the 1980s, laying the groundwork for continued research given the persistent popularity and profligacy of M&A activity. Vaara and colleagues (e.g., Vaara, Tienari, Piekkari and Sääntti 2005) explored sociopolitical and linguistic phenomena for European M&A in the 1990s, but these phenomena have still to be examined for the US and European markets for corporate control together in recent merger eras. Moreover, understanding factors contributing to interpretations of success or failure in the context of competing interests and organizational turbulence had not been done.

Interpretations of success or failure exist in the context of individual and organizational level dynamics. Supplementing our original mission to understand interpretation mainly at the individual (CEO) level, we infer interpretive markers at higher levels of analysis as well. In addition to individual values and cognitions, decision making reflects cultural precepts and philosophies of the times (Keys, Wells and Edge 1993). Each merger era has its shibboleths and slogans: for instance, “hostile takeover” described the archetypal deal of the 1980s and “merger of equals” characterized many deals from the 1990s into the turn of the millennium. In the first post-millennial merger wave, we find evidence of what we call *avoidance of rhetoric of the extremes*. Neither avowedly hostile nor asymptotically equal, transactions such as the ABN AMRO takeover by the RBS-led consortium are positioned between the poles, involving neither entirely subjugation nor placation of the target. The bias hence becomes towards the interpretation of success by the avoidance of extremes. Whether the actual measurable as opposed to subjective interpretive success of these deals might be greater in the present moderate than in the hostile or equal eras remains to be seen. An overview of many decades of M&A transactions (ranging from the robber baron, monopolistic aggregations of the gilded-age 1890s through the strategic equality of the new-age-of-opulence unions of the 1990s) suggests that sociopolitical framings and linguistic legerdemain function as illusions minimizing perceptions of risk rather than maximizing realities of gain.

Future research will continue in this vein by investigating two temporally-connected research questions: How specifically do the involved CEOs publicly express the success or failure of major M&A transactions? How do the expressions of success or failure change over time? Consonant with a theory-for-practice or strategy-as-practice approach (Jarzabkowski 2004), we stress the practical as well as academic relevance of our inquiry. The merger wave lasting from 1993-2000 and the next one running from 2003-2008 were the first truly global waves impacting markets and livelihoods worldwide. Managers and professionals in merging MNCs would benefit from an enhanced appreciation of specific divisive as well as conciliatory factors at work. Complementing studies into the dynamics of blending operational systems or the abstractions of understanding stock price fluctuations, we have been considering cultural, social and political nuances in a volatile international transaction. A contribution of the empirical extension of this conceptual examination would therefore be to articulate learning points for future postacquisition integration and change management practices.

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DIFFUSION BRANDS OF DESIGNER JEANS: EFFECTS ON BRAND IMAGE AND PRODUCT QUALITY

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ABSTRACT

The study examines how status seeking and fashion innovative young consumers evaluate diffusion brands. Influence of brand naming techniques and country of origin on brand image and product quality of diffusion brands are also examined. The results revealed that sub-brands and nested brands have similar product quality and brand image evaluation when compared to the parent brand. Furthermore, sub-brands and nested brands have demonstrated product quality fit and brand image fit with the parent brand. The findings suggest that a new brand is not a good substitute for the parent brand to express status. In addition, brand origin is a greater signifier of product or brand quality than country of origin.

INTRODUCTION

The demand for luxury brands is motivated by consumption of status symbols to signify wealth (Eastman, Goldsmith and Flynn 1999). Fashion items especially ready-to-wear attires and accessories are the most publicly consumed luxury product categories that fit this indulgence (Azuma and Fernie 2003; Moore and Smith 2004). Fashion houses are internationalising their brands and broadening their appeal to target these young consumers with diffusion brands (Tilley 2001). A diffusion brand is a step-down line extension of a luxury brand, generally lower in prices than the main-line parent brand (Fernie et al. 1997). This extension aims to establish a close connection with the parent brand as a luxury brand (Fernie et al. 1997). It also aims to provide a cheaper alternative for young consumers to satisfy their desire towards the ownership of a (luxury) fashion brand as a form of status consumption (Kim, Lavack and Smith 2001; Pitta and Katsanis 1995). Literature has suggested that the combination of fashion innovativeness and status consumption may better predict consumers' buying behaviour. However, no empirical research has examined how these young status seeking and fashion innovative consumers evaluate diffusion brands. This research therefore aims to close this gap by incorporating how other cues such as brand naming techniques and country of origin may influence the brand image and product quality of diffusion brands. This paper begins with a discussion of the relevant literature which leads to the hypotheses development. This is followed by a description of the research method. The discussion of the findings and analysis will next be presented. Finally, the managerial implications and limitations of the study are highlighted.

LITERATURE REVIEW

Based on the existing literature, a diffusion brand is defined as a step-down line extension of an existing luxury brand (Fernie et al. 1997). A step-down extension may be evaluated by consumers as a cheaper alternative compared to a luxury product. This may diminish the prestige and social status associated with the existing brand name (Kim and Lavack 1996; Kim, Lavack and Smith 2001; Pitta and Katsanis 1995). However, Aaker (1996) indicates that consumers' increasing value orientation has the ability to influence a step-down extension to become a competitive necessity. Marketers should extend their brands in a direction that is suitable for the current environment (i.e. a step-down extension for the younger middle market). The product quality assesses whether a product delivers benefits that consumers desire for need satisfaction (Keller 2008). A brand is

meaningless unless it possesses something that is marketable for consumption, thus it is essential for a product to possess high quality (Knapp 1999). A brand should have functional and psychological attributes to portray its brand image (De Chernatony and Dall' Olmo Riley 1998; Low and Lamb 2000). Brand image is the perception about a brand that is reflected by the brand associations held in the consumers' memory (Aaker 1991). When fashion houses introduce a diffusion brand, the extension should have similar quality and image compared to the parent brand in order to establish product quality and brand image fit (Bhat and Reddy 2001; Martinez and De Chernatony 2004; Park, Milberg and Lawson 1991). Perceived fit is a major determinant for the success of a brand extension. The perception of fit allows consumers to establish a common ground between the parent brand and its diffusion brand(s) This helps to establish a desired positioning relative to the parent brand to achieve similar product quality and brand image evaluation (i.e. product category and brand image fit) (Bhat and Reddy 2001; Bridges, Keller and Sood 2000; Kim, Lavack and Smith 2001; Martinez and De Chernatony 2004; Park, Milberg and Lawson 1991).

Brand (extensions) naming strategies are techniques to position a brand extension either closer to or further away from the parent brand. They include sub-brands, nested brands and new brands. Sub-branding combines the use of an individual brand name adjacent to the parent brand name to form a new and composite name (eg. Armani Exchange). Nested branding occurs when a new brand name is introduced by the parent brand name (eg. Dockers by Levis). New brand occurs when a product is introduced with a new brand name (eg. Prada – Miu Miu) (Bhat, Kelley and O'Donnell 1998). Sub-brands and nested brands are likely to achieve favourable evaluation because they made use of a new name in addition to the parent brand name. This helps to transfer existing awareness, quality perceptions, brand image and associations from the parent brand to these extensions (Martinez and De Chernatony 2004). When a good fit is perceived between a parent brand and the new product, sub-branding or nested branding will be a suitable naming strategy. According to Bhat, Kelley and O'Donnell (1998), consumers' acceptance of these brand naming strategies comes in the order of their closeness with the parent brand. They range from a sub-brand, a nested brand to a new brand. It is unlikely that a new brand will be evaluated favourably on the basis of the parent brand. However, if consumers perceive a poor fit between the parent brand and the new product, a new brand may be the best solution (Bhat, Kelley and O'Donnell 1998; De Chernatony 1997; Kim 2003). However, it is unknown how young consumers evaluate diffusion brands, specifically if it can be used as a substitute or an alternative for status display. Further how the product attributes are evaluated is also unknown.

A diffusion brand is likely to achieve product category fit with the parent brand if the extension product is in the same product category as the parent brand. This enables fashion houses to utilise existing manufacturing expertise to produce the extension product. If the extension product strays too far from the product category of the parent brand, it may be judged skeptically by consumers. A stronger fit between the product category of the parent brand and its diffusion brand may result in more favourable consumer evaluation (Park, Milberg and Lawson 1991). Interestingly, Keller and Aaker (1992), and Bottomley and Holden (2001) confirmed that perceived quality can exercise a direct effect on the evaluation of an extension, regardless of fit. Further, Chang (2002) argues that product category fit is not as important compared to brand image fit to determine consumer evaluation of a diffusion brand. Similarly, when companies pursue a brand extension, it is also necessary to consider the country of origin (COO). The reason is that consumers tend to use COO as an extrinsic cue to make judgements about the quality of a product (Agrawal and Kamakura 1999). However, recent research suggests the traditional description of COO has become less important for product evaluation. Therefore, it is necessary to identify whether COO is an essential cue to establish the desired positioning for the product of a diffusion brand. Based on the preceding discussion, the following hypotheses are presented:

- H₁:** There is no difference in (a) product quality and (b) brand image evaluation between the parent brand and its sub-brand made in the same country of origin.
- H₂:** There is no difference in (a) product quality and (b) brand image evaluation between the parent brand and its nested brand made in the same country of origin.
- H₃:** The parent brand has more favourable (a) product quality and (b) brand image evaluation compared to its new brand made in the same country of origin.
- H₄:** There is no difference in (a) product quality and (b) brand image evaluation for the parent brand and its diffusion brands made in different country of origin

METHODOLOGY

Through a focus group of forty young consumers from a large university, 'Armani' was chosen to be the most suitable brand for the product category of designer jeans for this study (Cheong and Phau 2003). Replicating Zhang and Schmitt's (2001) method to generate fictitious brand names for diffusion brands, 'Touché' was identified to be most suitable and the different permutations according to Bhat, Kelley and O'Donnell's (1998) for brand naming strategies. The three are namely sub-brand (Armani Touche), nested brand (Touche by Armani) and new brand (Touche).

Each set of brands, including the parent brand and its diffusion brands (i.e. a sub-brand, a nested brand and a new brand) was combined with two COO cues to formulate the 4 x 2 factorial design. Italy is the country of brand origin for Armani, and is well-known for fashion brands. This helps to communicate positive quality perceptions for this product category (Ferne et al. 1997). In contrast, China is known for low cost manufacturing (Kaynak and Orsay 2001). Therefore both countries have the ability to convey quality perceptions and purchase value as extrinsic cues for consumer evaluation of diffusion brands (Lim and O'Cass 2001; Okechuku 1994). Designer jeans was chosen as they are one of the most common fashion products for status consumption (Azuma and Fernie 2003; Tilley 2001). A self-administered questionnaire was developed for respondents to evaluate the parent brand and its diffusion brands. Each survey form shows a professionally designed picture of the product with the brand name, country origin details and price levels. Each diffusion brand is attached with a price tag 30% less than the parent brand. This is followed by a series of scales. Existing scales to measure status consumption (Eastman, Goldsmith and Flynn 1999) and fashion innovativeness (Goldsmith 1990) were adapted for use. Consumer evaluation for each diffusion brand was measured via statements on a seven-point Likert-scale from "poor" to "excellent" for product quality and brand image.

Data were collected from a convenient sample from a large Australian university. DelVecchio (2000) proposes that a student sample can be representative of general consumers and while the use of students as surrogates for consumers may not be appropriate for all circumstances, they are a sufficient alternative for the purpose of modelling underlying behavioural processes. Further, student samples have relatively homogenous respondents which helps to control random sources of errors and reduce the potential for Type II error (Cook and Campbell 1979)..

FINDINGS AND DISCUSSION

The useable sample consisted of 603 Australian respondents between the ages of 18 to 24 years. Females constituted 63 percent of the sample. Approximately 40 percent are working more than 30 hours a week. The coefficient alpha estimates of internal consistency for the Eastman, Goldsmith and Flynn (1999) status consumption scale and Goldsmith and Hofacker (1991) fashion innovativeness scale are deemed acceptable at 0.7264 and 0.6558 respectively. The summed scores on the status consumption and innovativeness scale ranged from 5 to 25, with a mean of 14.61 (SD = 3.590) and 15.13 (SD = 3.242) respectively. The median was 15. For the purpose of analysis, the median was used to split the status consumption and fashion innovativeness scores to form status/non-status consumers and fashion/non-fashion innovators (e.g. Browne and Kaldenberg 1997; Phau and Poon 2000; Wirtz and Chew 2002). Respondents with median scores 16 and above on both scales were defined as status seeking fashion innovators. Further, the difference on the status consumption and innovativeness scores was compared between genders. A T-test revealed that male respondents had higher status consumption scores compared to female respondents ($x = 15.08$ vs. $x = 14.33$; $t = 2.521$, $p < .05$). However, female respondents had higher innovativeness scores compared to male respondents ($x = 15.46$ vs. $x = 14.58$; $t = -3.222$, $p < .005$).

ANOVA tests revealed no significant difference in product quality evaluation when the parent brand was compared to its sub-brand, nested brand and new brand made in the same country of origin of Italy ($F = 1.847$, $p = 0.146$) and China ($F = 1.849$, $p = 0.147$). Thus H_{1a} and H_{2a} were supported. However, H_{3a} was rejected because the parent brands made in the same COO (both Italy and China at $p < 0.000$), did not have higher product quality evaluations as compared to its new brand. ANOVA tests revealed a significant difference in brand image evaluation between the parent brand and its diffusion brands made in the same COO, namely Italy ($F = 8.587$, $p < .005$) and China ($F = 8.844$, $p < .005$). Thus hypotheses H_{1b} and H_{2b} were supported. However, tests results

also revealed that the parent brand had higher brand image evaluation compared to its new brand when both brands were made in Italy ($x = 5.94$ vs. $x = 4.11$) and China ($x = 5.71$ vs. $x = 3.79$). Thus H_{3b} was supported.

T-tests revealed no significant difference in product quality evaluation for the parent brand, nested brand and new brand between the COO cues of Italy and China. (See Table 1) However, the sub-brand had higher evaluation when the COO cue was Italy compared to China ($x = 5.24$ vs. $x = 4.40$; $t = 2.501$, $p < .05$). Thus H_{4a} was partially supported. Further T-tests revealed no significant difference in brand image evaluation for the parent brand, sub-brand, nested brand and new brand between the COO cues of Italy and China. Thus H_{4b} was supported. The results mostly supported the proposition (i.e. H_{4a} and H_{4b}) that the difference between COO (i.e. Made in') cues does not affect status seeking fashion innovators' evaluation of the parent brand and its diffusion brands.

TABLE 1
T-tests Between Parent and Diffusion Brands of Designer Jeans
Made in Italy versus China

	Product Quality				Brand Image			
	Means		t-value	Sig.	Means		t-value	Sig.
	Italy	China			Italy	China		
Parent brand	5.56	4.76	1.984	.055	5.94	5.71	.579	.566
Sub-brand	5.24	4.40	2.501	.017*	5.62	5.47	.327	.746
Nested brand	5.00	4.65	.941	.353	5.50	5.41	.252	.803
New brand	4.68	3.89	1.772	.085	4.11	3.79	.736	.466

*Significant at the .05 level
1 = poor, 7 = excellent

IMPLICATIONS & FUTURE DIRECTIONS

This study examined how young status seeking fashion innovators evaluate different diffusion brands for designer jeans. The results suggest that sub-brands and nested brands have similar product quality and brand image evaluation compared to the parent brand. Based on the results, sub-brands and nested brands have demonstrated product quality fit and brand image fit with the parent brand (Bhat and Reddy 2001; Kim 2003; Martinez and De Chernatony 2004; Park, Milberg and Lawson 1991). These perceptions of fit allow young status seeking fashion innovators to utilise sub-brands and nested brands as potential substitutes for the parent brand for status display (Eastman, Goldsmith and Flynn 1999; Mason 1981; Veblen 1899) and to demonstrate one's willingness to try new fashion products (Goldsmith 1990).

Based on Simmel's (1904) trickle down theory, individuals may adopt a sub-brands and/or a nested brand in their early stages of the product innovation as status symbols. Strategists and brand managers of established luxury brands may want to consider such extensions to cater to this market. Young consumers can choose to demonstrate their fashion innovativeness and improve their social standing through ownership of such diffusion brands. Both sub-brands and nested brands carry the name of the parent brand, so the purchase of a diffusion brand is perceived as the consumption of a new product range from the parent brand (Bhat, Kelley and O'Donnell 1998; Kirmani, Sood and Bridges 1999). On the other hand, while a new brand has been shown to have no difference in product quality evaluation compared to the parent brand, status seeking fashion innovators asserted that it did not carry the same image as the parent brand. The findings suggest that a new brand is not a good proxy or substitute for the parent brand to express status.

The results also suggest declining importance towards country of origin (i.e. 'Made in') as an information cue to assist consumer evaluation of a diffusion brand. Young status seeking fashion innovators mostly supported that COO cues are irrelevant towards the product quality and brand image evaluation of a diffusion brand. Products today are often designed, manufactured and assembled in multiple countries. The brand origin should be more important to reflect the quality and image of the brand than where it is made reflecting results from recent literature (Lim and O'Cass 2001; Mort and Duncan 2003). The results also suggest that the impact of a COO cue

is minimal when it is combined with other information cues. A brand name is more effective to communicate the image and quality perceptions of a diffusion brand lending support to Amine and Shin's (2002) proposition that 'as long as it is brand X, it does not matter where it is made'.

In the present market, a diffusion brand (a step down line extension) is widely utilised by fashion houses to internationalise their brands and broaden their appeal to the younger middle market (Ferne et al. 1997). Based on the findings diffusion brands, namely sub-brands and nested brands should be targeted towards young consumers for status display and to express their fashion innovativeness. Fashion innovators are opinion leaders in the product category of fashion. They are among the first to try new fashion products (Goldsmith, Moore and Beaudoin 1999). A sub-brand and a nested brand allow them to demonstrate their willingness to try a new fashion product that is connected with a particular parent brand name. Luxury fashion houses should target this group of consumers to facilitate word of mouth communication and spread the use of new fashion innovations (Goldsmith and Goldsmith 1996; Muzinich, Pecotich and Putrevu 2003).

Young consumers are likely to have higher interests towards in-fashion products, but they may not be able to afford the premium prices of the parent brand. (Goldsmith and Flynn 1992; Lim and O'Cass 2001; O'Cass 2000). Diffusion brands offer a more affordable alternative to the young middle market compared to the parent brand. This allows young status consumers to experience the ownership of a (luxury) fashion brand at a lower cost (Ferne et al. 1997). Fashion houses should promote diffusion brand products towards young status fashion innovators as new products, while emphasising the existing quality perceptions and brand image of the parent brand to reduce initial marketing and promotional expenditures (Dacin and Smith 1994; Klink and Smith 2001; Yoo and Donthu 2001).

Sub-brands and nested brands are accepted by young status seeking fashion innovators regardless of its COO due to emergence of hybrid country affiliations. Therefore it is better to emphasise its brand origin along with the brand name. As long as the luxury brands insert quality control throughout the production process, it should not affect the quality and image perceptions of the brand (Amine and Shin 2002; Iyer and Kalita 1997; Lim and O'Cass 2001).

Nevertheless, it is not advisable to promote a new brand as a substitute for the parent brand. The results did not fully support a brand image fit between the parent brand and its new brand. A new brand may be developed into a brand of its own. This allows luxury brands to distant any parent brand associations without affecting the existing brand image and minimise the importance of perceived fit between the parent and diffusion brand (Bhat, Kelley and O'Donnell 1998; Laforet and Saunders 1999). However, a new brand requires a substantial amount of time and financial support to achieve same level of recognition and trials compared to a sub-brand and/or a nested brand. Therefore, a new brand may be treated as a future investment for luxury brands to develop a house of brands to target different segments of the market (Aaker and Keller 1990; Dacin and Smith 1994; Martinez and De Chernatony 2004; Yoo and Donthu 2001).

This pioneering research explored how young status consumers evaluate different diffusion brands. However, a number of limitations must be noted. Although the use of a student sample is usually seen as a limitation of a study, it has been justified that they correspond to the characteristics of the proposed target market for a diffusion brand. However, there may be other consumers who might use diffusion brands for status display and to express their fashion innovativeness. Therefore, it is wise to replicate this research with other segments of the population to gain a broader understanding of how consumers evaluate diffusion brands. It is also advisable to replicate this research with other (luxury) fashion brands to enrich the generalisation of the research findings. In addition to status consumption and fashion innovativeness, there are other external factors that may have an influence. One of which is the rise of counterfeits. Will consumers be "confused" with diffusion brands as counterfeits does to the lack of familiarity? The aim of a diffusion brand is for consumers to adopt a new product earlier for status display and establish invidious distinction (Ferne et al. 1997). This topic can be further explored.

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YOUNG STATUS CONSUMERS PURSUIT OF LUXURY BRANDS: AWARENESS, PURCHASE, DREAM VALUE AND AVOIDANCE

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ABSTRACT

The study aims to examine the impact of status consumption towards the awareness, purchase, dream value and avoidance of luxury brands. A self-administered questionnaire was generated and administered to a non-probability convenience sample of 389 young consumers. The findings suggest that status consumption is not a strong factor to influence consumer awareness, purchase, dream value and avoidance towards luxury brands. However, the research showed a positive relationship between awareness, purchase and dream value of luxury brands. This suggests each of these factors is closely associated with each other to establish consumer reaction to luxury brands. These findings broaden our understanding on the potential effects of status consumption and consumers' knowledge towards luxury brands.

INTRODUCTION

The demand for luxury brands, motivated by the issue of status consumption to impress others by the ability to pay for prestige products at particularly high price is found to be an acceptable behaviour in many cultures (Eastman, Goldsmith and Flynn, 1999; Phau and Prendergast, 1998; Piron, 2000; Wong and Ahuvia, 1998). Evidence of such behaviour was found in the earliest society and economic extravagances and excess of many individual and social groups have been well documented (Mason, 1981; Veblen, 1899; 1953). This consumption behaviour still contributes a significant part in shaping preferences for many products, which are purchased and/or consumed in a public context. Luxury brands have now become the ultimate tool to harvest the collection of prestige in which the uniqueness and identity concept of a brand becomes essential for the capitalization of existing brand equity. Much of the current research focus on gaining a greater understanding on consumers and their consumption of luxury brands to portray status (Eastman, Goldsmith and Flynn, 1999; Mason, 1992; Motameni and Shahrokhi, 1998). The trend towards luxury consumption is expected to rise due to consumers' increasing need for appearance and materialism (Phau and Prendergast, 2000).

However, the demand for luxury brand will be influence by consumers' awareness towards their existence to formulate a desirable reaction. It is possible that due to difference in consumption habits and culture, it will lead to a different initiative on the demand of luxury products. Dubois and Paternault's study (1995) demonstrated the influence of awareness, purchase and dream value of luxury brands into purchase act in United States. A similar study was replicated by Chung and Zaichkowsky (1999) in Hong Kong and Phau and Prendergast (2000) in Singapore. This study provides a further extension to study consumers' avoidance for certain high-awareness luxury brands, as awareness of a particular brand does not equate to likability. However, among the existing studies, little is known on whether consumers' level of status consumption will affect awareness, purchase and desire towards luxury brands. This paper attempts to fill this research gap. Building from the study of Phau and Prendergast (2000), this research aims to assess whether status consumption will affect consumers' awareness, purchase and desire towards luxury brands. It will also further elaborate on reasons consumers may avoid certain luxury brands.

LITERATURE REVIEW

Status consumption is defined as “the motivational process by which individuals strive to improve their social standing through the conspicuous consumption of consumer products that confer and symbolize status both for the individual and surrounding significant others” (Eastman, Goldsmith and Flynn, 1999). Status consumption is described as the underlying factor to motivate the purchase of luxury products, as individual often purchase, use, display and consume goods and services that are described as a mean of gaining social status (Mason, 1981). According to Marcoux, Filiatrault and Cheron (1997) the social status demonstration is a dimension of conspicuous consumption for the ostentatious display of wealth, which was first examined by Veblen (1899) in his *Theory of the Leisure Class*. Packard (1959) took Veblen’s economic idea of conspicuous consumption and applied to the modern society, which suggests people consume products to demonstrate superior level of status (i.e. status consumption) to self and to others. “Conspicuousness of product use, as well as products that rely heavily on image, lend themselves most readily to self-concept moderations” and status portrayal (Mehta, 1999:83) Essentially, both status and conspicuous consumption means the same thing and they are often been treated interchangeably (O’Cass and Frost, 2002).

In many countries, the consumption of luxury products is considered as a culturally acceptable medium to communicate wealth and social class affiliation. This is especially for Asians and particularly Chinese consumers (Chung and Fischer, 2001; O’Cass and Frost, 2002; Piron, 2000; Wong and Ahuvia, 1998). Merrill Lynch breaks down the luxury market into eight product categories, in which ready-to-wear fashion, and leather and accessories topped the list, occupying 26 percent and 17 percent of the market respectively as products to display wealth (Tilley, 2001). As a result, fashion is considered the most purchased products for status consumption. According to Vigneron and Johnson (1999), prestige (i.e. status) can be used as a benchmark to measure the component of luxury in a brand, which include the perceived conspicuous value, perceived unique value, perceived social value, perceived hedonic value and perceived quality value. A luxury brand is perceived to be the extreme end of the prestige-brand category. Examples of luxury brands in the product category of fashion product include brands such as Gianni Versace, Giorgio Armani, Gucci, Louis Vuitton and Prada. Although the increase in luxury consumption may be global, the perception of its desirability seems to be bounded by cultural value. In comparison to the Asian culture with visible signals of status portrayal, it is assume the motive of status consumption in Australia is not as subtle as those display in many Asian countries (Chung and Fischer, 2001; O’Cass and Frost, 2002; Piron, 2000). With the different levels of perceived status consumption in different countries, it has the potential to have different effect towards consumers’ awareness, purchase, desire, and even avoidance towards luxury brands. The paper therefore aims to answer the following research questions:

- What determines young consumers’ awareness, purchase, dream value (i.e. desire) and avoidance towards luxury brands? What is relationship between these variables?
- What are the reasons for consumers’ avoidance and avoidance towards luxury brands?
- What is the influence of status consumption towards young consumers’ awareness, purchase, dream value and avoidance toward luxury brands?

METHODOLOGY

The research was conducted through the use of a self-administered questionnaire with 389 students selected through a non-probability convenience basis on a campus of an Australian University. According to Yavas (1994), the use of student may not be appropriate for all circumstance, but the contention for the purpose of modeling underling behavioral process, student may serve to be useful. DelVecchio (2000) supports the use of a student sample, which suggest the reflective nature of such sample and the selection of an alternate sample may not generate sufficiently different research findings.

The instrument comprised established scales adopted from previous studies. The first section contains Eastman, Goldsmith and Glynn’s (1999) status consumption scale. **The second section** was designed to obtain aided brand awareness, in which respondents were presented with a list of 24 luxury brands. They were asked to indicate the ones they knew at least by name. The list of brands was generated from a pretest in which 40 respondents were asked to identify luxury brands of male and female’s fashion clothing and accessories that they are aware of. The third section was designed to elicit recent purchase. From the same list of brands, respondents were asked to indicate those in which an item has been purchased in the last two years. The fourth section was designed to measure individual’s desire to own particular brands. They were asked to imagine choosing a beautiful present because they have won a lottery. They were allowed to choose five brands from the same list of brands. This was

a replication of Dubois and Paternault's (1995) methodology, which was also adopted by Phau and Prendergast (1999). The last section was designed to uncover brands that consumers avoid. Respondents may indicate up to five brands they will never consider buying. They were also asked to support their responses with reasons. Demographic information of the respondents was next elicited.

FINDINGS AND DISCUSSION

Under Eastman, Goldsmith and Flynn's (1999) status consumption scale, respondents may achieve a maximum score of 25. Among the sample, the score range from a high of 23 to a low of 5. The mean score is 15.6, which represent an above average level of status consumption. Approximately 24 percent scored 5 to 13, almost 67 percent scored 14 to 19, and less than 5 percent of consumers achieved a score of 20 and above, which suggests the tendency towards status consumption is not exceptionally high among the sample of respondents. Although some respondents with an Asian background achieved a higher score, there was no significant difference between the results when comparing respondents' status consumption score according to their country of birth. The overall results are shown in Table 1.

Table 1: Awareness, Purchase, Dream Value and Avoidance

Brand Names	Awareness Total N=389		Purchase		Dream Value		Avoidance Value	
	N	%	N	%	N	%	N	%
Alfred Dunhill	277	71.3	42	10.7	11	2.8	209	53.7
Bulgari	228	58.6	46	11.9	74	19	80	20.6
Burberry	221	56.9	83	21.4	30	7.8	103	26.5
Calvin Klein	380	97.8	274	70.4	189	48.6	17	4.4
Chanel	376	96.7	93	23.9	107	27.4	80	20.6
Christian Dior	372	95.6	95	24.5	93	24	46	11.8
Dolce & Gabbana	312	80.1	74	18.9	67	17.3	11	2.9
Donna Karen	286	73.5	71	18.2	28	7.3	68	17.6
D&G	312	80.1	74	18.9	22	5.6	63	16.2
Escada	247	63.5	25	6.3	18	4.5	86	22.1
Fendi	234	60.2	34	8.8	33	8.4	131	33.8
Gianni Versace	374	96.1	78	20.1	154	39.7	83	21.3
Giorgio Armani	374	96.1	152	39	156	40.2	34	8.8
Gucci	378	97.2	137	35.2	178	45.8	20	5.1
Guess	361	92.8	208	53.5	70	17.9	29	7.4
Hugo Boss	370	95	166	42.8	126	32.4	29	7.4
Kookai	310	79.6	127	32.7	30	7.8	95	24.3
Levis	376	96.7	245	62.9	76	19.6	34	8.8
Louis Vuitton	296	76.2	78	20.1	139	35.8	66	16.9
Moschino	301	77.3	54	13.8	26	6.7	51	13.2
Pierre Cardin	327	84	108	27.7	41	10.6	83	21.3
Prada	327	84	42	10.7	113	29.1	80	20.6
Ralph Lauren	370	95	169	43.4	115	29.6	23	5.9
YSL	299	76.8	103	26.4	44	11.2	114	29.4

The awareness level among the list of brands is relatively high. It ranges from a low of 56.9 percent (Burberry) to a high of 97.8 percent (Calvin Klein). Brands such as Gucci, Levis, Chanel, Gianni Versace, Giorgio Armani and Christian Dior also achieved an awareness level of over 95 percent. Most of these brands have a substantial market in Australian, so a high awareness level will assist these brands to further penetrate the market to achieve higher sales. At the purchase level, Calvin Klein has achieved the highest score (70.4%) through to the lowest from Escada (6.3%). It can be seen that although the purchase level of the brands is not as high as Calvin Klein, they also achieved a relatively high rate of purchase ranging from 62.9 percent for Levis to 26.4 percent for YSL. In terms of the brands that consumers dream of possessing, Calvin Klein topped the list with 48.6 percent

through to the least desired brand Alfred Dunhill of 2.8 percent. Gucci, Giorgio Armani and Gianni Versace also achieved a relatively high level on consumers' desire to own the brand. Among the 24 brands, all of them received some incidences of avoidance by consumers. Among the sample, 282 respondents expressed their avoidance towards certain luxury brands. The highest incident of avoidance belongs to Alfred Dunhill (53.7%) through to the lowest of Dolce & Gabbana (2.9%). Table 5 presents the six brands that are most avoided by respondents. Interestingly, among the list of brands, both Dolce & Gabbana and D&G were used in the study, but the abbreviation D&G encountered a significantly higher level of avoidance at 16.2 percent. A similar result is also reflected in the dream value, in which the value for Dolce & Gabbana (17.3%) is much higher than D&G (5.6%). However, the awareness level is identical for both names, so the difference is not attributed by awareness of the brand name. This is perhaps in indication for the company to minimize the usage or enhance the favorability towards the abbreviation (D&G) through appropriate marketing communication.

From the 131 respondents, they produced a total of 572 cases of avoidance towards certain luxury brands, in which each respondent may indicate a maximum of five brands they avoid. It is accommodated by 540 reasons from respondents to support their responses. These reasons are categorized into 12 categories, ranging from most to the least common including unaware of brand, too feminine, too expensive, don't appeal to younger generation, not prestigious, association with cigarettes, men's product, out of trend, counterfeit/imitation, snobbish appeal and others. Although all of the luxury brands achieved an awareness level of 50 percent or above, 'unaware of brand' remains to be the most common reason for avoidance. The next most common reason is 'dislike style', which indicates certain brands may need to adjust their style if they wish to appeal to a wider target market. Some brand have been criticized for being 'too feminine' (i.e. a lady's product), which are not suitable for the male market. Therefore, it is possible for brands to widen the product range in the male market to strive a balance on gender appeal.

Another reason consumers used to support their avoidance falls in the category of "association with cigarettes". Although this reason is ranked as the seventh most addressed reason for avoidance, it is solely related to the brand Alfred Dunhill. It is also the most common reason addressed by respondents who avoided this brand. Therefore, Alfred Dunhill may have to re-evaluate their brand image if it wishes to further expand the brand into non-tobacco related product categories.

Furthermore, 'counterfeit/imitation' is another relevant reason for consumers to avoid certain luxury brands, yet this reason is not significantly highlighted in this study. This result may be contributed by the limited counterfeit activities in the city where the study was conducted. However, in Phau and Prendergast's (2000) study, which was conducted in Singapore, counterfeit was the most apparent reasons for consumers to avoid certain luxury brands.

After addressing the results of each individual item, a correlation analysis was conducted between respondents' status consumption and their overall awareness, purchase and dream level of the luxury brand. The results indicate a positive significant, but weak correlation between status consumption with awareness ($r = .167, p < .05$) and purchase ($r = .196, p < .01$). This suggests high level of status consumption will moderately contribute to a higher agree of awareness and purchase level. However, there is no positive significant correlation between status consumption and the dream value towards each of the luxury brand. This suggests the level of status consumption from this sample is not significant enough to initiate the desire towards luxury products.

The overall correlation between the pairs of three items: namely awareness, purchase and dream indicate that there is a significant positive correlation between the overall awareness and purchase ($p < .01$). The correlation between overall dream and purchase is also significant ($p < .05$). However, the correlation between the overall awareness and dream is not significant; this may contributed by the research methods that each respondents were ask to identify a total five brands they wish to buy, so there is no significance difference in the number of desired brands. By look at the correlation between awareness and dream on each brand individually, it produced a different result. A total of 12 brands indicated a positive significant correlation between awareness and dream. Some of these brands include Bulgari, Fendi, Louis Vuitton, Prada (significant at $p < .005$), and Burberry, Dolce & Gabbana, Donna Karen, Gianni Versace, Gucci (significant at $p < .05$). From a different perspective, awareness does contribute to the dream of luxury brands. Furthermore, a correlation analysis between awareness and avoidance on each luxury demonstrated no significant positive relationship.

To further assess the relationship between the items, a t-test was used to compare whether different levels of status consumption will affect consumer awareness and purchase on luxury brands. The sample was separated into high and low status consumers and were then compared on awareness and purchase of the luxury brands. However, no significant differences emerged between groups of high and low status consumers on both variables. Therefore the difference of the status consumption between the high and low group is not significant enough to produce different results for the items of awareness and purchase. A similar result also emerged in the t-test between the groups of high and low status consumers with dream and avoidance towards each luxury brand. These results may be contributed by the insignificant strength of status consumption, so there is a minimum effect on various items, including awareness, purchase, dream value and avoidance on luxury brands.

In terms of the relationship between awareness and purchase, from the result it is reasonable to assume the higher the brand awareness the higher the brand purchase. This is reflected in the research findings in which Calvin Klein ranked number 1 in awareness (97.8%) and purchase (70.4%). Similarly, brands such as Gucci, Guess, Giorgio Armani, Hugo Boss and Ralph Lauren are all in the top 10 ranking for both awareness and purchase. Also a regression analysis has also found awareness and dream to be significant predictor of purchase. This indicates the purchase of a luxury brand is largely accounted by consumer awareness and at same time the dream of a brand will also contribute to the purchase of a brand.

With awareness and dream, Calvin Klein did not only achieve the highest score in awareness and purchase, but also in dream (48.6%). Brands including Gucci, Gianni Versace and Giorgio Armani are also within the top five for both awareness and dream. Furthermore, a partial correlation between dream and awareness, with awareness as the controlling factor, found that the correlation coefficient to be insignificant. Therefore, it can be concluded that the dream (i.e. desire) towards a luxury brand is largely accounted by awareness. This finding is consistent with similar studies conducted by Chung and Zaichkowsky (1999) and Phau and Prendergast (2000).

IMPLICATIONS & FUTURE DIRECTIONS

The research findings suggest that the respondents do possess a level of status consumption. This can be attributed by the sample containing approximately 50 percent of respondents from an Asian background, such as Hong Kong and Singapore, in which status consumption is a culturally acceptable practice (Chung and Fischer, 2001; Chung and Zaichkowsky, 1999; Piron, 2000). However, the result did not suggest significant difference on status consumption across nationalities. Although the correlation suggest higher levels of status consumption contribute to higher awareness and purchase, the level is not significant to produce any difference on consumers' awareness and purchase between the groups of high and low status consumers. Also there is no relationship between status consumption and the items of dream value and avoidance towards the luxury brands. As a result, status consumption in this instance is not a significant influencer on awareness, purchase, dream value and avoidance. This contradicts with the literature, which suggests status consumption is the underlying factor to motivate the purchase of luxury brands (Mason, 1981; Piron, 2000; Wong and Ahuvia, 1998). This indicates although the Australian market consists of individuals who originate from other countries, the sign of status consumption is not so subtle in Australia in comparison to consumers in other countries.

In terms of awareness, purchase and dream value, each of these items are interrelated, such that awareness is the essential ingredient to establish purchase and dream value toward luxury brands. The result suggests that the ownership of luxury brands remains high as long as the awareness level of the brand remains high. Also the ownership of a product does not discourage consumers' purchase (i.e. dream value) towards a luxury brand. These findings are consistent with results from Chung and Zaichkowsky's (1999) study in Hong Kong and Phau and Prendergast's (2000) study in Singapore. However, some results are inconsistent with Dubois and Paternault's (1995) findings on the rarity principle, which suggest the increased ownership of a luxury brand in the US discourage consumers' purchase. This show this particular group of consumers from the Australian market reflect a high degree of similarity between those from Hong Kong and Singapore. This result may be explain by the fact that a large percentage of the respondents came from an Asian background (such as Hong Kong, Singapore, Malaysia and Indonesia) in which their values toward luxury brands are transported into the Australian market on their behalf. However, it is also possible that Australians are now achieving a higher

awareness on luxury brands leading to the purchase and desire of certain luxury products. This coincide with the literature which suggests an increasing demand on luxury items in the Australian market (Vigneron and Johnson, 1999).

Among this research, the level of status consumption is not significant to influence awareness, purchase and dream value, so marketing strategies should not focus on the use of status portrayal to stimulate awareness and persuade purchase. On the other hand, awareness contributes higher levels of brand preference, which helps to generate stronger purchase intention. Thus, to enhance the success of luxury brands, they need to be promoted actively to increase brand awareness to convey brand preferences. A greater emphasis should be placed on highlighting the benefits and value of the brand. The issue of brand image should attempt to stir away from the concept of status, but luxury for self enjoyment rather than for the display of wealth and prestige.

For brands with lower level of awareness suggested in this research, such as Bulgari and Burberry, they may engage in additional marketing communication to further improve consumer awareness in the Australian market to yield a higher brand preference. In additional, although the study presents no significant relationship between awareness and avoidance, it is reasonable to expect awareness may be contributed by both a positive and negative rationale (Phau and Prendergast, 2000). Therefore, for brands that encountered a high level of avoidance should considered suitable adjustments to brand image and positioning according to the reason for avoidance if they wish to appeal to a wider target market. For some brands, the most apparent reason for avoidance is 'unaware of brand'. This coincides with the adjustment in marketing strategy to increase brand awareness to increase favorability. By achieving a better understanding of consumers' assessment towards luxury brands, this enhances the development of suitable communication programs. Of course marketing communications must not be overdone, otherwise it will over diffuse a brand's potential to expand their target market (Dubois and Paternault, 1995).

This study suggests Australian consumers do possess some degree of status consumption, but the level is not significant enough to affect awareness, purchase, dream value and avoidance towards luxury brands. However, extensive replication of this study in other areas of Australia is necessary before results can be generalized throughout the country. Since Australia is becoming an increasing multi-culture society, research needs to take into account the changing demographics within the country to reflect the true values of the Australian culture.

In sum, it can be seen that awareness is the major influencer of purchase and brand preference in Australia, Hong Kong and Singapore. Therefore, the most important priority of luxury brands is to establish and maintain a high level of consumer awareness. However, the US market does not support this notion, which suggests the need for marketing communication program with different intensity for different countries. Furthermore, there is limited manipulation on the dream value and avoidance, as prior research methodology only requires consumers to state five brands for each item without ranking to portray the relative value. As a result, further research should emphasis on further manipulation on consumers dream value and avoidance towards on luxury brands.

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USING TOURNAMENT CONTRACT TO MOTIVATE SKILLFUL GROWERS

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ABSTRACT

Due to high competition among integrated broiler and hog companies, in Thailand, skillful growers are searching for other deals from the competitor to reward their ability. To attract the best growers, companies might need to use a new payment scheme to reward high ability growers. Tournament contract which widely used by almost all broiler companies in the United States is a payment structure, based on a fixed base payment per pound of output and a variable bonus payment based on the grower's relative performance, is suggested in this study. Despite of its favourable properties of removing common production risk, many broiler growers in the U.S. are dissatisfied with the tournament payment mechanisms. In this study, we use a mathematical derivation to demonstrate that tournament contract might be attractive for the skillful growers. It might be applied as another option for the companies to reward their best suppliers.

INTRODUCTION

In the last few decades the broiler and hog industry in Thailand has experienced tremendous growth accompanied by technological progress and organizational innovations. The finishing stage of production is now overwhelmingly organized via contracts between companies, and independent growers. The contracts have proven to be a successful model for poultry and pork production. The production contracts widely used in Thailand is originally from the United States. Although contract details vary from company to company, it is still divided into main two components: 1) the division of responsibility of providing inputs and 2) the method used to determine growers' compensation (Tsoulouhas and Vukina, 1999). Both components subjects to changes over time depending on environment of the industry.

Using contract farming, usually grower and company share their investment in the production. The grower provides land, housing facilities, utilities, labor, and some operating expenses (such as repairs and maintenance, clean-up costs, and manure and mortality disposal). The company provides animals, feed, medication, and services of field men (Inoue and Vukina, 2006). Because the growers' efforts were unobservable to integrator, the compensations schemes are an important driver motivating growers to exert sufficient effort in production (Tsoulouhas and Vukina, 1999). Presently, the broiler and hog contracts in Thailand use a "fixed performance standards" which is the schemes that compare the individual performance of a grower to a predetermined standard. For the fixed base payment, a skillful growers are limited their payment buy the maximum of the standard which defined by the company. Due to high competition among integrated broiler and hog companies, in Thailand, skillful growers are searching for other deals from the competitor to reward their ability. Hence, to attract the best growers, companies might need to use a new payment scheme to reward high ability growers. An alternative contract, tournament, is widely used by almost all broiler companies in the United States. Tournaments payment structure based on a fixed base payment per pound of output and a variable bonus payment based on the grower's relative performance. It means that the performance of a grower is compared to the average performance of the entire group. The tournament contract, hence, is said to be an insurance against common production shocks for each animal production period. Despite of its favorable properties of removing common production risk, many broiler growers in the U.S. are dissatisfied with the tournament payment mechanisms. They concern for the bias of tournament outcomes because of the initial quality and the distribution

of production input are exclusively under the control of the integrators (Tsoulouhas and Vukina, 2001). Growers are opposed to the tournament system that bases their payments on how well their neighbors perform (Tsoulouhas and Vukina, 2001). Especially, for the monopsony case, the company may treat growers differently depending on their market power (Inoue and Vukina, 2006). They may allocate production inputs of varying quality to growers of different abilities (Tsoulouhas and Vukina, 2001) which may jeopardize the concept of dynamic incentives (Leegomonchai and Vukina, 2005). Tsoulouhas and Vukina (1999) stated that tournament could lead integrator to bankruptcy in unfavorable states of nature and the presences of large output price volatility.

In this study, we use a mathematical derivation and a simple statistical analysis to demonstrate that tournament contract might be attractive for the skillful growers by dividing growers into semi-homogeneous league. Together with well design performance brackets as suggested by Zheng and Vukina (2007), the tournament contract might be another option for the companies to reward their best suppliers.

MODEL

We begin our analysis with a model suggested by Levy and Vukina (2004). The output of agent i in time t (x_{it}) is expressed as a function of the effort exerted by agent i in period t ($e_{it} \geq 0$), ability of agent i (μ_i), a common production shock occurring in period t (u_t) in dependent across time with variance σ_u^2 , and an idiosyncratic production shock (ε_{it}) independent across agent and time σ_ε^2 .

$$(1) x_{it} = e_{it} + \mu_i + u_t + \varepsilon_{it}$$

All agents have the same a continuous and differentiable utility function of $U[y_{it} - C(e_{it})]$ as a function of a payment to the agent and (y_{it}) and a strictly convex function of effort, ($C(e_{it})$ where $C', C'' > 0$ and $C(0) = C' = 0$). The utility function is assumed weak concavity $U' > 0, U'' \leq 0$

The agents may be offered either simple piece-rate contract, $y_{it}^P = B^P + K^P x_{it}$ or relative performance contract, $y_{it}^R = B^R + K^R (x_{it} - \bar{x}_t)$. For piece-rate contract, the agent is paid by comparing the individual performance to the fixed standard while for the relative performance, it is compared to the group average ($\bar{x}_t = \frac{1}{n} \sum_{j=1}^n x_{jt}$).

And for the piece-rate contract, the agent's decision of utility maximizing is given by

$$(2) \max_{e \in [0, \infty)} \iint U[y - C(e)] f_u(u) f_\varepsilon(\varepsilon) du d\varepsilon$$

where the density functions for the common production and idiosyncratic shocks are given by f_u and f_ε , respectively. The first-order condition of:

$$(3) \iint U'[y - C(e)] [K^P - C'(e)] f_u(u) f_\varepsilon(\varepsilon) du d\varepsilon = 0$$

Hence, the solution to piece-rate contract is as follows:

$$(4) K^P = C'(e^*)$$

And for the tournament contract against $(n-1)$ other agents, the solution is given by

$$(5) K^R \left(\frac{n-1}{n} \right) = C'(e^*)$$

Let y_{it}^{n-1} be a stochastic payment received by agent i in tournament t when the tournament league consists of the entire population of contestants, and y_{it}^n be a payment when the league consists of n contestants randomly down from the population. Hence the league composition effect is $y_{it}^{n-1} - y_{it}^n$. For simplicity, Levy and Vukina assume the distributions of all random shocks are normal. Together with their linearity, random variable y^o and y^n are also normal and determined by their means and variances. Suppose that the agent needs to compete with randomly drawn competitors from the normal distribution with mean zero and variance σ_μ^2 . The variance of the payment to the agent is

$$(6) \text{Var}(y_{it}^R) = (K^R)^2 \left[\left(\frac{n-1}{n} \right) \sigma_\varepsilon^2 + \left(\frac{n-1}{n^2} \right) \sigma_\mu^2 \right]$$

The agent faces the league composition effect as:

$$(7) \text{Var}(y^n) - \text{Var}(y^{2n}) \\ = (K^R)^2 \left[\left(\frac{n-1}{n}\right) \sigma_\varepsilon^2 + \left(\frac{n-1}{n^2}\right) \sigma_\mu^2 \right] \\ - \lim_{n \rightarrow \infty} (K^R)^2 \left[\left(\frac{n-1}{n}\right) \sigma_\varepsilon^2 + \left(\frac{n-1}{n^2}\right) \sigma_\mu^2 \right] = (K^R)^2 \left[\left(\frac{n-1}{n^2}\right) \sigma_\mu^2 - \frac{1}{n} \sigma_\varepsilon^2 \right]$$

For the tournament contract, the common production shock is eliminated. Hence, the uncertainty left in this scheme is from idiosyncratic shock and unknown competitors' ability. Notice that if the agent competes against a large enough n , the league composition effect may be positive. A single grower's performance is compared to the group average, hence, bearing only $(n-1)/n$ of the shock when league size is n . However, it depends on another composition which is the different between variance of idiosyncratic shocks and variance of abilities. If we can divide growers into different leagues with heterogeneous ability, the variance of idiosyncratic shocks will exceeds the variance of abilities, and that the league composition will be beneficial. Then, the key is to select league size and composition to motivate the players and eliminate the common production shock.

Let assume that if we can arrange a proper league and grower exert more effort because of the league composition and benefit give right motivation. At the optimal level, grower exert $e^{**} > e^*$. Solution of the tournament contract will become $K^R \left(\frac{n-1}{n}\right) = C'(e^{**}) > K^R \left(\frac{n-1}{n}\right) = C'(e^*)$. And if semi-homogeneous is arranged, $\sigma_{\mu n \varepsilon w}^2 < \sigma_\mu^2$, then $\left(\frac{n-1}{n^2}\right) \sigma_{\mu n \varepsilon w}^2$ will be smaller than the former $\left(\frac{n-1}{n^2}\right) \sigma_\mu^2$. This statement is also true for the league composition effect.

Consider a simple piece rate contract with the same expected payment as the tournament one (the same effort should yield the same expected payment) and marginal payment of

$$(8) K^P = \left[\frac{(n-1)}{n}\right] K^R$$

A grower who participates in the simple piece rate scheme faces variance of

$$(9) \text{Var}(y_i^P) = (K^P)^2 [\sigma_u^2 + \sigma_\varepsilon^2].$$

The variance term contains only an idiosyncratic and a common production shock with no impact from other players.

To compare the benefit of simple rate and tournament contract, let assume a constant absolute risk aversion utility function

$$(10) U(y_i) = E(y_i) - \left(\frac{\lambda}{2}\right) \text{Var}(y_i)$$

where E is expectation operation and $\lambda = -\frac{[E[U''(y)]]}{[E[U'(y)]]} > 0$ is the Arrow-Pratt measure of absolute risk aversion.

The difference between the two contracts can be calculated as:

$$(11) U[y^R - C(e^*)] - U[y^P - C(e^*)] = -\frac{\lambda}{2} (K^R)^2 \left[\left(\frac{n-1}{n}\right) \sigma_\varepsilon^2 + \left(\frac{n-1}{n^2}\right) \sigma_\mu^2 \right] + \frac{\lambda}{2} (K^P)^2 [\sigma_\varepsilon^2 + \sigma_u^2] \\ = \frac{\lambda}{2} (K^R)^2 \left[\left(\frac{n-1}{n^2}\right) \right] [(n-1) \sigma_u^2 - \sigma_\varepsilon^2 - \sigma_\mu^2]$$

As stated earlier, whether the tournament contract will be beneficial, size of league and size of common production variance compare with idiosyncratic and variance of competitors' ability matters. Notice that if we can arrange new league composition such that $\sigma_{\mu n \varepsilon w}^2 < \sigma_\mu^2$ and $e^{**} > e^*$, the solution from eq.(11) will be enhanced. Now let introduce a concept of welfare overtime of T sequence tournaments. The comparison of both contract are as shown in eq.(12)

$$(12) \text{Var} \left[\frac{1}{T} \sum_{t=1}^T y_t^R - C(e^*) \right] - \text{Var} \left[\frac{1}{T} \sum_{t=1}^T y_t^P - C(e^*) \right] = \frac{\lambda}{2} (K^R)^2 \left[\left(\frac{n-1}{n}\right) \frac{\sigma_u^2}{T} - \left(\frac{n-1}{n^2}\right) \frac{\sigma_\varepsilon^2}{T} - \left(\frac{n-1}{n^2}\right) \frac{\sigma_\mu^2}{T} \right]$$

Levy and Vukina interpreted Eq. 12 as vanishing of tournament contract benefit as $T \rightarrow \infty$. The common shocks and idiosyncratic shocks will fade out over time. Unlike common production and idiosyncratic, variation in abilities is not diminished as T grows. They concluded that tournaments lower welfare in a fixed league. We interpret this equation from different point of view. Firstly, league composition might not be fixed for all the time since turnover of growers is inevitably. Secondly, if we divided the growers into different league

according to their ability, variation in abilities will be automatically deducted. Thirdly, if the principal appropriately divides players into somewhat heterogeneous league, growers are likely to be motivated and improve their farming skills. Performance brackets suggested by Zheng and Vukina (2007) can be also used with suggested concept in order to inspire players to improve their efficiency.

For empirical analysis, we obtained 2008 data from a Thai integrator. Due to disclosure agreement, we cannot display descriptive statistics to third party. We divided data into two group, a group of high performer (which has feed conversion ratio (FCR) better than the integrator's standard) and a group of low performer which has feed conversion ratio (FCR) lesser than the integrator's standard). Then, we tested if on the average using tournament contract with semi-homogeneous league composition will raise growers' income. The results show that 7 out of 12 month, income of the tournament is significantly superior to simple piece-rate contract while the rest of the case, income of the two contracts is insignificantly different at 95% significance level. Next, we tested if the suggested tournament contract will reduce variation in income. The results show that 10 out of 12 month variance of tournament is less than simple piece-rate contract at 95% significance level.

CONCLUSION

In this study, we used a mathematical derivation suggested by Levy and Vukina (2004) and a simple statistical analysis to demonstrate that reducing variation in abilities of players in a league may lead to beneficial of the tournament contract. To method to reduce variation in abilities is to divide growers into different league according to their abilities. This paper reviews mainly the concept of league differentiable. For the future research, empirical data should be tested to confirm the correctness of the concept using more sophisticated models.

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THE ESTIMATION OF RUSSIAN AGRICULTURAL SECTOR DEVELOPMENT PERSPECTIVES: ON THE EMPIRICAL RESEARCH OF THE RUSSIAN SUGAR MARKET

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ABSTRACT

Now during the epoch of globalization the effective foreign trade activity of any country can and should be a key condition of prosperity itself and its partners. This objective is especial actual for problem sectors of the world economy such as agro-industry and foodstuff markets. Our article represents some results of the complex research of perspectives of Russian sugar market. The work was accomplished within the general concept of medium-term scenario modeling of Russian sectoral markets presented earlier (Pisareva, 2004)

INTRODUCTION

The food crisis is a substantive problem to development of a modern civilization. Its influence on day-to-day life became extra dramatic especially since autumn 2008 when global economy had gone in the period of downturn and depression. The crisis was caused by congested sags in agriculture development during last economical cycle. In this meaning the crisis is obligate. However, the troubles with the foodstuff have started earlier and they were predetermined by two specific reasons. They provoked a sharp rise in basic food prices (by FAO: in 2007-2008 the prices for dairy and meat products were doubled, wheat went up 130%, soybean — 90%, corn — 35%, rice — 80% (the highest level for the previous 10 years)).

The first reason is a rises in energy sources price, especially on the oil. It had two negative consequences. Firstly the farming costs were racing up, secondly the biofuel market started extending rapidly. According to OECD 30% of a corn production would be used for producing of ethanol by 2010. By 2020, EU is planning to satisfy a minimum of 10% of its transport fuel needs by dint of biofuel. The second reason is the fundamental transformations in pattern of food demand in developing countries in Africa, Southern and South-East Asia, Middle East. The requirements for food were constantly growing, the production capabilities, especially farmlands, were limited — all these factors led to increasing of meal import. It is a long-term trend. According to UNO world population will be more than 8 bln (today — 6,7 bln) by 2025. But already there is a lack of suitable crop lands and the problems will be accrued. It will be remarked that, the matter is not in the absolute food deficit but in the limited development of the present international systems of production and trade in agriculture industry. In view of the current trends the main players on the global stage must correctly assess the benefits of industry, create potentialities, be social responsible for their self foodstuffs and stimulate market development.

Agriculture always has been one of the main directions in the protectionist policies of developed countries including Russia. Actually the farming development is the priority line of the national Russian economy. Historically agro sector was a weak link in economy of the USSR. Many reforms and transformations were carried out in the 90th but without great effective. Nevertheless Russia has been turned into steady exporter of the basic provisions during the last 10 years (e.g. the Russian Federation (RF) holds now the third position

among the leading exporters of grain). The main prerequisites for this fact are available croplands and production facilities in agriculture, significant interest of investors (profitability in several agro branches is between from 40 to 100%). Considering the specialization of Russian Federation in raw materials and mainly in energy resources (till 65% of export) government aims at increasing of the tax revenues, employment of population in farming, improving the trade balance (Pisareva, 2007). These facts may explain the interest for investigation the effective and well-balanced system of government regulation measures of the national agricultural markets development. Last one can not be done without the understanding the specific character of its functioning and creation new adequate research tools. The conception of scenario forecasting was assumed as a basis. The results of author researches in this area were reflected in several published works including GBTA aegis (Pisareva, 2004). All mentioned above became the starting point of our investigation and some results of which are presented in the article.

RESEARCH METHODOLOGY

The principal aspects of simulation and forecasting environment of the national agro-industrial markets are: analyses of measures of State support on the domestic production, research of the conditions and specifics of agro-industrial markets functioning, others market indicators. All methods devoted to these problems can be divided in two main approaches: theoretical and descriptive. First ones allow to understand the common mechanism of agri-business functioning. Second ones are focused on practical tasks. Among well-known practical researches the author separated the models of computable general and partial equilibrium on agricultural markets. The most well known of them are following: AGLINK (2002, 2007, 2009); COSIMO (1998), ATPSM (2004) etc.

The basic steps of research are: 1) analyses of current and historical specificity of competitive efficiency of the Russian agribusiness, including the definition of the significant export and import product flows; 2) the identification of factors, which are significantly influence on the current and long-term efficiency of the concrete Russian Federation agricultural markets; 3) the creation of the open aggregated industrial models allowing for demand, production and consumption; 4) performing the scenario calculations based on using of simulation complex; 5) conclusions and recommendations following the simulation results.

Each of enumerated points has an independent importance and can be a subject of the separate survey. As a sample of such research, we selected sugar market. So, the subject of this article is an analysis and forecast of specification of the medium-term perspectives of Russian sugar market on the base of scenario simulation methodology. The object of our research is the processes which are affecting the development dynamics of Russian sugar market. The information sources were different open analytical surveys in Russian and global press, official statistical data of the Federal Agency for Statistics of the RF (RosStat, www.gks.ru), the Central Bank of the RF (www.cbr.ru), the Federal Customs Service of the RF (www.customs.ru), the Institute for Agricultural Market Studies (www.ikar.ru), International trade statistics organization (www.intracen.org), Food and agricultural organization (www.fao.org).

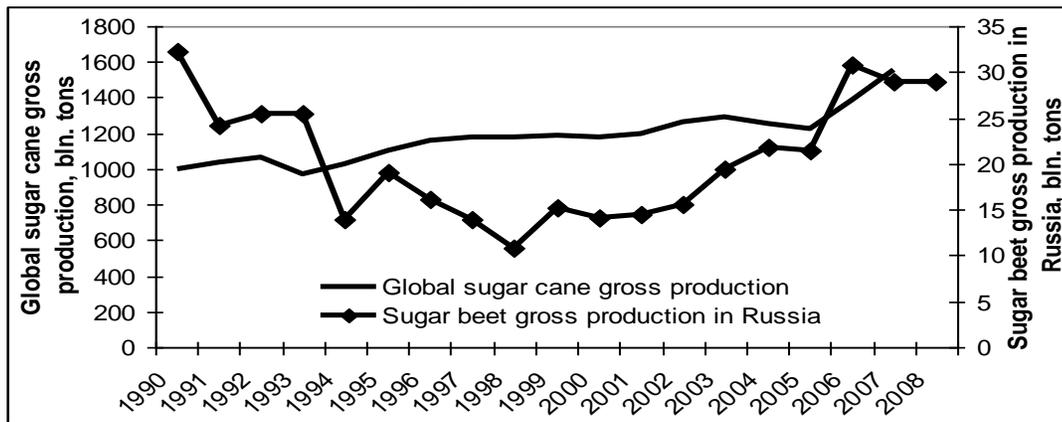
ANALYSES OF SUGAR MARKET FUNCTIONING SPECIFIC IN RF

The global sugar industry has undergone significant changes on its development. These changes were associated with discovering of the new large marketing outlet for the product. Sugar sources have started to be used as the raw material for fuel alcohol (ethanol) production. This fact significantly changes the market dynamics. In these conditions, the current problems are modification and changing the business activity and the principles of governmental regulation in agro industry. For solving the problems, we need to create the system of economic-mathematic simulation. It will be allowed to estimate and compare the different conditions and effective ways of the industry development.

Sugar market is one of the most important foodstuff markets of Russian Federation. We can separate two periods of the development (fig. 1). The first period (1990-1998) was defined by decline in domestic production of sugar beet (by RosStat: the average annual rate of increase -10,0%) on the background of stable world sugar cane production's growth (by FAO: the average annual rate of increase +2,2%). This situation was

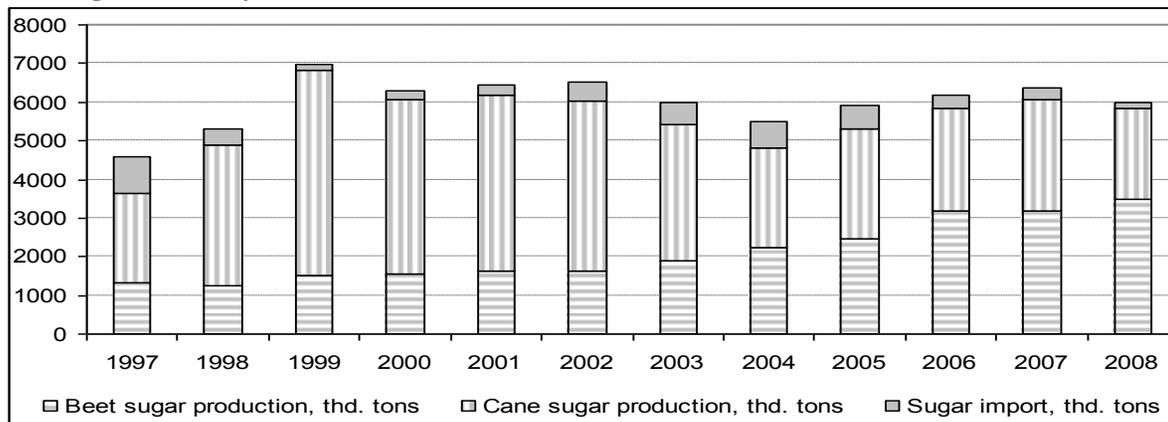
caused by rampant inflation tempo in Russia (by RosStat: during this period the average annual Consumer Price Index made up 597%). High rates of inflation increased the cost price of sugar production and reduced competitiveness of the Russian producers on external markets and inside the country. The critical time became in August 1998, then ruble was defaulted (exchange rate was changed from 6 Russian rubles per US dollar at the beginning of year to 24 rubles per dollar at the end). Russian producers got significant competitive advantages. Increasing legislative pressure for sugar and raw cane-sugar import (current import tariffs of raw cane-sugar make up 220 US dollars per ton) brought the increasing of sugar beet production (by RosStat: the average annual rate of increase +13,0%), which are going till the current moment. However, in 2008 Russia could not get the levels of the beginning of 90-th. Now the production volumes just only are achieving the level of the pre-reform period.

Figure 1: Comparative dynamics of the Russian sugar-beet gross production and global cane production during the period since 1990 to 2008



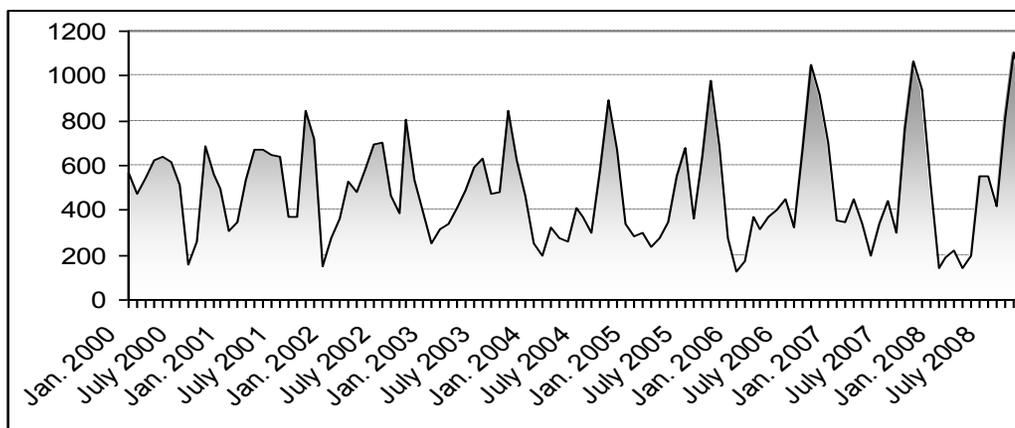
During the last ten years the structure of sugar market's offer was altered considerably (fig.2). The sugar import is not very big (by RosStat: 309 thd. tons were delivered in 2007 (less than 5.1% of Russian domestic production)). So the main part of the consumed product is produced in the country. However, considering this production in section of the initial raw material, it should be remarked that beet sugar production has been doubled but the cane sugar production has been reduced.

Figure 2: The dynamics of volume and offer's structure of Russian market since 1997 to 2008



The production and consumption of sugar have a seasonal character. As the rule, the peaks of consumption are fit on summer months. The main part of beet sugar produces in September-November, cane sugar – in March-July (fig.3).

Figure 3: The dynamics of Russian sugar production during the period since 2000 to 2008



The authors analyzed the time series data of sugar production and specified the seasonal component (as a multiplicative index). The results of these investigations are shown in table 1.

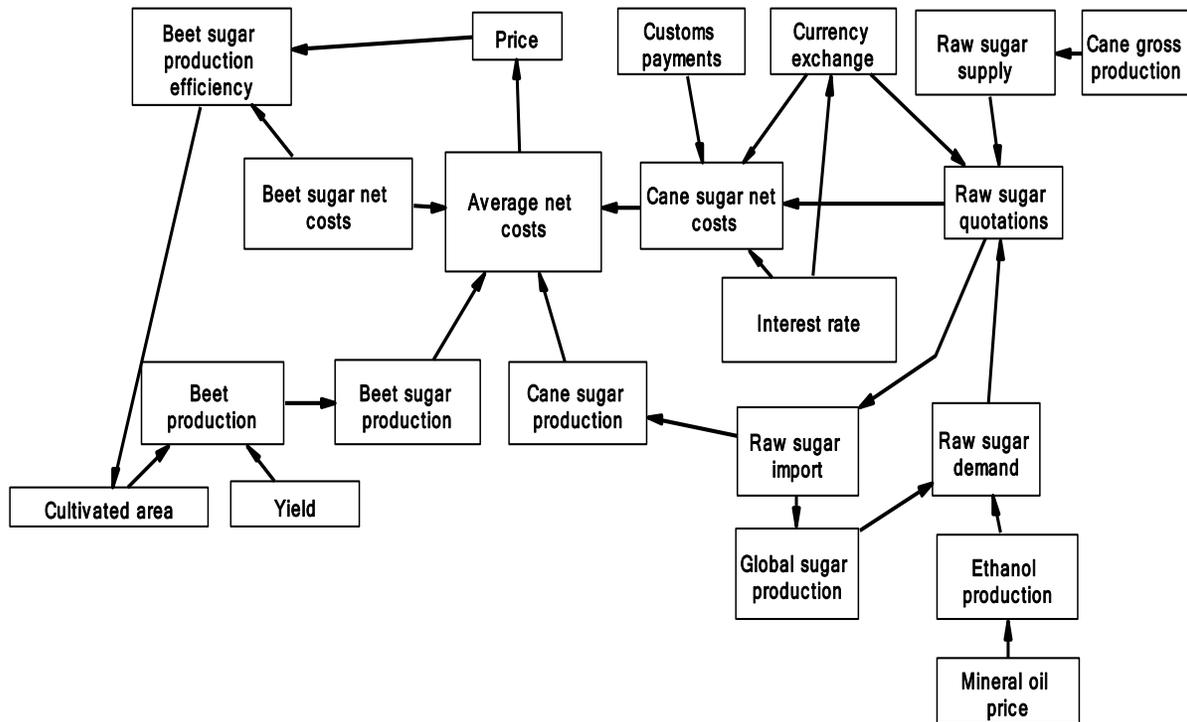
Table 1: The monthly seasonal indices for annual beet sugar and cane sugar production

Product	The production seasonal indices			
	beet sugar		cane sugar	
	monthly partition	seasonal indices	monthly partition	seasonal indices
January	0,0374	0.7026	0,0589	0.1692
February	0,0053	0.9684	0,0788	0.0091
March	0,0006	1.4099	0,1209	0.0004
April	0,0000	1.3372	0,1354	0.0000
May	0,0000	1.4242	0,1286	0.0000
June	0,0000	1.9863	0,1515	0.0000
July	0,0008	1.9079	0,0980	0.0067
August	0,0051	0.9436	0,0300	0.2729
September	0,1205	0.2014	0,0278	2.3547
October	0,3783	0.1687	0,0282	4.7559
November	0,3087	0.3571	0,0623	3.2389
December	0,1486	0.5927	0,0796	1.1923

GENERAL STRUCTURE OF SIMULATION COMPLEX

We used the hierarchy method for model construction of Russian sugar market. All general product model of the sugar market is presented as a hieratic system of relative model blocks. Each block allows simulating the key market conditions, restrictions and arguments. Interdependence between the different hierarchy's levels is implemented by information flows. The model of the average net cost and price calculation is located on the highest level of hierarchy of the simulation complex. This model consolidates the model's sections of the second hierarchy level: the section of beet-sugar and cane-sugar production simulation. The beet-sugar production simulation can be presented as the dynamical system based on the feedback loop. The cane-sugar production represents the sequence of operations with the addition of value to the end-product on the each one. The authors got the integrated diagram of association of the attributes for the sugar market (fig.4).

Figure 4: The interdependence diagram for the simulation complex for Russian sugar market functioning



MODEL SPECIFICATION AND ESTIMATION

The authors formalized the interrelations between the sugar market parameters based on the simulation complex. The system of technological equations and the system of econometrical equations were detailed during the process of specification. This procedure was realized on the base of the statistical data (during the period from 2000 to 2008). We used a balance model of gross sugar-beet production for simulation the block of beet-sugar production. As the result of detailing production process was obtained the complex of models, which determine each balance component. The beet-sugar production net cost calculation models were developed in the frame of this block. The characteristics of industry efficiency were calculated on the base of these models. Profitability influenced on the enlargement of sugar-beet cultivated areas. Profitability is generating the feedback loop. The following regression models were estimated as the result of analyses of beet-sugar production model:

$$GSBP_y = SBPY_y \cdot \gamma_y \cdot SBCA_y,$$

$$\gamma_y = 1.00142 \cdot \gamma_{y-1} + \varepsilon_y,$$

$$SBPY_y = 1.04939 \cdot SBPY_{y-1} + \varepsilon_y,$$

$$\lambda_y = 0.10638 + \varepsilon_y,$$

$$SBSC_y = \frac{1}{(1 - 0.05 - 0.35) \cdot \lambda_y} \cdot ASBC_y,$$

$$ASBC_y = 1.0927 \cdot ASBC_{y-1} + \varepsilon_y,$$

$$\sum_{m=1}^{12} SBSP_y^m = \lambda_y \cdot GSBP_y,$$

$$E_y = \frac{\sum_{m=1}^{12} ((SP_y^m - SBSC_y) \cdot SBSP_y^m)}{\sum_{m=1}^{12} (SBSC_y \cdot SBSP_y^m)},$$

$$\Delta SBCA_y = 109 \cdot AV^6(E_{y-1}),$$

where GSP_y – gross sugar-beet production (thd. tons); $SBPY_y$ – productivity of harvested area under sugar-beet (tons per hectare); γ_y – the share of harvested area share in cultivated area; $SBCA_y$ – sugar-beet cultivated area (thd. hectare); y – crop year, m – crop month; λ_y – technological coefficient of the sugar-beet processing (tons of sugar per tons of sugar-beet); $ASBC_y$ – average net cost of beet-sugar production (rub. per ton); $SBSP_y^m$ – beet-sugar production volume (thd. tons); SP_y^m – ISCO-I sugar price indices (s.u.); E_y – calculated profitability of the beet-sugar production; AV^6 – calculation operator of average meaning calculation for 6 periods.

The special attention was devoted to the factor analyses of cane-sugar quotations forming. The cane production and the energy resource prices (in current example it was oil price) were applied as the independent variables of this regression equation. The result of the specification and estimation of the equations in the cane-sugar production block:

$$SQU_y^m = 4.09 + 0.7272 \cdot SQU_y^{m-1} + 0.5919 \cdot {}_{MACD}SQU_y^{m-1} +$$

$$+ 0,0501 \cdot CPQ_y^m - 9,3308 \cdot 10^{-6} \cdot SUP_y + {}^{SQU} \varepsilon_y^m,$$

$$SCSP_y^m = 0.9052 \cdot SI_y^{m-1} + {}^{SCSP} \varepsilon_y^m,$$

$$SI_y = 0.9611 \cdot SI_{y-1} + {}^{SI} \varepsilon_y,$$

$$SUP_y = 1.0329 \cdot SUP_{y-1} + {}^{SUP} \varepsilon_y,$$

where SQU_y^m – raw sugar quotations on NYMEX (US cents per pound); CPQ_y^m – Brent mark mineral oil quotations (US dollars per barrel); SUP_y – annual Brazil cane production (thd. tons); $SCSP_y^m$ – cane-sugar production volume (thd. tons); SI_y^m – Russian raw sugar import volume (thd. tons).

The model of the highest hierarchy level can realize the integration of the simulation blocs, which are responding for the calculation and forecasting characteristics of beet- and cane-sugar production. It is a calculative model of the average net cost and price calculation:

$$SP_y^m = 0.0152 \cdot MA(SC_m^y) + 0.6149 \cdot SP_y^{m-1} + {}^{SP} \varepsilon_y^m,$$

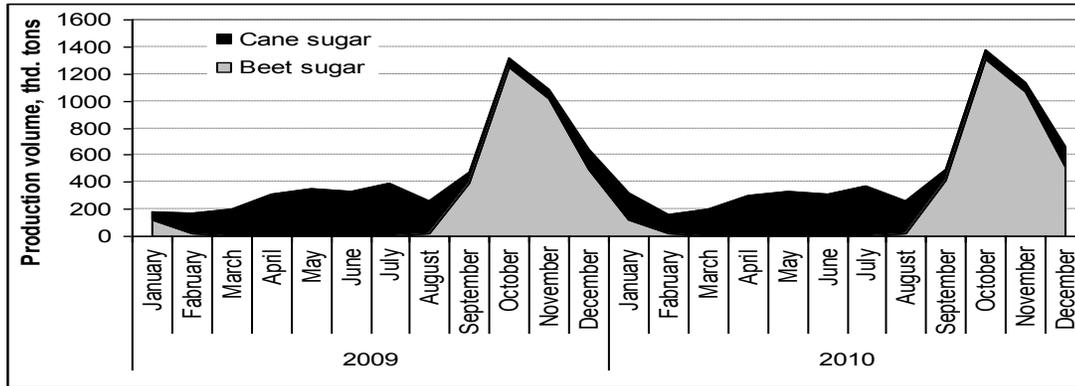
$$SC_y^m = \frac{SBSC_y \cdot SBSP_y^m + SCSC_y^m \cdot SCSP_y^m}{SBSP_y^m + SCSP_y^m},$$

where SP_y^m – ISCO-I sugar price indexes (s.u.); SC_m^y – average net cost of produced sugar (rub. per ton); MA – moving average operator; $SCSC_y^m$ – cane-sugar production net cost (rub. per ton); $SCSP_y^m$ – cane-sugar production volume (thd. tons); $SBSC_y$ – beet-sugar production net cost (rub. per ton); $SBSP_y^m$ – beet-sugar production volume (thd. tons).

FORECAST OF THE BASIC CHARACTERISTICS OF MARKET

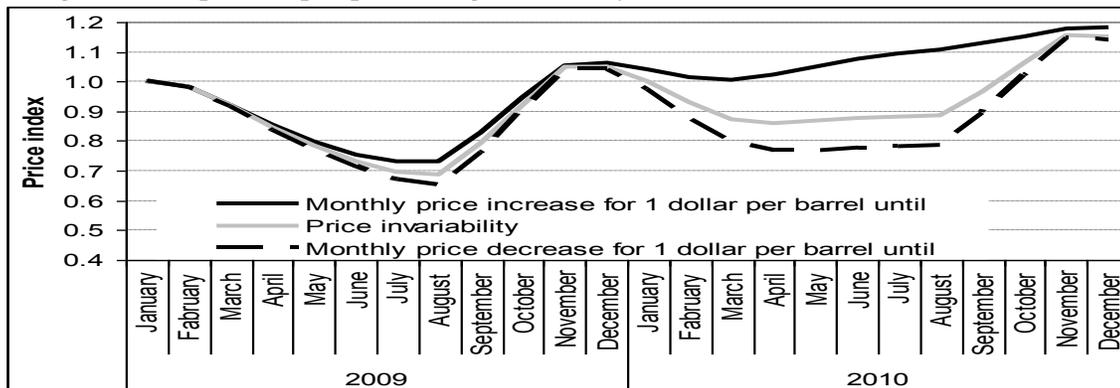
The analyses of dynamics of sugar market's development was conducted on the base of simulation complex. Beet- and cane-sugar production volumes and Russian domestic price indexes were selected as the forecast objects. The forecast was based on scenario forecasting method. Different hypotheses about the fundamental factors, restrictions and rules were determined. To illustrate it we can look at the productions and prices variants under the influence of different variants of oil price dynamics: monthly price decrease for 1 dollar per barrel until 22 dollars per barrel; price invariability; monthly price increase for 1 dollar per barrel until 68 dollars. Then we fed in the initial data into the model and made calculations for the period 2009-2010 (fig.5). For the reason that beet and cane sugar production volumes do not particularly depend on the oil prices in the short-period.

Figure 5: Monthly sugar production for two consecutive years



In this diagram, we can see that the dynamics of the beet-sugar production is weakly ascending. The model shows that the meaning of the beet-sugar production will exceed 3.4 bln. tons in 2 years (about 58.6% of gross sugar production). Cane-sugar production will fall down. It occurs at the expense of ousting of cane raw sugar from sugar raw materials market by the use of high import tariff rates. The model shows that cane sugar production dynamics will lead to volume decrease to 2.5 bln. tons (about 41.4% of gross production). However, we should mark that it is not real to refuse from raw materials import on the Russian sugar market, because the factories cannot stop their production outside of a sugar beet season. Personnel and others fix costs will force the enterprises to work on the minimum level of the raw sugar processing. Thereby we can make a conclusion: Russian food security index (for sugar market) will increase from current 57.8% to 58.6% in the next two years. After comparison of trends of all three scenarios (fig. 6) we can see that the current dynamics of sugar prices decreasing will be saved for beet season 2009. The decreasing potential will make up 20-25% of current stages.

Figure 6: Comparative prospects of sugar market dynamics in the frame of different scenarios



CONCLUSION

The executed researches permit to draw the following conclusions, essential, in the author's opinion, for carrying out predictive researches in the practice of management inside of the sugar market.

- Choice of a tool of research is fully determined by properties of the studied subject. The scenario approach to the modeling of future prospects of the agro production (on the instance of sugar production) in the RF may become an effective and efficient tool to research and extract new information and knowledge for government and business structures.
- The list of main drivers of the Russian sugar market was proposed.
- A strongly expressed seasonality is one of the most significant features of Russian agricultural sector. This fact was illustrated on the calculation of sugar price indexes.
- Interconnection between oil and sugar markets was described and oil price dependence on sugar price was investigated.
- Realization and improvement of mono-product markets research methodology allows to conduct analytical forecasting researches in the industry marketing sector in general and to test and improve the arrangements for sugar market by governmental regulation and control. The results of this research may be interesting for the companies taking care of production and trade business on Russian Federation sugar market, the federal organs of government, as well as international organizations deciding the problems of international interdependence concordance on global markets.

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THE ATTITUDE OF GENERATION Y STUDENTS AT A SOUTH AFRICAN UNIVERSITY TOWARDS SUPPORTING CHARITABLE ORGANISATIONS

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ABSTRACT

Non-profit organisations across the globe are very aware of the challenges they face: an increase in the number of charities, a lack of funding, a lack of volunteers and a changing donor-market. With donations declining as donors get older, charitable marketers need to turn their attention to a younger generation. This paper attempts to provide some insight into the supporting behaviour (through donations and volunteering) of Generation Y students at a South African University and measures their attitude towards supporting charitable organisations. Based on the results, managerial implications and recommendations for future research are proposed.

INTRODUCTION

Countries across the globe are experiencing a major increase in the number of charitable organisations (Nichols in Bennett, 2005). In 2002, the UK had approximately 165 000 charities that were classified as “general charities”; an increase of 53 per cent from 1989 in this specific classification (Charity Commission in Bennett, 2005). South Africa is no different, with 17 976 registered non-profit organisations within the Gauteng province alone (Department of Social Development (n.d.)). For the purpose of this study, a “charitable organisation” is also referred to as a “non-profit organisation” and the terms will be used interchangeably.

Charitable organisations are furthermore facing a challenge in terms of functioning optimally with a lack of funding and a shortage of volunteers (Lamb, Hair, McDaniel, Boshoff & Terblanche, 2004). Research suggests that contributions from individuals only increased by 72 percent in real terms from 1982 to 1997, despite the increase in the number of charitable organisations (Thornton, 2006). In addition, individual factors such as demographic and psychographic characteristics affect the levels of donations made to charities and research by Schlegelmilch, Love and Diamantopolous (1997a) indicate that donations to charitable organisations decline when donors reach the age of 65. Hence, Edmundson in Schlegelmilch, Diamantopolous and Love (1997b) recommends that non-profit organisations should turn their focus on attracting younger individuals, the so-called Generation Y consumers.

Before a younger group of donors can be targeted, charitable organisations need to obtain a better understanding of their behaviour. Sheppard, Hartwick and Warshaw in Webb, Green and Brashear (2000) states that there is a strong link between behaviour and attitude and little is known about individuals’ charitable attitudes, therefore little is known about individuals’ donating behaviour. Thus, this research study will examine how Generation Y consumers currently support charitable organisations and will investigate their attitude towards supporting charitable organisations.

1. THEORETICAL BACKGROUND

Although little secondary data is available on aspects such as consumer characteristics, preferences, attitudes, behaviours and perceptions in the non-profit environment, a number of the marketing concepts used in the commercial sector, can be used and applied in the non-profit industry (Andreasen & Kotler, 2003).

1.1 Attitude

Attitudes are strongly held against any element from the surrounding environment; whether it be individuals, brands, companies, product categories, retail stores and advertisements (Belch & Belch, 2007) or religion, politics, clothes, music and food (Kotler & Keller, 2006). Attitudes can also be held against acts or behaviours (Eagly & Chaiken in Webb *et al.*, 2000) and Fishbein and Ajzen in Webb *et al.* (2000) state that the attitude toward an object (in this case non-profit organisations) and the attitude towards the act or behavior (in this case supporting non-profit organisations) are very important elements in predicting future behavior. Webb *et al.* (2000) identified two dimensions that are distinct determinants of donation behaviour and they include the attitude of donors toward helping others and the attitude of donors towards charitable organisations.

Knowing donors' attitudes toward a non-profit organisation and the act of supporting a non-profit organisation provides charitable organisations with valuable input in the development of effective and efficient marketing strategies (Webb *et al.*, 2000). The focus of marketing is about changing attitude and subsequently behaviour, and in doing so persuade the consumer to go out and purchase, or persuade a donor to go out and support a charity, whether through donations or volunteering (Hawkins, Mothersbaugh & Best, 2007).

1.2 Generation Y consumers

A generation or age cohort refers to a group of people who have had similar experiences in terms of social, political, historical and economical environments (Hawkins *et al.*, 2007). Due to these similarities and shared values, individuals from the same generation usually portray similar attitudes, values and behaviours (Hawkins *et al.*, 2007). Over the years six different generations have been identified of which Generation Y is currently receiving attention (those individuals born between 1977 and 1994 (Hawkins *et al.*, 2007)).

Generation Y is the first generation to grow up with full-employment opportunities for women, with dual-income households, a wide array of family types, with respect for ethnic and cultural diversity and divorce as the norm (Hawkins *et al.*, 2007). This Generation is more educated than their predecessor generations and it is therefore expected that this group will earn higher incomes (Hawkins *et al.*, 2007 and Bakewell & Mitchell, 2003). Despite growing up in a society that is hampered by AIDS, homelessness, drug abuse, gang violence and economic uncertainty, Generation Y consumers are regarded as assertive, self-reliant, emotionally and intellectually expressive, innovative, curious, have a strong sense of independence and are optimistic (Hawkins *et al.*, 2007).

This cohort group forms the future donors of charitable organisations and currently little is known concerning their attitude towards charitable organisations or the behaviour that they exhibit.

1.3 Non-profit organisations

Today, more emphasis is placed on social marketing, which is defined by Kotler and Keller (2006) as marketing done by a non-profit or governmental organisation with the intention to further a specific cause. With the application of these marketing strategies and tactics, marketers aim to alter or create behaviours that will have a positive effect on targeted individuals or society as a whole (Hawkins *et al.*, 2007).

Since social marketing refers to marketing done by non-profit organisations, non-profit organisations will form the focal point of this research study. According to Mokwa in Balabanis, Stables and Phillips (1997), non-profits have three main roles:

- To draw in resources in the form of donations and volunteers,
- To set up and prioritise social initiatives, and
- To distribute the resources to the beneficiaries.

For the purpose of this study, the focus will remain on the attraction of resources, whether through donations or volunteering as this is where the attitudes of donors are evident.

1.3.1 Donations

Fundraising is recognised as one of the most important marketing tools available to the charitable marketer (Andreasen & Kotler, 2003). Charitable organisations are faced with the challenge to develop fundraising strategies that will provide them with the highest return on their endeavours (Schlegelmilch *et al.*, 1997b). While the number of charitable organisations continues to increase, the industry is seeing a decrease in the private contributions from donors (Thornton, 2006), resulting in non-profits experiencing more pressure in terms of finding financial support from scarce donor resources (Andreasen & Kotler, 2003). This research study will focus on individuals as a source of funding, whether in the form of goods (gifts in-kind) or money (Andreasen & Kotler, 2003).

Charitable marketers need to have a better understanding as to why individuals give to a non-profit organisation (Andreasen & Kotler, 2003). Some of these reasons include: feeling strongly about the cause, personal experience with the organisation, tax benefit, it's the right thing to do, involvement of a family member or friend, illness of a family member or friend, religious reasons, family tradition, inheritance, giving something back to the community, friends are making donations and feeling better about oneself (Andreasen & Kotler, 2003).

Schlegelmilch, et al. (1997b) states that various individual factors, such as demographic, socio-economic and psychographic characteristics affect the levels of donations made to charities. Research suggests (Schlegelmilch *et al.*, 1997a and Schlegelmilch *et al.* 1997b):

- Age plays an important role in determining whether individuals are donors or not. Although donations tend to increase as donors become older, donations tend to decline after donors reach the age of 65.
- Even though there are numerous discrepancies in terms of the donating behaviour of males and females, there is a tendency amongst women to donate more than men.
- Income is an indicator as to whether an individual will donate or not, and also how much will be donated.
- Individuals with a higher level of education are more likely to be donors and tend to donate more than individuals with lower levels of education.

1.3.2 Volunteering

Individuals also support charitable organisations by means of freely dedicating time and effort in promoting and advancing some features of society (Andreasen & Kotler, 2003). This is done in the form of volunteering. These groups of people (volunteers) are essential to the long-term success of many non-profit organisations as they assist in keeping expenses down (Andreasen & Kotler, 2003). Furthermore, volunteers are also more likely to be donors than individuals who have not done volunteer work in the past (Schlegelmilch *et al.* 1997b). Therefore, non-profit organisations are increasingly trying to attract younger individuals as volunteers to get them more involved with the organisation, with the intention of generating future donations from these individuals (Schlegelmilch, 1997b).

Some of the main reasons for volunteering include amongst others: interest in the activity, giving back to the community, helping people in need, learning a new skill, meeting new people, feeling better about oneself and a means to escape from personal problems (Andreasen & Kotler, 2003 and Wilson & Pimm, 1996:26).

2. PROBLEM STATEMENT, OBJECTIVES AND HYPOTHESES

Non-profit organisations are faced with the dilemma where funds from individual donors are declining and hence, competition for funding in the industry is increasing. Schlegelmilch *et al.*, (1997b) mentions that donations from individual donors tend to decline after the age of 65 and Edmundson in Schlegelmilch *et al.* (1997b) summarises it by stating that management is concerned about a lack of donations from the Baby Boomers generation (those individuals born between 1946 and 1964 (Kotler & Keller, 2006)). This emphasises the need to shift focus to younger generations and attract them to support charitable organisations on a more

regular basis, whether through donations or volunteering (Schlegelmilch *et al.*, 1997b). However, a change in donor focus will require a different approach as each age cohort group has different characteristics.

The **primary** research objective of this study is to determine the attitudes of Generation Y consumers towards supporting charitable organisations.

The **secondary** objectives of the research study include:

- To determine the main reasons why Generation Y consumers support charitable organisations.
- To determine what type of charitable organisations Generation Y consumers prefer to support.
- To determine the effect of different demographical factors of Generation Y consumers on their attitude towards supporting charitable organisations.
- To determine and compare overall attitudes of Generation Y consumers towards charitable organisations.
- To determine Generation Y consumers' willingness to support a charitable organisation.

The following **null hypotheses** are formulated for this research study:

- H0 1: There is no association between Generation Y consumers' willingness to support charitable organizations (donating or volunteering) based upon demographical differences between them (i.e. age, gender, income and education).
- H0 2: There is no significant difference between the attitude of demographically different groups of Generation Y consumers towards supporting charitable organisations (i.e. age, gender, income and education).
- H0 3: There is no significant difference between supporters and non-supporters of charitable organisations in terms of their attitude towards supporting charitable organisations.
- H0 4: There is no correlation between the willingness to support a charitable organisation again and attitude towards supporting charitable organisations.
- H0 5: There is no correlation between the willingness to recommend supporting a charitable organisation and attitude towards supporting charitable organisations.

3. RESEARCH METHODOLOGY

Descriptive research in the form of a quantitative, self-administered questionnaire was utilised to obtain data among Generation Y students, currently studying at the University of Johannesburg, South Africa. Comprising four diverse campuses, non-probability sampling techniques were used in selecting a representative sample. Initially, quota sampling allowed the researcher to create different strata based on the campus of study, after which convenience sampling was used to identify the respondents and fill the quotas. Fieldworkers collected the information on the different campuses and a total number of 304 useable questionnaires were collected.

The first section of the questionnaire addressed the demographic characteristics of the respondents. Section two considered donating behavior (i.e. money or goods), while section three investigated respondents' volunteering behaviour. Section four included a multiple-item (30), unlabelled five-point Likert scale that was used to measure the attitude of the students towards supporting non-profit organisations. Items, suitable for inclusion, were obtained from Andreassen and Kotler (2003); Nichols (2003); Webb *et al.* (2000:303) and Wilson and Pimm (1996:25).

4. RESULTS

The software package SPSS was used to analyse the data. This section presents some of the results of the study and focuses on the demographic profile of respondents, current supporting behavior and testing of hypotheses.

4.1 Demographic profile of respondents

The demographic profile of the 304 respondents is highlighted in Table 1. All the respondents form part of the Generation Y consumer group as all of them fall between the ages of 15 to 32, with the majority falling between the ages 19 to 24 (76.3%). More female students (58.3%) compared to male students (41.7%) completed the questionnaire. The majority of respondents (35.8%) earn less than R 500 per month, followed closely by respondents earning between R 501 and R 1000 (34.5%). Most of the respondents were undergraduate students (88.9%).

Table 1: Demographic profile of respondents

Age	%
15 to 18 years	20.1
19 to 24 years	76.3
25 to 32 years	3.6
Gender	%
Female	58.3
Male	41.7
Average monthly income	%
Less than R 500	35.8
R 501 to R 1 000	34.5
R 1 001 to R 2 500	21.2
R 2 501 to R 4 000	4.4
R 4 001 to R 6 000	1.7
More than R 6 000	2.4
Postgraduate or undergraduate student	%
Postgraduate	11.1
Undergraduate	88.9

4.2 Respondents supporting charitable organisations

Of the 304 respondents, 65.5% indicated that they have made a donation to a non-profit organisation in the past year, while only 29.0% have done volunteer work. Although a large number of the respondents donate, they mainly donate once a year (29.1%) with only a small percentage (8.5%) donating on a more regular basis. Respondents prefer donating goods or gifts in-kind (72.4%), followed by donating money (59.8%). and only 6.0% donating other elements, such as blood.

4.3 Main reasons for supporting charitable organisations

Table 2 summarises the reasons why respondents support non-profit organisations (through donations or volunteering). Some of the main reasons for donating include giving back to the community (57.3%), followed by the right thing to do (49.7%). Tax benefits came out the lowest (0.5%), followed by inheritance (2.0%). Respondents volunteer because they want to help people in need (63.6%) and they want to give back to the community (61.4%).

Table 2: Main reasons for supporting charitable organisations

Donating		Volunteering	
Reasons	%	Reasons	%
Feel strongly about the cause	45.7	Interest in the activity or work	42.0
Personal experience with the charity	13.1	Giving something back to the community	61.4
Tax benefit	0.5	Help people in need	63.6
It is the right thing to do	49.7	Learn a new skill	22.7
Involvement of family, friend and co-worker	9.0	Meet new people and enhance friendships	27.3
Due to the illness of a family member, friend or co-worker	3.5	Feeling better about myself	26.1
Religious tradition (eg: tithing)	32.2	Means to escape personal problems	5.7
Family tradition	11.1	Other, please specify:	4.5

Inheritance	2.0
Giving something back to the community	57.3
All my friends give to charities	2.5
Feeling better about myself	39.7
Other, please specify:	5.5

4.4 Types of charitable organisations supported

Table 3 presents the types of charitable organisations that respondents prefer supporting. Respondents prefer supporting (for both donating and volunteering) charities that care for children (73.9% - donating and 83.0% - volunteering), followed in both cases by religious organisations (39.7% - donating and 35.2% - volunteering).

Table 3: Types of charitable organisations supported

Donating		Volunteering	
Type of charity	%	Type of charity	%
Caring for children	73.9	Caring for children	83.0
Caring for adults	20.1	Caring for adults	9.1
Health care	19.6	Health care	20.5
Land and housing	2.0	Land and housing	2.3
Education and development	13.1	Education and development	18.2
Religious organizations	39.7	Religious organizations	35.2
Art and cultural	3.0	Art and cultural	12.5
Environment and conservation	7.0	Environment and conservation	9.1
Caring for animals	17.1	Caring for animals	18.2
Research organizations	4.0	Research organizations	4.5
Sport and recreation	8.5	Sport and recreation	15.9
Foundations	17.1	Foundations	10.2
Other, please specify:	1.0	Other, please specify:	1.1

Sections 2 and 3 concluded with questions relating to whether respondents will donate or volunteer again and whether respondents will recommend donating or volunteering. Measured on a 7-point scale (1 – not at all; 7 – definitely), the mean scores of willingness to support again and recommend supporting are illustrated in Table 4.

Table 4: Mean scores for willingness to support again and recommend supporting

Question	Mean
Would you donate to a charity again?	6.50
Would you recommend the act of donating to a charity to a friend/someone else?	6.44
Would you do volunteer work at a charity again?	6.07
Would you recommend doing volunteer work for a charity to a friend/someone else?	6.22

4.5 Attitude towards supporting non-profit organisations

Before analysing the attitude items and testing the hypotheses, it is necessary to investigate how the attitude statements are distributed and whether the results are reliable. An exploratory factor analysis was conducted to determine whether there exist patterns amongst the various attitude items in an attempt to group similar items together based on an underlying factor. This assisted in presenting the findings in a concise manner.

4.5.1 Distribution of results

The distribution of the results for all 30 items was investigated. Although not imperative, since the sample size is larger than 30 (Eiselen, Uys & Potgieter, 2007), the skewness and kurtosis were evaluated for each

scale item. According to West, Finch and Curran (1995) an item is deemed acceptable when the skewness of the item is less than 2 and the kurtosis of the item is less than 7. All 30 items fell between these boundaries and is thus accepted as normally distributed. Parametric tests were used for testing the stated hypotheses.

4.5.2 Factor analysis

An exploratory factor analysis was performed to determine whether the 30 attitude items could be grouped together into underlying factors that are aligned with the attitude towards supporting non-profit organisations. Four factors were obtained from the analysis. Each one of the factors was labelled in accordance with the scale items included in the specific factor and is indicated in Table 5.

Table 5: Four factors summarising attitude towards supporting non-profit organisations

FACTOR 1 – Attitude towards helping others	
I believe that charities perform a useful function in society	
I believe it is important for people to contribute to charities	
I believe that charities need assistance from people in the form of donations	
I prefer donating to charities that addresses social concerns (eg: hunger, violence, environmental awareness, etc.)	
I believe that a person should be more helpful towards others in society	
I believe that people who are in need should receive assistance from others	
I believe that a person should be willing to assist others who are less fortunate	
FACTOR 2 – Attitude towards charitable organizations	
I believe that charities have been quite successful in helping the needy	
I believe that charities conduct their business in an ethical manner	
I have a positive image of charities	
I believe that all of the money/goods donated to charities go to a good cause	
I believe that charities can be trusted with money/goods donated to them	
FACTOR 3 – Attitude towards volunteering	
I believe that a person could make a difference by volunteering his/her time	
I believe that charities need assistance from people in the form of volunteering	
I believe that the benefits gained from volunteering are much greater than the costs involved	
I believe that the recognition associated with volunteering is important to people	
I prefer volunteering time and effort at a charity	
FACTOR 4 – Attitude towards donating	
I believe that a person will only donate to a charity if he/she benefits in some way	
I believe that a person will only donate to charities if he/she is asked to do so	
I believe that a person will only donate to charities if his/her friends did it with him/her	
I believe that a person generally gives to the same charity every time he/she makes a donation	

4.5.3 Reliability

Cronbach's Alpha was used to test whether the four attitude factors are reliable. When Cronbach's Alpha measures 1.0, it refers to perfect reliability (Hair, Anderson, Tatham and Black, 1998), while Malhotra (2007) furthermore suggests that a value greater than 0.60 is also considered satisfactory. Table 6 illustrates the Cronbach's Alpha values for the four attitude factors as defined above, thus indicating that the sets of measurements are reliable.

Table 6: Cronbach's Alpha values for the four dimensions used in this study

Factors	Cronbach's Alpha
Attitude towards helping others (7 scale items)	0.770
Attitude towards charitable organisations (5 scale items)	0.805
Attitude towards volunteering (5 scale items)	0.673
Attitude towards donating (4 scale items)	0.708

4.6 Hypotheses

4.6.1 Null Hypothesis 1

The null hypothesis 1 states that there is no association between Generation Y consumers' willingness to support charitable organisations (by means of donating or volunteering), when considering their different demographical factors (i.e. age, gender, income and education). The Fisher's Exact Test for 2x2 tables was used to measure the association between gender, education levels and the willingness to support. The Chi-squared test of independence was used to measure the association between age, income levels and willingness to support. Only gender indicated an association with the willingness to support.

The Fisher's Exact Test for gender illustrated a p-value of 0.005 for willingness to donate and a p-value of 0.001 for willingness to volunteer. In both cases, the p-values are less than 0.05, and therefore the null hypothesis 1 is rejected, indicating an association between gender and supporting charitable organisations. Tables 7 and 8 below indicate that female respondents are more likely to support non-profit organisations (i.e. donations and volunteering) than male respondents. Based on the Phi and Cramer's V values, the effect of these differences between males and females are however small (Effect value = 0.166 for donating and Effect value = 0.194 for volunteering).

Table 7: Cross tabulation between gender and making a donation

		Have you made a donation in the past		Total
		Yes	No	Yes
Gender	Female	126	49	175
	Male	70	55	125
Total		196	104	300

Table 8: Cross tabulation between gender and volunteering

		Have you done volunteer work		Total
		Yes	No	Yes
Gender	Female	63	111	174
	Male	23	102	125
Total		86	213	299

4.6.2 Null hypothesis 2

The null hypothesis 2 attempts to indicate whether significant differences exist between the four attitude factors of demographically different groups of Generation Y consumers towards supporting charitable organisations. A one-way analysis of variance (ANOVA) was used to measure the significant difference between age and attitude, while independent sample t-tests were used to measure gender, levels of income, and levels of education against the four attitude factors. No significant differences were calculated for any one of the four attitude factors in relation to the different age brackets, levels of income or levels of education.

The only significant differences that were identified related to gender and their attitude towards charitable organisations (p-value=0.11) and towards volunteering (p-value=0.37). In both cases female students tend to have a significantly more positive attitude towards both charitable organisations (mean score=3.74) and volunteering (mean score=4.01). No significant differences exist between male and female students in terms of their attitudes toward helping others and donating.

4.6.3 Null hypothesis 3

Null hypothesis 3 states that there is no significant difference between supporters (individuals who have supported in the past year) and non-supporters of charitable organisations in terms of their attitude towards charitable organisations. These elements are measured against the four attitude factors obtained from the factor analysis. Independent sample t-tests were used to compare donors and volunteers against the attitude factors.

The significant differences evident between supporters and non-supporters include the following:

- There is a significant difference between donors and non-donors in terms of their attitude towards helping other people (p-value=0.17), with donors measuring a mean score of 4.36 and non-donors with a mean score of 4.20.
- There is a significant difference between volunteers and non-volunteers in terms of their attitude towards charitable organisations (p-value=0.007), with volunteers having a significantly more positive attitude towards charitable organisations (mean score=3.84) than non-volunteers (mean score=3.58).
- Volunteers (mean score=4.22) have a significantly more positive attitude towards volunteering (p-value=0.000) than non-volunteers (mean score=3.85)

Thus, individuals who have donated in the past are more positive towards helping people in need, while volunteers are more positive towards charitable organisations and volunteering. This is in accordance with the theory whereby attitude towards helping others are positively related to donating behaviour (Webb *et al.* 2000)

4.6.4 Null hypothesis 4

Null hypothesis 4 investigates whether there is a correlation between the willingness to donate or volunteer to a charitable organisation again and the four attitude factors identified earlier. Working with two continuous variables, which are normally distributed, a Pearson's product moment correlation test was used.

The following findings were made:

- There is a moderate positive correlation (Pearson correlation coefficient=0.301) between respondents' willingness to donate again and their attitude towards helping others (p-value=0.000).
- There is a moderate positive correlation (Pearson correlation coefficient=0.336) between respondents' willingness to donate again and their attitude towards volunteering (p-value=0.000).
- There is a small correlation (Pearson correlation coefficient=0.278) between respondents' willingness to volunteer again and their attitude towards helping others (p-value=0.009).
- There is a moderate positive correlation (Pearson correlation coefficient=0.407) between respondents' willingness to volunteer again and their attitude towards volunteering (p-value=0.000).

Thus, there is a correlation between individuals who are willing to support (through donations or volunteering) a charitable organisation again and their attitudes toward helping others and toward volunteering.

4.6.5 Null hypothesis 5

Null hypothesis 5 measures whether there is a correlation between willingness to recommend supporting charitable organisations and the four attitude factors. A Pearson's product moment correlation test was used.

The following findings were made:

- There is a small positive correlation (Pearson correlation coefficient=0.259) between respondents' willingness to recommend donating and their attitude towards helping others (p-value=0.000).
- There is a small positive correlation (Pearson correlation coefficient=0.224) between respondents' willingness to recommend donating and their attitude towards charitable organisations (p-value=0.001).
- There is a small positive correlation (Pearson correlation coefficient=0.253) between respondents' willingness to recommend donating and their attitude towards volunteering (p-value=0.000).
- There is a moderate positive correlation (Pearson correlation coefficient=0.469) between respondents' willingness to recommend volunteering and their attitude towards helping others (p-value=0.000).
- There is a large positive correlation (Pearson correlation coefficient=0.526) between respondents' willingness to recommend volunteering and their attitude towards volunteering (p-value=0.001).

Correlations exist between willingness to recommend donating and attitude towards helping others, charitable organisations and volunteering. Correlations also exist between willingness to recommend volunteering and attitude towards helping others and volunteering. Therefore, individuals who have a more positive attitude towards supporting non-profit organisations are more willing to recommend supporting charitable organisations.

5. MANAGERIAL IMPLICATIONS AND RECOMMENDATIONS

More Generation Y consumers make donations to charitable organisations in comparison to volunteering. In addition, respondents are more willing to donate goods rather than money, probably due to students' relatively low monthly incomes. This study only focused on the students within the Generation Y group, and that scholars and young working adults, who are also part of Generation Y, have been excluded. Compared to the working Generation Y group, it is assumed that students have more discretionary time available, which could be beneficial to volunteering. Given lower income levels and more discretionary time, it is surprising that students are more willing to donate rather than volunteer. Reasons for this could be further investigated.

Generation Y consumers tend to have a strong focus on their communities and in both cases, whether donating or volunteering, the emphasis fell on giving back to the community and helping people in need. This could possibly serve as a theme that charitable organisations could use when marketing to this generation. Tax benefits came out at the bottom of the list, indicating a possible lack of knowledge, or the fact that the respondents are still students and therefore not paying tax as of yet. This might be a benefit that non-profit organisations can bring under the attention of Generation Y consumers at a later stage. The fact that donors and volunteers are willing to support again and recommend, indicates a sense of loyalty. Charitable organisations should capitalise on this by asking supporters to donate more regularly or recommending their cause to family and friends.

In accordance with the theory, female Generation Y students are more likely to support charitable organisations than male Generation Y students. They also portray a more positive attitude towards charitable organisations and volunteering. This presents charitable organisations with the opportunity to focus more on female students and possibly attracting them to get more involved with volunteering. Supporters of charitable organisations also have a more favourable attitude towards supporting charitable organisations than non-supporters and charitable organisations face two challenges in this regard: firstly, maintaining the positive attitude of supporters; and secondly, changing the attitude of non-supporters with the intention to change their behaviour.

6. LIMITATIONS AND FUTURE RESEARCH

A limitation of this research study is that the target population only included students, who are a small portion of the total Generation Y consumer group. Furthermore, students are also a more affluent and privileged group than some of their peers, placing them in a more favourable position when supporting charitable organisations. The age cohort, Generation Y, also includes individuals who are still at school, and individuals who have started working. It is recommended that the research study be duplicated to other universities, as well as to Generation Y consumers that are still at school or already working. A similar study can be conducted under older generational groups, such as the Baby Boomers and Generation X consumers, thereby enabling charitable organisations to compare different groups with one another.

7. CONCLUDING REMARKS

Charitable organisations are very aware of the challenges they face: an increase in the number of charities all competing for similar resources, a lack of funding, a lack of human resources and a changing donor-market. The focus should shift to a younger generation. With a better understanding of this group, charitable

organisations are able to address them more appropriately and hopefully generate future support from them. After all, Generation Y represents the donors and volunteers of tomorrow.

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SUGAR CANE FARMERS' ADOPTION OF DUAL-ROW FARMING TECHNOLOGY: THE ROLES OF FAMILY DECISION MAKING, WORD-OF-MOUTH, AND FARMERS' SIZE

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ABSTRACT

The present research examines the behaviors of sugar cane growers in adopting dual-row farming technology by examining three relevant factors: family decision making, word-of-mouth, and sizes of farmers. The results reveal that large- and medium-sized farmers adopt this technology to a greater extent than small-sized farmers. While small-sized farmers tend to be first aware of the technology and asking consultancy through word-of-mouth from their friends or other farmers, medium- and large-sized ones turn to commercial sources or mill staff for this purpose. Nevertheless, at the decision stage in all sizes of farmers, the role resides with the family members and/or themselves. To adopt the technology, farmers of all sizes visit both social sources (friends/other farmers' farms) and commercial sources (mill's farms). The percentage of mill's farm visit is much higher for medium- and large- (vs. small-) sized farms. Farmers of all sizes observed the effectiveness of demonstration farms and make the technology adoption after the visit. The percentage of small-sized farmer adopting the technology to their entire farm land is higher than those of medium- and large-sized counterparts. When faced with problem after adoption, farmer of all sized turn to mill's staff for problem-solving. Research implications and directions for future research conclude the study.

INTRODUCTION

Thailand is the sixth largest sugar producer and second largest sugar exporter in the world (Suksawat, Piewthongngam and Tenglolai 2008). In recent years, major sugar exporting countries attempt to reduce their cost and/or enhance their productivity (Piewthongngam, Setthanan and Suksawat 2007) in order to be more globally competitive. Thailand, as its productivity is rather modest in comparison with other larger exporters (Suksawat, Piewthongngam and Tenglolai 2008), attempts to employ several new farming techniques to improve its productivity. One of such techniques in increasing farm density is "dual-row" farming where sugar canes are grown in two parallel rows. Traditionally, Thai cane farmers use a single-row approach which often results in low productivity per rai (rai is a standard unit of area measurement in Thailand where one acre is approximately equivalent to 2.5 rai). Researchers and relevant parties (e.g., sugar mills and government agencies) have attempted to introduce the use of dual-row approach for some time. The adoption rate, nonetheless, remains less than ideal. Therefore, there is a need to examine farmer's adoption behaviors of this technology in order to be more successful at promoting this farming technique and increasing cane farming productivity. The present study will thus respond to the increasing need to account for human behaviors to better address thematic issues in agricultural promotion (Renting et al. 2009) in addition to the scientific aspect of the technology transfer.

As a high-density method, dual-row farming allows farmers to grow more seed canes per rai. The output could be increased by 2-4 tons/rai. This additional output yields extra revenues of 1,000 -4,000 baht/rai (1 US dollar is approximately equivalent to 35 baht). Further, the dual-row method could prolong the life of seed canes. The use of this technology, however, requires special equipment (e.g., plough, dual-row cane planter with

special disc). Farmer may either buy or temporarily rent the special machinery. Therefore, financial resources or the machine availability is a prerequisite for the adoption of this technique.

Due to the advantages and limitations of this technology as discussed earlier, the present research seeks to better understand the behaviors of cane growers in adopting dual-row farming technology by examining three relevant factors: family decision making, word-of-mouth, and sizes of farmers. More specifically, our research questions includes (1) what are the behaviors of cane growers in adopting dual-row farming technology?, (2) What are the roles of word-of-mouth in this adoption?, and (3) What are the roles of cane grower sizes in this adoption? Given that Thai cane farmers' perspective in technology transfer is scantily explored and internationally publicized, this study is expected to fill this void.

CONCEPTUAL FRAMEWORK

Family Decision Making

In Thailand, the farming activities are often conducted as family activities. Therefore, members of a family or a farm could be regarded as members of an organizational buying center and play a number of specific roles when making a collective decision such as in the case of technology adoption. Depending on the decision, some or all of the group members may be involved, and one person may play any number (or even all) of roles (Solomon 2007; Peter and Olson 2005).

The *initiator* brings up the idea or identifies a need. The *gatekeeper* conducts information search and controls the flow of information available to the group. In the farming context, the gatekeeper may identify possible vendors and products for the rest of the group to consider. The *influencer* can sway the outcome of the decision as this person has important technical or practical knowledge about the product category and thus can be regarded as a resident expert. The *decider* determines whether or not to make a purchase. This person also may determine which specific models are acceptable. The decider may be the one in charge of identifying acceptable vendors and then making the final decision about which vendor to hire. The *buyer* is the one who actually makes the purchase. This person may pay for the item, actually procure it, or both. This person also negotiates the purchase transaction and tries to make the best deal and settle on the final terms (e.g., delivery schedules, charges, financing). The *user* is the one who actually uses the product or service. In some cases, the final user may have relatively little influence on the decision-making process and its outcome (Solomon 2007; Peter and Olson 2005).

Based on these academically-oriented six classifications, the present study primarily focus on three basic roles: introducer (the first source that makes a farmer aware of this technology), consultant (those who provide more information and discussion on the pros and cons), and decision maker. The modification of the academically-oriented role classifications are thought to better reflect the need of practitioners such as sugar mills and government agency (cf., Suksawat, Piewthongngam and Tenglolai, 2008) as they often search for uncomplicated use of theoretical concepts. Further, these three distinctive roles are often their foci when they formulate the promotion strategy.

Word-of-Mouth

The success of a product/service depends on building relationships with its consumers who, in turn, often take parts in multiple social networks where they could influence each other through word-of-mouth in the formation of consumption attitudes and behaviors (Allsop, Bassett and Hoskins 2007). Word-of-mouth is an informal communication between consumers and consumers regarding the products or services but not communication between consumers and marketing organizations such as complaints or promotions (Mazzarol, Sweeney and Soutar 2007). In comparison with marketer-initiated communication (e.g., advertising, personal selling), word-of-mouth is less expensive (Villanueva, Yoo and Hanssens 2008) but yet more credible (Allsop, Bassett and Hoskins 2007). These advantages are attributable to the fact that the messages is delivered personally and the message sender is not paid and often has only the best interest of the message recipient as the motivation for sharing an opinion (Etzel, Walker and Stanton 2007). The examination of differential influences between social (e.g., word-of-mouth from family, friends, or colleagues) and commercial (advertising or information

from marketers or suppliers) will help better understand the mechanism under which farmers adopt a new farming technology.

Size of Farmers

Size of operations is suggested to influence the degree of technology adoption (Atari et al., 2009) because farmers of various sizes often differ in levels of farm management skills, financial resources, amount of farmland, and other constraints (Suksawat, Piewthongngam and Tenglolai 2008). In the context of sugar cane farming, two criteria are often used to categorize farmers: amount of farmland owned and amount to sugar canes sold to a sugar mill. The amount of sugar canes sold to a sugar mill, however, could involve sugar canes that farmers secure from other farmers or those not necessarily grown by that particular farmer. This criterion, therefore, may not reflect the actual growing capacity or farming decision in technology adoption. As a consequence, based on a discussion with sugar cane experts, we opt to use amount of farmland owned which better represents the production capacity and need to make a decision to adopt a technology. In the present study, farmers are classified into 3 categories.

Small-sized farmers. They use up to 50 rai of farmland for sugar cane growing. This group of farmers tends to use family members as the main source of labor. Many of the farm activities such as growing and harvesting are conducted by hand (rather than by machine). Those with few family members may rely on hiring outside workers. Most of the farmers are of this size. This group, though large in number, occupies the smallest share of sugar cane sold to sugar mills.

Medium-sized farmers. They use 51-150 rai of land for sugar cane growing. Farmers in this category use the combination of family members and outside workers. They have some machines, though to the lesser extent than that of large-sized counterparts.

Large-sized farmers. They use more than 150 rai of land for sugar cane growing. These farmers have relatively decent financial resources. They may use several agricultural machines such as trash incorporator, planter, weed cultivator, fertilizer applicator, cane harvester, and cane loader. They hire many outside workers to work on the farm. They tend to have ample resources to meet basic requirements in farming such as seed canes, pesticide, fertilizer, and water management system. Many of them own 10-wheel and/or 6-wheel trucks. Though smallest in number, they occupy the largest share of sugar cane sold to sugar mills.

A study by Suksawat, Piewthongngam and Tenglolai (2008) reveals that, in comparison with smaller-sized farmers, those larger are more likely to possess higher technical efficiency, but less loyalty to sugar mill (i.e., they often sell their canes to the competitor). The authors attribute their findings to the fact that larger-sized farms are more capital-intensive (as opposed to labor-intensive in smaller farms), hence resulting in being more operation efficient. This efficiency, nevertheless, could encourage this group of farmers to be less reliable on the sugar mill. As a consequence, their loyalty is lower than that of smaller-sized farmers. Further, relative to small-sized farmers with lower revenues, large-sized farmers who have higher gross sales are found to be more likely and readily to adopt new technologies (Lovejoy and Parent 1981; Clearfield and Osgood 1986) such as in the case of implementing new soil and water management practices (Serman and Filson 1999).

METHODOLOGY

Survey research was conducted with 263 cane farmers using judgmental sampling. The sample was drawn from the northeastern region of Thailand, an important area for sugar cane production in the country. Altogether, 154 small (58.6%), 78 medium (29.7%), and 31 large-sized (11.8%) farmers participated in the study. The survey was conducted in 8 district offices of a major sugar mill in the region. Research participants were first greeted and provided with a basic description of the study. Next, they were asked a series of questions regarding their adoption behaviors of the dual-row farming technology. Finally, participants were thanked and debriefed. They received a small gift as compensation for their participation.

RESULTS

Table 1: Rate of Technology Adoption

Adoption Rate	Small		Medium		Large		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Adopt	66	42.9	44	56.4	26	83.9	136	51.7
Not Adopt	88	57.1	34	43.6	5	16.1	127	48.3
Total	154	58.6	78	29.7	31	11.8	263	100.0

The rates of adoption of the dual-row farming technology are 42.9 %, 56.4 %, and 83.9 % for the small, medium, and large-sized farmers, respectively (Table 1).

Table 2: Introduction Sources

Introduction Sources	Small		Medium		Large		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Friends	29	43.9	15	34.1	5	20.0	49	36.3
Mill Staff	28	42.4	24	54.5	19	76.0	71	52.6
Family	3	4.5	1	2.3	-	-	4	3.0
Self	1	1.5	2	4.5	1	4.0	4	3.0
Others	5	7.6	2	4.5	-	-	7	5.2
Total	66	48.9	44	32.6	25	18.5	135	100.0

The majority of the small, medium, and large-sized farmers were first aware of this technology from friends/other farmers (43.9%), mill staff (54.5%), and mill staff (76.0%), respectively (Table 2).

Table 3: Adoption Consultancy

Consultancy Source	Small		Medium		Large		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Friends	29	44.6	13	29.5	5	20.0	47	35.1
Mill Staff	20	30.8	24	54.5	18	72.0	62	46.3
Family	5	7.7	3	6.8	2	8.0	10	7.5
Self	6	9.2	4	9.1	-	-	10	7.5
Others	5	7.7	-	-	-	-	5	3.7
Total	65	48.5	44	32.8	25	18.7	134	100.0

For more information and discussion on the pros and cons of the technology, the majority of the small, medium, and large-sized farmers consulted friends/other farmers (44.6 %), mill staff (54.5%), and mill staff (72.0%), respectively (Table 3).

Table 4: Decision Maker

Decision Maker	Small		Medium		Large		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Friends	7	11.7	3	7.7	3	13.0	13	10.7
Mill Staff	8	13.3	5	12.8	2	8.7	15	12.3
Family	31	51.7	18	46.2	10	43.5	59	48.4
Self	13	21.7	13	33.3	8	34.8	34	27.9
Others	1	1.7	-	-	-	-	1	0.8
Total	60	49.2	39	32.0	23	18.9	122	100.0

The majority of farmers of all sized have family as the decision makers (Table 4). The percentages for the small, medium, and large-sized farmers were 51.7%, 46.2%, and 43.5%, respectively.

Table 5: Visit : Friend's or Other Farmer's Farm

Visit	Small		Medium		Large		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Visit	56	86.2	33	76.7	25	96.2	114	85.1
No Visit	9	13.8	10	23.3	1	3.8	20	14.9
Total	65	48.5	43	32.1	26	19.4	134	100.0

The majority of farmers of all sizes visited friend's or other farmer's farms (Table 5). The percentages for the small, medium, and large-sized farmers were 86.2%, 76.7%, and 96.2 %, respectively.

Table 6: Visit: Mill's Demonstration Farm

Visit	Small		Medium		Large		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Visit	35	57.4	35	79.5	21	84.0	91	70.0
No Visit	26	42.6	9	20.5	4	16.0	39	30.0
Total	61	46.9	44	33.8	25	19.2	130	100.0

The majority of farmers of all sizes visited mill's demonstration farms (Table 6). The percentages for the small, medium, and large-sized farmers were 57.4 %, 79.5 %, and 84.0 %, respectively.

Table 7: Observation of Effectiveness

Effectiveness Observation	Small		Medium		Large		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Observed	58	95.1	42	100.0	25	100.0	125	97.7
Not observed	3	4.9	-	-	-	-	3	2.3
Total	61	47.7	42	32.8	25	19.5	128	100.0

Almost every farmer of all sizes observed the technology effectiveness from farm visit (Table 7). The percentages for the small, medium, and large-sized farmers were 95.1%, 100 %, and 100 %, respectively.

Table 8: Implementation

Implement	Small		Medium		Large		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Implement	57	93.4	40	95.2	25	100.0	122	95.3
Not Implement	4	6.6	2	4.8	-	-	6	4.7
Total	61	47.7	42	32.8	25	19.5	128	100.0

The majority of farmers of all sizes adopted the technology after farm visit (Table 8). The percentages for the small, medium, and large-sized farmers were 93.4%, 95.2%, and 100 %, respectively.

Table 9: Scale of Implementation

Scale of Implementation	Small		Medium		Large		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Entire farmland	33	52.4	20	45.5	9	34.6	62	46.6
Certain farmland	30	47.6	24	54.5	17	65.4	71	53.4
Total	63	47.4	44	33.1	26	19.5	133	100.0

The percentages for the small, medium, and large-sized farmers who implemented the technology for their entire farmland were 52.4%, 45.5%, and 34.6 %, respectively (Table 9).

Table 10: Consultancy in Problem-Solving After the Adoption

Problem Consultant	Small		Medium		Large		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Friends	9	20.0	3	11.1	4	19.0	16	17.2
Mill Staff	31	68.9	18	66.7	14	66.7	63	67.7
Family	2	4.4	-	-	2	9.5	4	4.3
Self	2	4.4	5	18.5	1	4.8	8	8.6
Others	1	2.2	1	3.7	-	-	4	4.3
Total	45	48.4	27	29.0	21	22.6	93	100.0

After adopting the technology, the majority of farmers of all sizes consulted mill staff when they had problem (Table 10). The percentages for the small, medium, and large-sized farmers were 68.9%, 66.7 %, and 66.7 %, respectively.

Table 11: The Present Use of this Technology

Present Use	Small		Medium		Large		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Still use	62	95.4	42	97.7	25	96.2	129	96.3
Not use	3	4.6	1	2.3	1	3.8	5	3.7
Total	65	48.5	43	32.1	26	19.4	134	100.0

The majority of farmers of all sizes still used the technology up to the present day (Table 11). The percentages for the small, medium, and large-sized farmers were 95.4%, 97.7%, and 96.2%, respectively.

DISCUSSIONS

Summary

Large- and medium-sized farmers adopt the dual-row farming technology to a greater extent than small-sized farmers. While small-sized farmers tend to be first aware of the technology and ask for consultancy in the form of word-of-mouth from their friends/other farmers, medium- and large-sized ones turn to commercial sources or mill staff for this purpose. Nevertheless, at the decision stage in all sizes of farmers, the role resides with the family members and/or the farmers themselves, thus reinforcing the idea that cane farming in Thailand is often operated as a family business. To adopt the technology, farmers of all sizes visit both social sources (friends/other farmers' farms) and commercial sources (mill's farms). The percentage of mill's farm visit, nevertheless, is much higher for medium- and large- (vs. small-) sized farms. Farmers of all sizes observed the effectiveness of these demonstration farms and make the decision to adopt the technology after the visit. The percentage of small-sized farmer adopting the technology to their entire farmland is higher than those of medium- and large-sized counterparts. When faced with problem after adoption, farmer of all sized turn to mill's staff for problem-solving.

Research Implications

The findings that large-sized farmers adopt the technology to a larger extent than small-sized farmers may be attributable to the former's higher financial resources or the capacity to invest in the innovation (Serman and Filson 1999). Further, it could reflect that the former group has a stronger entrepreneurial orientation. If this is the case, in order to achieve a higher level of can productivity, mills and government should attempt to enable farmers to develop their entrepreneurial skills. One way to achieve this is through economic support and more emphasis on vocational education and training (cf., Vesala, Peura and McElwee 2007).

Our study also points out the importance of family as a decision making unit. As a consequence, rather than treating each farmer as an individual person, sugar mills and government agencies should approach farmers as a family unit since all decision appears to involve the roles of family members in each step of technology adoption. From this perspective, technology adoption is not an individual's decision but rather a family's decision. As a consequence, sugar mills or government agencies who want to market new technology to farmers should not approach only one of the family members but should try to approach them as a whole as this is a collective decision (e.g., both husband and wife, rather than just approaching either a husband or wife). All marketing efforts such as farm visit and demonstration, discussions, and training should be jointly attended by both husband and wife.

The influence from outsiders on technology adoption, however, is different depending on the sizes of the farmers. Small-sized farmers tend to rely on word-of-mouth from their friends or other farmers, whereas medium- and large-sized turn to mill's staff for information. This finding provides important implications for designing communication or promotion strategies. Sugar mills or government agencies should use the appropriate channel when approaching farmers of different sizes. From another perspective, however, this finding may also simultaneously reflects the fact that medium- and large-sized farmers are currently better served from mill's staff. If the mills want to transfer their farming technology to the small-sized farmers, they

must provide higher level of attention to this group. This is particularly important for sugar mills which attempt to extend their competitive advantage beyond their mill boundary as the mill must rely on their cane farmers' contribution to enhance their competitiveness (Suksawat, Piewthongngam and Tenglolai 2008).

In terms of corporate social responsibility or public welfare, the parties involved (e.g., sugar mill's research center, government's agricultural extension department) should take into consideration the significance of appropriate research and technology transfer and their impact on sustainable development of sugarcane production which could finally result in the heightened living standards of sugar cane farmers. Public policy may be formulated based on the findings from the present study to contribute to the socio-economic viability of rural areas. In this sense, better living condition from higher income induced by the use of dual-role technology will reinforce the importance of multifunction agriculture (Renting et al. 2009), where agriculture activity involves not only food production, but also management of renewable resources, landscape, and contribution to the socio-economic viability of rural areas such as poverty alleviation and social welfare especially in developing countries.

Beyond the context of dual-row farming, our study results may provide hints regarding the introduction of other new farming technologies such as water use and management, farm waste management, nutrient (manure and fertilizer) management, fuel storage and handling, pesticide management, and soil management (cf., Atari et al. 2009).

Limitations and Directions for Future Research

The current study has a number of limitations which suggest directions for future research. The present study collects data from only one country. Future research may replicate our study in other parts of the world (e.g., Brazil and China) where major sugar cane production is conducted. In addition, as the current study examines social and economic factors, future studies may seek to examine psychological factors that could potentially influence the technology adoption such as attitude toward improvement (Suksawat, Piewthongngam and Tenglolai 2008), variety-seeking (Van Trijp, Hoyer and Inman 1996), and consumer susceptibility to interpersonal influence (Bearden, Netemeyer and Teel 1989) to achieve a better understanding of farmer's technology adoption behaviors.

Further research may also include other factors such as farmer characteristics (e.g., age, year of farming experience) and farm attributes (e.g., farm income, farm type) for the more comprehensive understanding of technology adoption behaviors (cf., Atari et al., 2009). In addition, the exploration of the financial versus non-financial motivation as a driving force for technology adoption would be another fruitful avenue. Finally, due to the increasing concern for environmental protection, future research from a public policy perspective may examine the extent to which the adoption of environmental farm planning (cf., Atari et al., 2009) is influenced by the farmer size and word-of-mouth to find a solution to environmental problems arising from agriculture.

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PERCEPTIONS AND EXPERIENCES OF INTERNATIONAL TOURISTS AT LAKE MALAWI

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ABSTRACT

Purpose – The aim of this paper is to determine the pre holiday perceptions, as well as post holiday experiences of international tourists at the “Fat Monkeys” holiday resort, situated on the shores of Lake Malawi. Fat Monkeys fall within the wider Cape McClear area, on the southern tip of the mentioned lake. Monkey Bay is the commonly known town, about 40 km’s from the resort.

Design and methodology – The questionnaire was designed to accommodate quantitative as well as qualitative data. All visiting tourists, in a given time frame, were asked to participate in the study. A sample size couldn’t be determined beforehand due to the unpredictability of potential tourists at “Fat Monkeys” resort. Thus, convenient sampling was used to determine the population that eventually participated.

Findings – The research found that the “Fat Monkeys” resort was found to be an adequate holiday destination for foreign tourists. The age group between 21 and 30 found it to be above expectation, whilst tourists using the fixed accommodation suggested an up grading is needed. Although tourists (who use local transport) found the road from Lilongwe unpleasant, 50% of all respondents indicate a 50% above expectation level, 40% below and 10% as expected.

Research limitations – The sample size was dictated by the number of visitors who informally and unexpectedly visited “Fat Monkeys”. Although the total population interviewed, amount to 31 completed questionnaires, it represented a 100% population within the specific timeframe.

Practical implications – Applicable findings regarding aligning perceptual expectations with experiences of tourists are possible. There is a potential link between perception and experience which could be bridged, only if the management of “Fat Monkey’s” support for such an exercise were given.

Value – The value of satisfying, or even over – satisfaction of tourists expectations at Lake Malawi has not been explored too the fullest. Reason for this phenomenon could be due to the limited supply of tourist destinations factors along the lake shore.

INTRODUCTION

Pre holiday – perceptions and post holiday – experiences refer to holiday or tourist activities, experienced in two different time periods. These mentioned periods or time frames usually differ drastically from one another. The differentiation takes place between the individual tourist’s perception (before he/she has gone on holiday) of a specific holiday resort, and the real time experience (after the tourist has been at the chosen destination for a while) of the same resort.

Malawi would be found in the Southern part of Africa (Map 1) and the geological location of “Fat Monkeys” resort is at the southern tip of Lake Malawi (Map 2). The Lake itself stretches for over 600 km, from the little town of Monkey Bay towards the Tanzanian border in the north. The direct area surrounding “Fat Monkeys” is also known as Cape McClear. To the western side, Lilongwe, the capitol, is located about 150 km’s away, south, the town of Zomba, located just below the Zomba plateau, a very popular tourist destination. On the eastern side

Tourism in Africa as we know it today has been influenced and shaped by many external influences. External influences refer to inter alia the history and the colonial period which Africa, in its majority, has been exposed too.

Africa's colonial history

Most of the countries in Africa were colonies at one time or another. The exception was countries like Ethiopia, which also had a brief stint with Italy as an outside occupying force. According to Beraho (2007:255) a so called "colonial hangover" existed in most of these countries. It is this "hangover" that made post-independence leaders stay with some old practices even as they crafted their own risky political innovation. Thus, one leg in the past and another in the present.

Beraho (2007:256) went further in identifying three stages that traces current regional problems back to their colonial roots and history.

- **Colonial stage or repressive stage:**
- **Rebellion against authority**
- **Liberalization of economies and seeking financial help from the west**

Africa and tourism

While there are positive economic benefits to be derived from the development of tourism in general, the claims of economic benefits are proposed by the international developers and accepted by African governments and proponents of the traditional forms of tourism development in these societies is subject to suspect. There are doubts as to whether the economic benefits are as large as "they" would like us to believe, and as to whether the economic benefits actually outweigh the losses that result in other areas (Mozoombar 1974).

For African governments, the struggle for economic growth and independence is a central and pervasive issue. To the citizens of these societies, economic justice is a necessity for survival. Thus the enthusiastic embrace of tourism by poor nations is not surprisingly through the lure of quick growth in foreign exchange earnings to the governments, and to the people, new forms of development (O'Grady, 1981). Tourism for these so called "poor nations" is all good and well for foreign revenue generation, however, for this to take place money for tourism development is needed. In order to borrow money for this purpose, from the World Bank, first has to be evaluated and favored by the Bank.

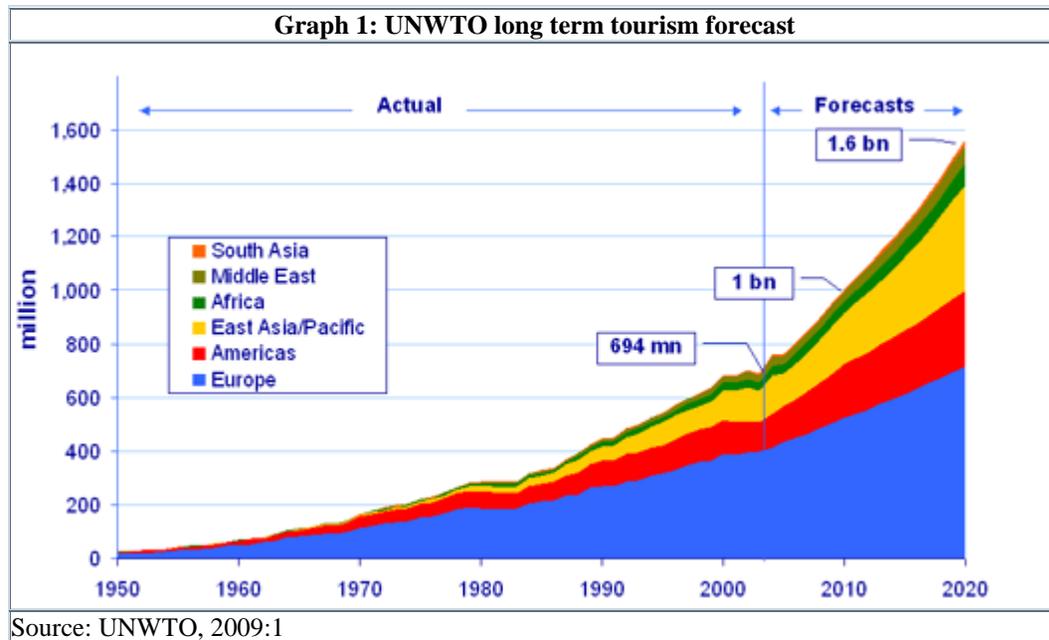
Tourism trends in Africa

The overall 2% growth in international tourism for 2008 builds on the strong results of the first part of the year before the collapse of the financial markets. The second half of the year (2008) showed an abrupt shift in trend with international tourist arrivals - flat or showing negative growth in each of the last six months of 2008. Though certainly not immune to the economic woes, tourism has initially resisted the economic downturn better than other economic sectors, such as construction, real estate or car manufacturing (UNWTO, 2009).

Since 1990, Africa had a modest revival growth, although this did not necessarily lead to a substantial share of the market. Although Africa has the lowest International tourist arrivals, there has been a consistent incline amongst international tourist arrivals. Interesting to note that the world had a consistent tourist increase of 29%. In comparison to this the Middle East perform exceptionally well with a 61 percent increase, whilst the Americas performed the worst with a 13% in tourism since 1995. Africa also performed well with a 39% increase since 1995. Interesting to note that Egypt contribute towards the mentioned 39% in the sense that it's ranked 25th on the Worlds Top Tourism Destinations.

Although the evolution of tourism in the last few years has been irregular, UNWTO maintain it's long term forecast for the moment. Experience shows that in the short term, periods of faster growth (1995, 1996, and 2000) alternate with periods of slow growth (2001-2003). UNWTO's Tourism 2020 Vision forecasts that

international arrivals are expected to reach nearly 1.6 billion by the year 2020. For the purpose of this paper it's important to note that East Asia and the Pacific, Asia, the Middle East and **Africa** are forecasted to record growth rates of over 5% year, compared to the world average of 4,1% (UNWTO,2009: 1). Graph 1 below, graphically detail the 2020 tourism forecast.



The WTO's long term forecast till 2020 does foresee an optimistic future for tourism growth across the world. Variables that could influence this optimistic forecast include factors like tourist perceptions-, as well as pasty experiences of tourists- on a continent, a specific country or location in a country. The following section will analyze these mentioned terminologies.

Tourist perception, motivation and destination image

According to George (2004) consumers of tourism or tourists must not only be motivated to buy; they must also perceive that an offering will satisfy their needs and wants. Thus, perception is a function of motivations, learning and attitudes, and is especially related to previous experience. Due to the intangible nature of tourism offerings (they can't be seen or tested beforehand) consumers/tourists have to make decisions based on how they perceive things.

Cant, Brink and Brijdal (2006), like many other authors define perception as "the process by which people select, organize and interpret stimuli to the five senses of sight, sound, smell, touch and taste. Thus, it's the way consumers/tourists interpret or give meaning to the world around them. Therefore, it can be said that the process of perception involves being exposed to a stimulus, paying attention to it and then interpreting its meaning in order to respond to it (Solomon and Stuart as quoted by Cant et al: 2006).

George (2004) indicated that motivation alone would not create a favorable tourism destination decision; a positive perception and destination image are also needed for an expected consumer decision. According to Cant et al (2006) motivation occurs when a customer wants to satisfy a need that has arisen. Thus, motivation is what moves people, and it is the driving force for all human behavior (Sheth, Mittal & Newman, 1999).

Thus, a favorable perception, inner motivation and a strong destination image are all needed for a potential tourist to make a definite decision.

Research Problem

This paper aims to determine the pre holiday perceptions, as well as post holiday experiences of international tourists at the “Fat Monkeys” holiday resort, situated on the shores of Lake Malawi. Fat Monkeys fall within the wider Cape McClear area, on the southern tip of the mentioned lake. Monkey Bay is the commonly known town, about 40 km’s from the resort.

Research Methodology

Secondary data was acquired from articles, conference proceedings and written texts (academic textbooks) on the topic. Articles and conference proceedings were derived from a World Wide Web search on Emerald, whilst the written texts originated from the University library.

Primary data was collected at the “Fat Monkeys” resort on the southern tip of Lake Malawi. Convenient sampling was used in the sense that every tourist who arrived at the resort were approached to enquire if they would be willing to take part in the research project. Motivation for this approach was motivated by the limited amount of tourism in the area. Thus every tourist that visited “Fat Monkeys” resort was treated as a potential respondent.

After an informal explanation about the reason for the research was given and confirmation has been received from respondents, the questionnaires were not distributed immediately. The questionnaire was designed, only to be completed after the respondents have spent some time at the resort. Thus, questionnaires were only distributed for completion by respondents after they have spent about five days at the resort. Within the timeframe that the fieldwork was done, 31 tourists/respondents visited the resort. All 31 were asked to participate – which they did. That would have given them ample time to explore and experience the activities and area adequately. It was very important that the respondents have experienced the resort thoroughly before an opinion can be given on different aspects about the resort. The questionnaire consists of a two sections. Section A contains questions about demographic aspects whilst Section B, tourist perception and satisfaction. The questions were structured in such a way that quantitative and qualitative data could be gathered.

The researcher was travelling on a motorcycle in Sub Saharan Africa and thus, all questionnaires were in hard copy format. No space was available for electronic equipment while travelling. Large electronic equipment like a personal computer could also be damaged if transported in such an exposed way. Thus, hard copies were completed by respondents (help was given where required by respondents) in their own time, and then collected before the respondents departed for a new destination. All hard copies were brought back to South Africa and then entered and analyzed electronically.

The capturing of data were done on Microsoft Office Excel, whilst the analyzing of the captured data were done in SPSS. For the purpose of this study, descriptive and correlation information were drawn and presented in table as well as graph format. Graph format will only be available for presentation purpose. In the following section, the analyzed data will be discussed in detail.

Demographic Information

Of the 31 questionnaires administered, 30 were usable. 70% of these respondents were from Africa and the rest evenly spread from countries such as USA, Holland, Australia, Denmark and Israel. The language representation was similar as to the countries of origin with 40% of the respondents indicated Afrikaans as language of choice.

All respondents were between the ages of 20 and 51 years with 43.3% respectively in the age group of 21 to 30 and 31 to 40 and the rest in the 41 to 50 years age group.

The respondents were then grouped according to how regular they travel abroad and to Africa. Of the 28 respondents who responded to the question of “How often do you travel overseas?” 35.7% indicated once or more than once a year and 64.3% indicated that they traveled less frequent than once a year abroad. On the question of how many times have you been to Africa, 19.2% indicated only once, 30.8% indicated more than once but not more than 4 times and 50% indicated they have been to Africa more than 4 times.

The majority of the respondents have some post school qualification. Only 17.2% of the respondents have indicated no post school qualifications.

The next part of the questionnaire was grouped into four categories as indicated in Table 1 - 4.

Table 1: Experience of Malawi in country of origin **Above average** **Below average**

	Above average	Below average
Availability of general tourist information about Malawi	24.1%	75.9%
Tourism agent's knowledge about traveling to Malawi	28.6%	71.4%
<i>INFORMATION AND KNOWLEDGE OF MALAWI IN COUNTRY OF ORIGIN</i>	26%	74%
Making transportation arrangements in your country of origin (booking tickets ect.)	41.2%	58.8%
<i>OVERALL</i>	31.2%	68.7%

Table 2: Experience of Malawi in general **Above average** **Below average**

	Above average	Below average
After arrival, your experience of the customs in Malawi	40.7%	59.2%
If you made use of a travel operator in Malawi, your experience...	20.0%	80.0%
How did you experience the reception by the local inhabitants	65.5%	34.5%
Taking everything into consideration, how would you rate your experience in Malawi	93.3%	6.7%
<i>OVERALL</i>	54.9%	45.1%

Table 3: Impressions of Fat Monkeys Resort **Above average** **Below average**

	Above average	Below average
Impression of route traveled from destination of arrival to Lake Malawi, "Fat Monkeys"	24.5%	72.4%
Initial impression of "Fat Monkeys" resort	89.7%	10.3%
Reception by "Fat Monkeys" personnel	92.8%	7.2%
Ease of general communication with personnel	79.3%	20.7%
Standard of accommodation (chalet, tent etc.)	51.7%	48.3%
Your impression of the quality of service in general	79.3%	20.7%
Quality of food served from the restaurant facilities	61.5%	38.5%
Availability of beverages	86.2%	13.8%
Extramural activities...	62.5%	37.5%
Adventure activities availability...	48.0%	52.0%
Fauna and flora....	58.6%	41.3%
African cultural experiences...	46.2%	53.9%

Tables 1 – 3's answer options initially provided four categories which are Excellent, Good, Fair and Poor. For presentation purposes and a small population quantity, the analyzed data were differentiated into two final categories, above average and below average.

Table 4: Total impression **Above expected** **As expected** **Below expected**

	Above expected	As expected	Below expected
With reference to your own expectation of Malawi (before arriving), please indicate whether your personal experience of Malawi was...	50.0%	40.0%	10.0%

From the first category it is clear that the rating of the respondents on the experience of Malawi in their countries of origin, i.e. information available and making transport arrangements are not positive. Although negative, this can be seen as an opportunity by tour operators to improve the service.

From the experience of Malawi in general, the experience of the respondents differs hugely from the organized formal activities (customs and tour operator) to the informal experience. The informal experience being positive.

The respondents overall expectation of Malawi before arriving comparing to the real experience is very positive as indicated by the 50% above to 10% below expected.

When cross tabulating the biographical data with the overall expectation and experience of the respondents (Table 5), the data is as follows:

Table 5

		Above expected	As expected	Below expected
Countries of origin	African	50%	35%	15%
	Non-African	50%	50%	0%

Due to the small number of respondents from different countries outside Africa, the respondents were grouped into African and Non-African countries. It seems that the respondents from African countries were more critical or negative about their experience in Malawi.

Table 6

		Above expected	As expected	Below expected
Gender	Male	43.5%	46.8%	8.7%
	Female	71.0%	14.0%	14.0%

Females experienced Malawi more positive than their male counterparts.

Table 7

		Above expected	As expected	Below expected
Age groups	21-30 years	61.5%	38.5%	0.0%
	31-40 years	53.9%	30.8%	15.3%
	41-50 years	0%	75.0%	25.0%

There is a definitive shift from a more positive experience amongst the younger group of respondents to a less positive experience amongst the older group of respondents.

Table 8

		Above expected	As expected	Below expected
On how many occasions have you been to Africa in the last 10 years	Once	40.0%	40.0%	20.0%
	2 to 4 times	50.0%	37.5%	12.5%
	More than 4 times	53.9%	38.5%	7.7%

From the responses, it seems that the respondents, who travelled more times to Africa, experienced it more positively.

Recommendations

Table 1 – Experience of Malawi in country of origin: It was found that all respondents had some difficulty in their respective countries of origin, regarding satisfying levels of information about Malawi as a holiday country. Deriving from this information, more promotional and other general tourism information should be distributed to potential tourist feeding countries.

Table 2 - Experience of Malawi in general: Travelling in Malawi was experienced as a problem when using the local tour operators. Respondents found the operators knowledge as sub standard. The only solution to this would be to make use of trained and qualified tour operators.

Table 3 – Impressions of “Fat Monkeys” resort: Problem areas identified regarding the impressions of the resort include the route travelled from point of entry to the resort. Different variables; like mode of transport or the excessive distance travelling in relative discomfort able conditions might have an influence on this. Private resort owners could develop an acceptable transport system for tourists coming from Lilongwe (airport). Another option could be to fly tourists to Club Makolo airport, which is close to Monkey Bay.

Set accommodation (rooms) also need to be improved to a more acceptable standard. More cultural activities could also be incorporated with the “Fat Monkeys” experience, see that the resort is set within the borders of a Lake Village.

Table 4 - Total impression of Malawi: Although 50% of respondents indicate an above average reaction to Malawi in general, the resort management, unfortunately do not have control over activities outside of the resort. This could be an issue for the Malawian Tourism Board to capitalize on.

Tables 5 – 8 are already explained. Information derived from these tables can also be use effectively in addressing problem areas identified in Tables 1 – 4.

CONCLUSION

Contrary to expectation, an overall level of satisfaction was shown by respondents. The only variable that needs a definite alteration by the resort management is the standard of accommodation. Although the accommodation could be seen as “on standard” within the context of other similar resorts on the shore of the Lake, foreign tourists do not accept it as “on standard”. No facility or accommodation problems were experienced by campers and adventure caravanners though.

A definite follow up study is needed in order to include more respondents. Although respondents at this location is relatively scarce, the management could be involved in a more continues research project, which would ensure larger number of respondents.

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FACTORS INFLUENCING CONSUMERS' INTENTIONS TO USE MOBILE COMMERCE

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ABSTRACT

This study develops an extended version of the Technology Acceptance Model (TAM) to investigate consumers' intentions to use mobile commerce (m-commerce). The model proposes that usefulness, ease of use, enjoyment, image and cost affect satisfaction with m-commerce, and in turn usefulness and satisfaction with m-commerce affect intention to use m-commerce. Additionally, the model proposes that ease of use affects usefulness. Data for this study was collected using a paper-based survey and was analysed using confirmatory factor analysis and structural equation modelling. Major findings indicated that usefulness, ease of use, and enjoyment positively affect satisfaction with m-commerce and cost negatively affects satisfaction with m-commerce. Image is proven not to have a significant impact on an individual's satisfaction with m-commerce. Overall findings contribute to the growing body of research in the area of m-commerce and assist practitioners in formulating better strategies when targeting potential m-commerce users.

INTRODUCTION AND LITERATURE REVIEW

With the advent of improved data technology, such as 3G, m-commerce has been receiving continual interest from academics and practitioners. There are a number of positive societal and business opportunities that arise as a result of m-commerce. Some of these opportunities include: transport companies being able to provide travellers with current timetable information via SMS; doctors being able to access patient information on their phone while they are making house calls; and professionals being able to send and receive work-related emails (Australian Mobile Telecommunications Association, 2005). Despite these clear advantages the industry has not seen the growth that was anticipated (Bhatti, 2007). In an endeavour to understand this unexpected low growth, it is pertinent to understand what drives and inhibits an individual's use of m-commerce.

M-commerce has been defined in many ways. For example, an early definition of m-commerce proposed by Frolick and Chen (2004, p.53), defines m-commerce as "wireless e-commerce". This definition is often not referred to nowadays because e-commerce and m-commerce are viewed as different channels, each of which offers users different experiences (Andreou et al., 2002; Swilley & Hofacker, 2006). An alternative to this definition is provided by Bhatti (2007, p.2), who defines m-commerce as "the delivery of products and services via wireless technologies to enable Internet commerce activities, without restrictions of time and space". This is a better reflection of m-commerce as it highlights some of its key elements: that is, it is ubiquitous, it involves a transaction and it is conducted wirelessly. Thus, it is this definition which has been selected to define the term m-commerce for this paper.

There has been a number of studies which have investigated m-commerce adoption intention, and it is important to get an overview of what has already been accomplished in the m-commerce arena. In a study conducted by Bhatti (2007), a model was developed and tested based on the extended TAM, the Theory of Planned Behaviour (TPB) and the Innovation Diffusion Theory (IDT). The results of the study indicated that apart from usefulness, the factors: subjective norm, perceived behavioural control, and personal innovativeness influenced m-commerce usage intentions. Similarly to Bhatti (2007), Wu and Wang (2004) developed a model based on the extended TAM and IDT. However, the study did not employ any constructs from the TPB. The

study also added the constructs perceived risk and cost, which were adapted from other studies. The results showed that compatibility, usefulness and cost influenced m-commerce usage intentions. Conversely, perceived risk and ease of use were not found to influence m-commerce usage intentions. Finally, Nysveen, Pedersen and Thorbjorsen (2005b) developed and tested a model that was based on information systems research (TAM, TPB and Theory of Reasoned Action), domestication research, and users and gratification research. This study found that perceived expressiveness, perceived enjoyment, usefulness, ease of use, normative pressures, perceived behavioural control, and attitude directly influenced m-commerce usage intentions. Additionally, apart from the perceived expressiveness construct, the other factors: perceived enjoyment, usefulness, ease of use, normative pressures, and perceived behavioural control indirectly (via attitude) influenced m-commerce usage intentions.

While there are a number of information system theories that have been employed to understand technology adoption, the most widely-recognised is the TAM (Jeyaraj, Rottman & Lacity, 2006). Despite its dominance, the TAM has a number of flaws. Firstly, the TAM is generally only employed in an organisational context (Rao & Troshani, 2007). However, as m-commerce is often used for both work and pleasure, the TAM needs to be extended to include non-utilitarian motives, such as perceived enjoyment (Nysveen et al., 2005b). In addition, the TAM does not take into account the cost of the technology to the individual (Nysveen et al., 2005b). However, as m-commerce requires the user to purchase an m-commerce-compatible phone as well as pay subscription/usage charges, cost needs to be added to the original TAM (Wu & Wang, 2004). Lastly, the TAM does not take into consideration the various roles that technology plays in an individual's life. Thus, as supported by domestication research, the original TAM needs to include constructs, such as image (Haddon, 2001; Pedersen & Ling, 2002; Rao & Troshani, 2007).

This study aims to better understand m-commerce usage intention by extending the original TAM. It also aims to answer the following research questions:

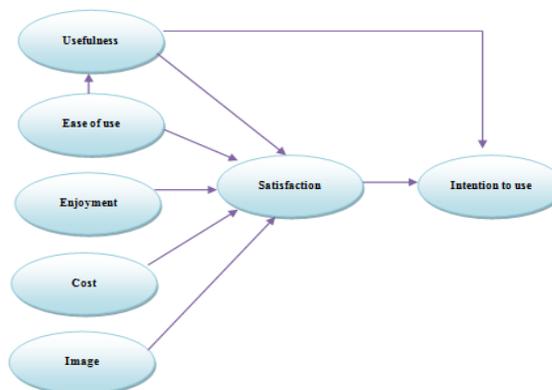
1. Which factors positively or negatively affect an individual's satisfaction with m-commerce?
2. Does an individual's satisfaction with m-commerce drive their intention to use m-commerce?
3. If an individual perceives m-commerce as useful will this influence their intention to use m-commerce?
4. If an individual perceives m-commerce as easy to use does this result in the perception of m-commerce as useful?

The remainder of this paper is organised as follows. Firstly, the conceptual framework and hypotheses are presented. The methodology and results of this study are then provided. The final section of this paper summarises the findings, outlines the managerial implications, and discusses the limitations and areas of this study that are open for future research.

CONCEPTUAL MODEL

This study's conceptual model (Figure 1) is an extended and modified version of the original TAM. This study makes three modifications to the original TAM. In accordance with domestication research, image is added to the model. In line with uses and gratification research, enjoyment is added to the model. Finally, the variable cost is also added.

Figure 1. Conceptual Model



Perceived usefulness is viewed as the primary predictor of information technology usage (Bhatti, 2007; Davis, 1989; Jeyaraj et al., 2006). It plays a role in m-commerce because of m-commerce's ubiquitous

(anywhere and anytime) nature, which is not available to users through other devices, such as personal computers (Boadi, Boateng, Hinson & Opoku, 2007; Rao & Troshani, 2007). There is extensive evidence that supports the indirect and direct positive association of perceived usefulness and usage intention (Igbaire, Iivari & Maragahh, 1995; Lexhagen, Nysveen & Hem, 2005; Lu, Liu, Yu & Wang, 2008; Wu & Wang, 2004). In line with these studies it hypothesised that perceived usefulness has a positive effect on an individual's satisfaction with m-commerce (H1). Additionally, perceived usefulness has a positive effect on an individual's intention to use m-commerce (H2).

Perceived ease of use is also considered to be one of the most important determinants of usage intention (Wu & Wang, 2004). As suggested by Boadi et al. (2007) perceived ease of use plays a role in m-commerce, as users are already familiar with mobile phones, which is the primary device over which m-commerce is conducted. Additionally, mobile phones tend to be less complex to use than other technology, such as personal computers. In line with the TAM, and previous studies, such as Bhatti (2007) and Davis (1989), it is suggested that perceived ease of use has a positive effect on an individual's satisfaction with m-commerce (H3). Furthermore, previous literature has argued that if a system is easier to use, it will be perceived as more useful (Venkatesh & Davis, 2000). Therefore, it is proposed that perceived ease of use has a positive effect on perceived usefulness (H4).

As stated by Rao and Troshani (2007) because of m-commerce's anywhere, any-time characteristics, individuals generally use m-commerce for fun. Past literature has validated the indirect impact perceived enjoyment has on behavioural intention (Cheong & Park, 2005; Lee, Cheung & Chen, 2007; Nysveen, Pedersen & Thorbjorsen, 2005a). Based on this it is proposed that perceived enjoyment has a positive effect on an individual's satisfaction with m-commerce (H5).

With regards to m-commerce usage intentions, cost has been identified as playing an important role in the use of m-commerce, as users are able to access the same information, goods and services via less costly means, such as wire-based services (Wang, Lin & Luarn, 2006). Cheong and Park (2005) also indicate that when an individual is deciding whether or not to use various technologies, which result in a cost to them, they will compare the benefit of using the system to its cost. Therefore, it is proposed that cost has a negative effect on an individual's satisfaction with m-commerce (H6).

A range of studies have highlighted the importance of investigating the impact that image has on behavioural intention (Skog, 2002; Taylor & Harper, 2001). In fact, Rogers (1983, p.215) states that "undoubtedly one of the most important motivations for almost any individual to adopt an innovation is their desire to gain social status". Image is defined as "the degree to which use of an innovation is perceived to enhance one's image or social status in one's social system" (Moore & Benbasat, 1991, p.195). Rao and Troshani (2007) concur with Rogers (1983) by stating that users generally adopt m-commerce because they want to create, alter or preserve a positive image of themselves in relation to others. Based on these academics, it is hypothesised that image has a positive effect on an individual's satisfaction with m-commerce (H7).

The original TAM includes four main constructs, one of which is attitude (Nysveen et al., 2005b). In line with the original TAM, there are a number of studies that have employed an attitudinal construct in their conceptual model (Bhattacharjee, 2001; Teo & Pok, 2003; Thong, Hong & Tam, 2006). In this paper, 'attitude towards use' is measured via satisfaction items. The rationale for taking this approach is provided by a number of academics who have investigated satisfaction as an attitudinal construct (Al-Gahtani & King, 1999; Clarke, 2001; Wixom & Todd, 2005). In fact, as defined by Wixom and Todd (2005, p.87) satisfaction "is typically viewed as the attitude that a user has towards an information system". According to Pedersen, Nysveen and Thorbjorsen (2003) for newer technological services, such as m-commerce, intention to use may be based upon attitudinal constructs. Therefore, it is proposed that an individual's satisfaction with m-commerce has a positive effect on their intention to use m-commerce (H8).

RESEARCH METHOD

All constructs used in this study were measured using at least three items which is the minimum recommendation by Bhattacharjee (2001), and they were measured on a 7-point Likert scale. All the items used

in this study were adapted from previous literature, except for items measuring perceived usefulness (Brown & Licker, 2003; Bhattacharjee, 2001; Cheong & Park, 2005; Klopping & McKinney, 2004; Moore & Benbasat, 1991; Nysveen et al., 2005b; Teo & Pok, 2003; Wang et al., 2006; Wu & Wang, 2004). The current available items measuring perceived usefulness were not relevant for the nature of the m-commerce industry and as such new items were developed.

Subjects of this study were recruited from public places in one region of Australia. Two screening criteria were employed during recruitment: (1) Participants had to have had prior experience with using m-commerce and (2) be over the age of 18. Having fulfilled these requirements, each participant was then given a paper-based survey which they needed to complete and return to the researcher afterwards. One hundred and fifty responses were collected and this sample size was considered adequate, following the parameter estimate ratio of five as suggested by Bentler (1995). There was an equal representation of males and females within the sample. Additionally, 39.3% were between 0 and 19 years old and 56.7% were born in the Oceania region (Australia and/or New Zealand).

ANALYSIS AND RESULTS

Prior to assessing the model fit and testing the hypotheses, the construct validity of the seven constructs was assessed via Confirmatory Factor Analysis (CFA) using AMOS 7.0. Each scale item was modelled as a reflective indicator of its hypothesised latent construct. The seven constructs were allowed to covary in the CFA measurement model and the maximum likelihood approach was chosen as the model estimation method. After running the model several items low item loadings were excluded from further analysis.

A scale validity assessment was then conducted by examining the goodness-of-fit of the overall CFA measurement model. For the current model, the $\chi^2/df=1.84$, CFI=0.94, TLI=0.92, and RMSEA=0.08. These were all within the recommended values which suggested an adequate model fit (Hu & Bentler, 1999).

Convergent validity assessment was evaluated using three criteria proposed by Fornell and Larcker (1981), namely: (1) all item loadings should be significant and exceed 0.70; (2) the construct reliability for each construct should exceed 0.80; (3) the Average Variance Extracted (AVE) for each construct should exceed 0.50. As can be seen from Table 2, all loadings were greater than 0.70 and significant at $p < 0.01$. Table 2 also shows that the construct reliabilities of the constructs ranged between 0.80 and 0.97. Furthermore, the AVE ranged from 0.65 to 0.91. Hence, all three conditions for convergent validity were met.

Table 2. Measurement Model

Construct	Items	Mean	Standard Deviation	Standardised Loading	Composite Reliability	AVE
Usefulness	UF1	4.50	1.57	0.79	0.80	0.65
	UF2	5.14	1.55	0.83		
Image	IMG1	3.16	1.47	0.82	0.81	0.68
	IMG2	3.20	1.48	0.97		
	IMG3	3.52	1.42	0.80		
Ease of Use	EU1	4.96	1.47	0.86	0.90	0.68
	EU2	4.86	1.46	0.85		
	EU3	4.73	1.39	0.83		
	EU4	5.13	1.43	0.76		
Enjoyment	ENJ1	4.73	1.26	0.88	0.85	0.65
	ENJ2	4.54	1.28	0.90		
	ENJ3	4.70	1.20	0.78		
	ENJ4	4.77	1.35	0.78		
	COST1	4.45	1.60	0.91		
COST2	4.16	1.65	0.82			
COST3	4.98	1.63	0.75			
Satisfaction	SAT1	4.11	1.23	0.93	0.89	0.72
	SAT2	4.54	1.27	0.86		
	SAT3	4.70	1.40	0.76		
Intention	INT1	4.70	1.70	0.95	0.97	0.91
	INT2	4.74	1.69	0.96		
	INT3	4.60	1.69	0.94		

Discriminant validity of the five constructs was tested using a stronger test recommended by Fornell and Larcker (1981). That is, the square root AVE for each construct should exceed the factor correlation between that and any other constructs. The factor correlation matrix depicted in Table 3 below, indicated that the largest

correlation between any pair of constructs was 0.79 (satisfaction and enjoyment) while the smallest square root AVE was 0.81. Hence, the test of discriminant validity was also met.

Table 3. Factor correlations and square root AVEs

	Usefulness	Image	Ease of Use	Cost	Enjoyment	Satisfaction	Intention
Usefulness	0.81*						
Image	0.12	0.83					
Ease of Use	0.40	0.12	0.83				
Cost	-0.04	0.01	-0.05	0.83			
Enjoyment	0.55	0.30	0.41	-0.17	0.81		
Satisfaction	0.65	0.21	0.64	-0.4	0.79	0.85	
Intention	0.63	0.12	0.49	-0.24	0.6	0.61	0.95

The eight hypotheses generated from the proposed conceptual model were then examined using the Structural Equation Modelling (SEM) approach, as suggested by Bentler and Bonnett (1980). Similar to the CFA measurement model, each indicator was modelled in a reflective manner and the seven constructs were linked as hypothesised (see Figure 2). Maximum likelihood was chosen as the model estimation technique.

The goodness-of-fit of the structural model was comparable to the previous CFA measurement model. In this structural model, the $\chi^2/df=2.02$, CFI=0.92, TLI=0.91, and RMSEA=0.08. These fit indices provided evidence of adequate fit between the hypothesised model and the observed data. As shown in Figure 2, the path significance of each hypothesised association in the conceptual model and variance explained (R^2 values) by each path were then examined. The next paragraph explains the extent to which the hypotheses are supported.

H1, H3, H5, H6, and H7 investigated whether user satisfaction is influenced by usefulness, ease of use, enjoyment, cost, and image respectively. Entering all variables in a single block, it was found that the proposed model explained a significant percentage of the variance in satisfaction ($R^2 = 0.81$). The results revealed that at the 0.01 significance level, ease of use ($\beta=0.37$), enjoyment ($\beta=0.65$), and cost ($\beta=-0.35$) influence user satisfaction. Furthermore, at the 0.05 level, usefulness ($\beta=0.18$) influences user satisfaction. However, image ($\beta=0.04$) did not have a significant effect on satisfaction. Hence, only H1, H3, H5 and H6 were supported.

The findings for H1, H3, H5 and H6 are all consistent with previous literature (Cheong & Park, 2005; Hung, Ku & Chang, 2003; Lee, Lee, Kim & Kim, 2002; Nysveen et al. 2005b). That is, the literature shows that the more useful, easy and enjoyable an individual perceives m-commerce to be, the higher their satisfaction with m-commerce will be. It also shows that the more costly an individual perceives m-commerce to be, the lower their satisfaction with m-commerce will be. For H7, the findings of this study are not consistent with Teo and Pok (2003). However, a possible explanation for this is due to cultural differences between the samples. For this study, the sample consisted of Australian individuals, who are more individualistic, whereas Teo and Pok's (2003) study consisted of Singaporean individuals, who are more collectivist.

The results demonstrated that intention to use was significantly related to satisfaction ($\beta=0.44$, $p<0.01$). Consequently, H8 was supported. Support for this relationship is provided as far back as Davis (1989), as well as having been deemed valid for a range of different settings employing a range of different technologies (Cheong & Park, 2005; Hung et al., 2003; Lexhagen, Nysveen, & Hem, 2005).

Usefulness was also found to predict intention to use significantly ($\beta=0.31$, $p<0.01$). Thus, H2 was supported. This finding is consistent with other similar studies (Lee et al., 2007; Lu, Yao & Yu, 2005; Nysveen et al., 2005b; Wang et al., 2006; Wu & Wang, 2004). Additionally, support for this finding is provided by Jeyaraj et al. (2006) who stated that perceived usefulness is the most significant predictor of technology usage intention for a range of technology.

H4 was also supported. That is, a significant link between ease of use and usefulness was found. This finding is consistent with other relevant literature (Cheong & Park, 2005; Lee, et al., 2007; Lu et al., 2005; Nysveen et al., 2005b). This finding is also supported by Jeyaraj et al. (2006) who indicated that the indirect link

between perceived ease of use and usage intention via perceived usefulness is more significant than the direct link between perceived ease of use and usage intention.

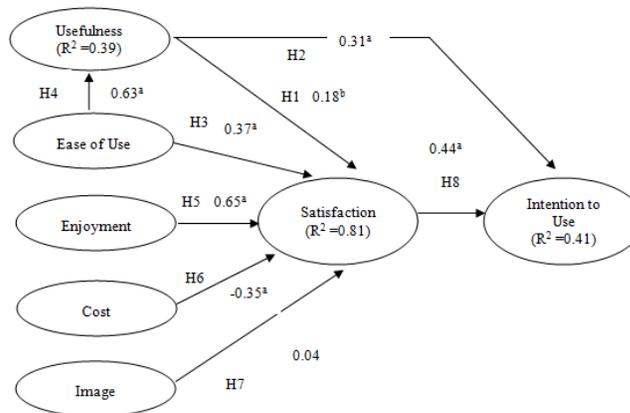


Figure 1. AMOS Analysis of Research Model
 Note: Path significance: $a = p < 0.01$, $b = p \leq 0.05$

DISCUSSIONS AND CONCLUSIONS

The aim of this study was to develop and test an adapted model for explaining m-commerce usage intention. The findings of this study were fairly consistent with previous literature which is positive as it shows that the model can be replicated in different contexts. Thus, the contribution of this paper is the replication of an extended TAM in an m-commerce context.

This study found that usefulness, ease of use, enjoyment and cost influenced an individual's satisfaction with m-commerce. Usefulness was found to have a direct impact on an individual's intention to use m-commerce, and was also found to be influenced by ease of use. It was also found that satisfaction with m-commerce had an impact on an individual's intention to use m-commerce. The only result that was not significant in this study was the association of image and satisfaction. This finding is not consistent with previous literature.

This study provides both theoretical and managerial contributions. For the former, this study extends the growing body of knowledge, particularly in the field of m-commerce. For the latter, this study could provide guidance for practitioners aiming to attract potential users of m-commerce. Firstly, marketers should emphasise the enjoyment capabilities of m-commerce by focus advertising messages on emotional appeals of happiness and joy. Also, service providers should highlight how easy it is to use m-commerce by providing m-commerce video displays on their website or by offering m-commerce technical support. Additionally, industry operators should attempt to reduce the cost of m-commerce by entering into joint partnership licensing agreements, or offering free product trials. Finally, this study's findings indicate that marketers should emphasise the usefulness of m-commerce in all of their marketing material.

The primary limitation of this study is the ability to generalise the results to the population as convenience sampling was employed. Future research should attempt to replicate this study in other settings, such as collecting data from a wider area to enhance the validity of the proposed model. Further research should also aim to replicate this study with other constructs that have been previously validated as explaining intention to use m-commerce, such as compatability or perceived behavioural control (Nysveen et al., 2005b; Sendekca, 2006). This will enhance the ability of the model to more thoroughly explain intention to use m-commerce. Image was not found to be an important factor in this study. However, it has been found to be a key factor influencing usage intention in countries other than Australia, such as Singapore (Teo & Pok, 2003). Thus, future research should continue to investigate the impact that image has on an individual's intention to use m-commerce. Finally, as this study was only conducted with current m-commerce users, no insight is offered to

industry players for attracting prospective m-commerce users. Therefore, future research should endeavour to establish which factors affect non-m-commerce users' intentions to use m-commerce.

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IT INTERCONNECTIVE NETWORK TO BUSINESS INNOVATION

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ABSTRACT

The adoption and implementation of business networks is sometimes perceived as a problem because of investments and unclarity of adoption benefits to adopters. This study is an exploratory research in an auto-parts enterprise, to verify how inter-organizational network technology is used and how it contributes to business innovation in a Brazilian enterprise, leader in the auto-parts sector. Main results indicate that the inter-connective network was imposed by car assemblers, called initiators. The main impact on the auto-parts maker studied was strategic renewal, consolidating its network model. By innovating its business concept, it broke into new markets, never before seen as a plausible alternative. The final result is beneficial to the researched enterprise, as it learned to use new technologies based on Web Services and ebXML technology, as it now turns to the international smaller assemblers and to the consumer parts supplying markets.

INTRODUCTION

The increasing cooperation between organizations seems to be modifying the business structure (Clemons and Row, 1993). Strategic alliances are reducing time to development of new products, facilitating the management of total quality and helping corporations to be faster and more competitive (Johnston and Lawrence, 1988). The alignment of the supply chain activities among enterprises can be highly beneficial to business. Some of benefits are reduction of raw material and finished products stocks, augment value of services, increase corporate agility and business flexibility (Bovet and Martha, 2001). Konsynski (1993) asserts that a traditional vision of the business even with clear limits and focused on internal effectiveness, is still not enough. It is necessary intelligent business strategies that transcend the structural limits of an organization. As the limits between organizations become less defined, the construction of alliances with businesses, clients and even competitors is common phenomena, given birth to inter-enterprise networks (Hagel III, 2003), based on interconnectivity. New arrangements in business structures, through IT systems, challenge the traditional concepts of organizational limits and, at the same time, create new opportunities to strategic initiatives.

To make inter-connectivity viable, it's necessary business systems be compatible. In many cases, IT systems are small systems built to solve specific problems and not capable to communicate or be emulate onto other systems. So, for inter-enterprise connection to be possible, top management must invest in IT systems, set adopt compatible patterns and make IT to abide a common pattern of communication.

Recent researchers who have studied inter-enterprise connectivity, such as Chatfield and Yetton (2000); and Premkumar (2000), classify the enterprises that adopt inter-connectivity systems, into two groups: **initiators** and **followers**. The first one refers to corporations that establish connecting standards and impose them to their commercial partners. In general, the initiator is a big corporation, with a dominant role in the relationship with their commercial partners. The second group comprises enterprises that follow or adopt the imposed connecting systems. Normally, followers are smaller firms, compared to the initiators and consider initiators as important clients.

Major car assemblers, for instance, such as General Motors, Ford, Scania, Volkswagen and also major retailers, such as Wall-Mart, are examples of imposers (initiators). The adoption (by followers) of inter-connectivity system chosen by initiators is a condition for continuity of reciprocal business. There are certainly advantages for

initiators in the inter-connectivity. By imposing their systems, initiators benefit not only from the economy of scale, and speed and accuracy of communication, but also from the effectiveness of processes (logistics) and the flow of activities.

In this paper, we analyze the adoption of IT systems technology that support the inter-enterprise connectivity (IEC), in a follower, which is a leader company in the auto-parts industry in Brazil. We here analyze the IEC adoption process and its contribution to the follower's business innovation.

THEORETICAL PRECEDENTS

The vertical enterprise integration model, originated in the beginning of the industrial cycle met the utmost example in the Ford assemble system, it is gradually being replaced by a modern virtual integration model (Hagel III, 2003). In this model, corporations outsource primary and secondary class of activities to other organizations, develop one basis of specialization and orchestrating their business through inter-connectivity. The consolidation of the virtual integration model is based on the fact that enterprises need to develop central competencies and construct alliances with enterprises that hold complementary competencies. The competitive capabilities of corporations, therefore, depend on core competencies (specialization) and on complementary functions transferred to partners. The transfer of functions to others enterprises, generates a new model: business horizontalization. To become horizontal, business depends heavily on inter-enterprise connectivity. Hence, business competitiveness, understandably, depends on the appropriate functioning of partners in the network, that is, on the alignment and synchronization of all operations, driven by demand (Hugos, 2003).

IT and IEC

IT systems that support IEC are tools to improve or make communication viable among enterprises (Premkumar, 2000). These systems are in many cases simply called *technologies*. The benefits of such technologies, as said, assure to constituents higher empowerment to innovate in business. When enterprises operate in a coordinated way, they achieve synchrony in operations and increasing the effectiveness of business processes (Mukhopadhyay et al., 1995; Masseti & Zmud, 1996; Barrizzelli & Santos, 2005). Taking a closed look at these benefits we can classify them into two categories: operating and strategic.

Operating benefits refer to the transaction costs (Weill & Aral, 2006) through IT and are responsible for costs reduction, processing speed and increase of trust on operating processes. A typical example of operating benefits is cost reduction of paper and manual work in document manipulation. Input automation and data processing eliminate digitations work, which in turn, decrease probability of mistakes increasing information trustfulness. As exchanges and information processing are speeded up, there is a direct impact on availability of firm's cash flow, that is, on speeding up products orders, emission of fiscal coupons, stock control, documents, etc.). There is also a direct impact on the logistics of the firm, reducing stock inventories.

Strategic benefits related to IEC are linked to improvements of coordination and cooperation among partners. The basics related to the integration among partners refer to competitive advantages. Bovet and Martha (2001) assert that sustaining a competitive advantage depends on adequate operation of the whole productive chain. Hitt et al. (2002) also set off that such advantages are built faster through strategic alliances. In all cases, IT is the most important facilitator of the cooperation, speeding up the flow and processing of information which allows the chain work properly (Clemons & Row, 1993; Bovet & Martha, 2001; Hagel III, 2003), under a single IEC architecture, making it capable to react with the needed fastness and precision to market demands.

Electronic Data Interchange (EDI) was first tool used to implement IEC. This technology, though, carries operating problems, such as higher implementation costs (White et al., 2003). Some most recent IT architecture supporting IEC, such as *.net*, use Internet and open communication protocols. The EDI systems use proprietary technologies and are less flexible (Gebauer and Shaw, 2002; Hagel III, 2003). Therefore, the new systems based on the Internet protocol, are easier to be adopted, less costly and less complex than EDI. In car parts sector, however, EDI is still the preferred system, despite of disadvantages and gains in performance compared to the systems based on Internet protocol. Due to relative importance of EDI for business network, it is necessary a more detailed discussion about traditional EDI.

Traditional EDI

Segev et al. (1995) note that to implant an EDI system between partners, it is necessary to previously establish an agreement on connectivity standards. Some of the items of this agreement should include: data formatting; type of documents to be exchanged; type of network; and the periodicity of mailing (sending and receiving). The authors call attention to important technical aspects of EDI are contends formatting and transport. Contends formatting refers to the way EDI documents are structured to let the system to read them. Transport refers to the different type of electronic networks that can be used to send and receive EDI transactions.

The formatting standards more commonly used in the USA are the X12, from American National Standard Institute (ANSI-X12). Since 1998, an international data formatting standard for EDI was adopted: United Nations Electronic Data Interchange for Administration, Commerce and Transport (UN/EDIFACT), also called EDIFACT, according to Costa (1999). Besides these standards, other became consolidated. In this list we can include ODETE, in the European automobile sector, CNAB used in Brazilian banking system, and RND, used in Brazilian automobile industry. Today there is a strong migratory movement from these standards to EDIFACT, based on ebXML language, because of its universal applicability (Costa, 1999).

In terms of data transportation, EDI files can be transmitted through three types of network: private networks, Value Added Networks (VAN) and more recently, the Internet. Private network are rented lines from telecom companies for a fixed monthly fee. According to Segev et al. (1995) private network are expensive and less flexible. It consists of a service provider which controls the communication network through which partners communicate. VANs are e-mail services, made available by the network services provider. The e-mail service stocks all documents until the recipient of documents extract their messages contend. VANs are responsible for guaranteeing data security, integrity and confidentiality. Today, however, due to low cost of transportation, the Internet became the main channel for data transaction.

Internet Based Technologies

Data exchange between partners, may involve the exchanging of data between systems based on a totally different technology. For communication to be established it is necessary a common language, able to format data in order for internal systems be able to access and interpret them. To standardize messages, the eXtensible Markup Language (XML) has become the main standard for data formatting and mainly for data exchanges through the Internet.

XML is a *tag* language, however, configured in such way that the different platforms can localize specific information, are written under incompatible languages (Phillips, 2001). XML makes possible the exchange of information between any kind of systems (compatible or not), and so it offers new functionality that traditional EDI wont have. The advantage of XML is being an open standard, adopted by over 200 of major enterprises all over the world (Murtaza & Shah, 2004; Hagel III, 2003). It is not an exclusive format from EDI providers.

Web Services Advantages

Hagel III (2003) asserts that one of the main advantages of Web services is to focus on the automatic connection between applications and data, without the need of human interference. Old technologies let systems to communicate with each other. Web services technology, however, involves a set of open communication standards between systems (Venkatapathy, 2002), which made automation processes cheaper. Web services also provide a layer of systems over inherited systems, not requiring the migration of systems and information processed by those systems. This feature helps connect more effectively different IT platforms and facilitates business value generation. Also this new connecting structure can be built faster, with more flexibility and effectiveness than it would be possible with older technologies. These are main reasons why Web services technology considerably reduces the development of systems and IT operating costs. Additionally, Web services increase the capacity of managers to make business processes more flexible, to collaborate decreasing operating costs and to create alternative pathways for business growth (Hagel III, 2003).

Electronic Connectivity – new systems

McAfee (2005) proposes a division of agreements needed to accomplish the transactions between enterprises involving computers and networks into three levels: (a) data transportation; (b) usefulness of contends; and (c) processes. The lower level refers to the transportation process, where agreements establish standards to transport data from one origin to an end (including network to be used, cryptography, and packing mechanisms). Next level

of agreements establishes standards to the useful information in each transmission (content and type of electronic document). It also indicates which information are available for each buying order, in which field it is located, which are the value of currency, etc. Finally, the third level of agreements involves the processes, that is, the definition of the stages and the responsibilities for the execution. In this level one defines what are the possible ramifications of tasks and the arrival points of information and what might occur in each situation of mistakes and exceptions.

Recently, Babcock (2004) has pointed the electronic business eXtensible Markup Language (ebXML) as an important advance for configurations in levels (b) and (c) to be executed efficiently. The ebXML provides modeling languages and graphic tools to represent and publish business processes, including data and document flow existing between partners in transactions. In essence, ebXML is similar to the XML itself, however, to begin interactions, it uses standards of business processes. This language origins come from an association between the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) standards and an international not for profit consortium called OASIS (Organization for the Advancement of Structured Information Standards) (Webber, 2004). ebXML language uses, therefore, the experience learned in more than 20 years of CEFACT practice in EDI transactions and the cooperation of corporations associated to OASIS with commercial transactions through Internet. This is an ideal combination, as say Rebstock et al. (2003), because while UN/CEFACT holds the power to establish international standards, OASIS holds market power to effectively implement them.

Nevertheless, ebXML is still in the first years of experience. The adoption of ebXML by the USA Department of Defense and the American automaker industry, however, may be important signals of a growing acceptance of the standards in the USA (Babcock, 2004; Bednarz, 2004; Sullivan, 2004). In Brazil, these standards are less known and adopted. Yet there are nationwide studies on the economic benefits from standardization of mechanisms of IEC systems and the resulting better performance of productive chains in main economic sectors in Brazil. Brazilian automakers still carry EDI as the most used IT platform.

METHODOLOGY

This research follows a qualitative approach design. The method used in this exploratory research was a case study type, experimentally developed within a selected enterprise. A case study method choice fits this research because it let us explore deeper the IEC phenomenon in a company. The selected enterprise was a leader of auto parts production in the automotive sector. As IEC is still a relatively unknown phenomenon, exploratory research seems to be a better research method to study it (Festinger & Katz, 1966; Yin, 2005). To collect data we used an open interview script and the answers' content was analyzed. We selected a group of 8 subjects to be interviewed, according to the function they exert in the enterprise. Subjects interviewed were: main executive; commercial director; production director; sales director; IT director; quality assurance director; logistics process responsible; and production planning and control responsible. Other information where obtained from internal documents, such as annual financial and market reports and historical data from sites and printed documents. As the company's name is here concealed, we adopted the fictitious name: ABC Auto Parts Ltd.

DATA ANALYSIS AND INTERPRETATION

The ABC Auto Parts Ltd, or simply ABC, is a maker of parts for automobiles, trucks and buses suspension system. ABC was established in 1930, by a Brazilian entrepreneur, but was sold in 1990 to a nippon-mexican conglomerate. Today ABC employs a total of 950 employees spread through three plants in Brazilian territory and its annual revenues is over US \$100 millions in sales. The revenue makes ABC the leader in the auto parts industrial segment in the country. ABC is a supplier for 8 of major car makers in Brazil: Daimler Chrysler, Agrale, Ford, General Motors, Nissan, Scania, Toyota and Volkswagen. Recently, besides to supply domestic auto makers, ABC is also present in the domestic market for parts reposition and begins to supply external market for small auto makers and reposition parts market in South America, Europe, Africa and the USA. As a supplier, ABC is obliged to adopt IEC systems and technologies imposed by client automakers and is a follower, regarding the adoption of IEC systems.

Enterprise Connectivity Systems

In this study we identified two types of IEC systems between ABC and clients: EDI platform and Internet portal. According to the interviewed people at ABC, EDI systems are strongly used since the decade of the 1990.

EDI systems support most of the exchanging of electronic documents between ABC and clients, automating all business transactions and reducing the needs for digitizing the information. In the case of ABC, the EDI systems need a previous codification of the documents and the communication networks, linking partners and transferring data. Also in this case, communication networks are controlled by proprietary VAN service providers.

It is important to note that changes in the amount of parts to be supplied do not come as an order alteration, but as daily updated needs. The interviewed people pointed the fact that the original numbers of “delivery schedule” and “daily needs” are not trustful. There are always significant differences between amounts forecasted in the needs program and amounts really delivered and billed. Of course, the uncertainty of the numbers becomes a problem to ABC, either for planning the production, for buying raw material, or for controlling costs. All car assemblers studied, except Toyota, present differences between the amount forecasted (in average) and the amount effectively delivered and billed. If one sum up these amounts, ABC must bear a waste of 40% in sales from the original amount forecasted. The reasons for the differences one may credit to overestimated optimism from some buyers at car assemblers, or a strategy to guarantee supplying in case of unexpected events.

Technology infra-structure

As a follower ABC was obliged to adopt every single IEC systems imposed by clients. Of course, this condition required from ABC to build a great diversity of IT infra-structure to guarantee connectivity with the different systems imposed by car assemblers. One may consider that there are no two similar implementations and that each one carries significant differences as compared to the next system. These differences represent higher costs of implementation for ABC, since it avoids the optimization of investments. Typically, each new implementation requires investments specifically for program development, communication systems installation and personnel training. Normally, the adoption process of IEC from car assemblers does not rely on any kind of support from the later. Automakers simply brief suppliers on their standards and list the authorized VANs to service communication. From this point on, it is a responsibility of the supplier to implant and implement the system.

ABC deals with four different IEC systems characterized by four different communication channels, or VANs (D12S; GEDAS; SAWLUZ; and SINTEL) and one portal (Toyota). Each VAN provider offers a connector, that is, the communication software to codify and decode the messages. They work as a bridge between the ABC's computers and the VAN provider. Same thing happens between the VAN provider systems and the computers of the car assemblers. VAN providers do not charge for the installation and use of the communication software (connector), but they charge the volume of data transmitted through the connector.

All VAN provider use Internet as a communication channel, and it is no different at ABC and their VAN providers, where messages are processed and routed. In the end VAN provider is the holder of EDI technology. Of course, the requirement of followers to use EDI standards and VAN as communication means of transportation, avoids all advantages in terms of costs, process flexibility and easy of use found in other technologic platforms, based on Internet, that is, VAN systems lose advantages to open standards, present in the Web services and ebXML language and codes, as pointed before.

Regarding operating costs for IEC systems at ABC, interviewed people pointed at the following expenses, as the most important:

Maintenance of a micro-computer exclusively to work as a server for VANs communicating system.

Maintenance of a professional (support analyst), exclusively to solve problems related to communication failures, installation and systems and connector configuration, training of end users and to support inter-enterprise systems.

Monthly fee for VANs use. Fees are of a minimal value, but are charged by data traffic through the connector.

Monthly fee for a communication system manager (application) connecting ABC to the clients. This license is fee updated if any contend or message update is done in the system.

VAN services hired by ABC by imposition of clients, bring additional unneeded costs, as points ABC's IT manager, specially related to licensing of VAN's systems. The higher maintenance cost of EDI systems can be easily compared with the lower cost of Toyota systems. Toyota use connecting tools for exchanging information through Internet own portal and so, avoids the licensing of VANs. Toyota technology not only reduces connectivity operating costs, but also increases flexibility of the IEC system bolstering a better communication.

Perceived benefits

In the interviews, ABC's managers were questioned about their perception of possible benefits and business innovation for ABC due to the use of IEC systems. In general, the interviewed perceived benefits related to the evolution of managerial production function MRP (Manufacturing Resources Planning) and the IEC systems.

Some of the interviewed (commercial director, sales director, production manager) visit periodically the production plants of ABC's clients. They notice a visible reduction in the stocks of Assemblers visited. They also believe that stock reduction is a direct consequence of the IEC systems implementation. In fact, what happened ABC had to take over the responsibility to satisfy the daily needs of Assemblers, not the opposite. In the short run, production planning, stock of finished products and logistic of output became a performance determinant area for ABC, to a point that ABC's business success became dependent on the corporate strategy engendered for these areas (production and logistics management).

The needs to increase production and logistics processes efficiency, because of IEC systems adoption, pushed ABC to realize all potential benefits from these systems adoption, to better off its business. Once a single, business-to-business oriented organization, ABC now looks at alternative ways to expand its base of experience. First, according to the IT manager, ABC studied the advantages of the diverse available IEC systems. It decided not to adopt EDI platform as the IEC systems, but the Internet portal, based on ebXML encoding language. Next, ABC targets at its main suppliers. ABC is imposing to its raw material suppliers the requirements to adopt ABC's standards of IEC systems processes. It will bolster a faster and less costly communication.

ABC plans are to jump in the reposition parts market, at national level, in the short run. This is a huge and growing market, however, requiring a whole new way to transact, since all ABC's experience has been in the business-to-business market. IEC systems open standards experience at ABC will help fastening communication, identifying market needs, adjust production to market demand, eliminate errors in orders, decrease administrative paperwork, optimize production resources, decrease general costs and increase business performance and profitability. Finally, ABC is preparing itself to compete in the international market, through the specific niche of international auto parts retailers and small car assemblers. As seen, IEC systems adoption has become a business innovator leverage at ABC, as the corporation changes how to produce, how to transact and whom to sell.

FINAL REMARKS

We can enlist some important conclusions. First, the adoption of IEC systems is not generically a free decision of one actor in the context of business-to-business, but a "take or leave" decision. Business survival depends on the next step corporations will take, regarding to the use of IT as a business supplier or a business innovator.

Second, there is a clear perception about the benefits of IEC systems, in the case studied. As listed above, benefits are immediate and refer to costs reduction (administrative workload, production, stocks reduction and human and material resources optimization), production and business processes flexibility and optimization of logistic processes. The implementation of management just-in-time and stockless inventory systems benefited both, the follower and the initiator of IEC systems adoption, financial and operationally.

Third, EDI platform is still the main platform for IEC systems adoption, in the case studied. In spite to recognize advantages in flexibility of processes, costs and performance, ABC is yet contingent to EDI platforms, imposed by initiators (assemblers), with business continuity impending power over the follower. Even so, EDI platforms are far efficient to the business performance and profitability than solely human work.

Fourth, besides to recognize the obsolescence of EDI platforms, EDI providers are working hard to evolve this system to ebXML encoding language. ebXML and Web services (XML) are operable already and in the near future will be a fundamental part of the technological domain for interconnecting enterprises. ABC recognizes the new systems and is prompt to jump into the new technology to redesign its business concept and expand market horizons.

Fifth, EDI platforms sustain negative implication for business innovation at the first sight. They present increasing operating complexity, due to the need of specific VAN homologation; so they also imply into higher operating costs; and they are operationally less flexible than the other systems, since EDI emulating standards are independent for each VAN. But yet they are standardized and have data transferring advantages computer-to-computer, in terms of security and customization. In the end, EDI platforms are a healthy experience for corporations to learn and to understand how to use IT as a business innovator.

Finally, the perceived benefits for ABC as a result of IEC systems adoption, is strategically being used by the corporation. ABC is expanding electronic connectivity to other partners in its own productive chain. ABC's IEC experience, not the platform, is being used to interconnect with partners suppliers, on the one side of the chain, and

partners-clients, on the other side. At the same time, this experience pressed for changes in the way ABC conceived and treated its own business. Now the new business possibilities that IEC systems can assure to intelligent business are being explored by ABC as a way to expand business in alternative markets. As ABC expands to new markets it needs to innovate in the concept of its own business, if the enterprise wants to consolidate and remain in the international market.

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THE IDENTIFICATION OF TRAINING NEEDS IN THE INDUSTRY TOWARDS REGIONAL COMPETITIVENESS

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ABSTRACT

The purpose of this research was to understand and identify the organizations' training needs in the Leiria Region, part of the central region of Portugal. This study was developed to help the Polytechnic Institute of Leiria to strategically define and suit their training offer in their area of influence, to the market needs. The aim was to identify the training qualifications required by individuals from top to bottom in the organization, i.e. in all professional categories; the areas of training required and to whom. Three hundred and forty-nine questionnaires were collected within the building construction, wood and furniture, molding, and plastic industries. The results showed that the molding industry identified the highest need for training. With the exception of plant managers/chief section, Plant workers and Apprentices in the wood and furniture industry that chose technical courses, all the other professional categories in the other industries stated continuous training as the qualification needed. The molding and the plastic industry showed affinities and both identified the same areas of training for middle managers.

INTRODUCTION

There is vast literature on methods and techniques for the identification of training needs. However, little attention has been given to the identification of organizations' training needs specifically for industries with an impact on the added value of a region. The purpose of this research was to:

- Comprehend and identify the training needs of the civil construction, wood and furniture, molding, and plastic industries in the Leiria Region;
- Identify the training qualifications needed by individuals;
- Identify the organizational areas in which training was needed;
- Identify for whom in the organisation hierarchy training was needed;
- Draw up a set of suggestions that help the decision makers, namely at the Polytechnic Institute of Leiria, to strategically suit their educational offer to the market needs.

This study was sponsored by and conducted for the Polytechnic Institute of Leiria, the major educational center of the Leiria Region. This research is part of a broad study of training needs conducted in autarchies, commerce, wood and furniture, molding, plastics, health and tourism sectors, based on 123 interviews and over 2050 questionnaires.

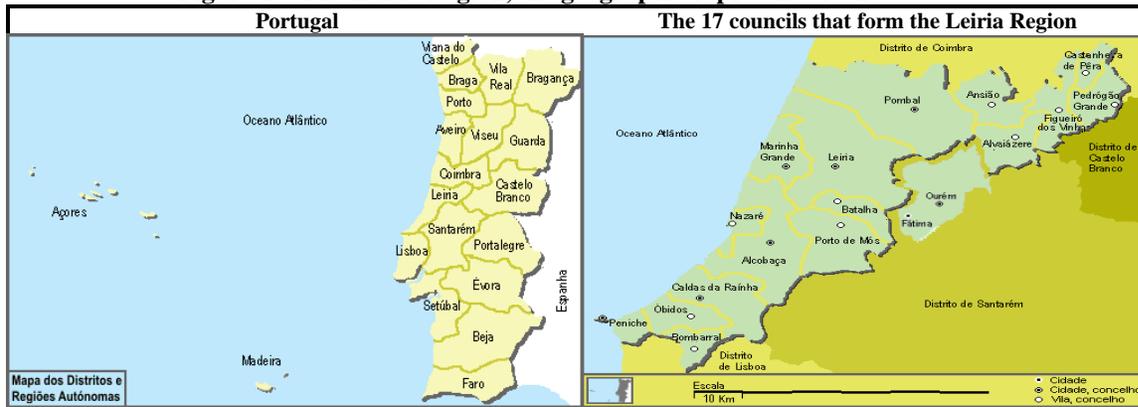
This research was the first in-depth study of the training needs in the Leiria Region, to fulfil a gap in research. It is believed that the education offered should match the industry demand. The Polytechnic Institute of Leiria has that responsibility towards the community. It should provide and form individuals with the knowledge and the necessary competences for the enterprise requirements. The identification of the industry' training needs would be most valuable for academics, managers and policy makers dealing with regional and industry policy. The outcome would be an important tool in the process of the education decision-making offer. It allows to fulfil the demand as well as to (re)organize the offer. It would identify the necessary knowledge-based competencies towards the Region's competitiveness. Intellectual capital is a key element of organizational competitiveness. A

conglomerate of competitive organizations centered in one region sustains regional competitiveness. The Polytechnic Institute of Leiria, being a source of intellectual capital can be a driver of organizational and regional competitiveness.

The Leiria Region was defined by this study as the Leiria district plus the Ourém council, in a total of 17 councils, i.e. Alcobaça, Alvaiázere, Ansião, Batalha, Bombarral, Caldas da Rainha, Castanheira de Pêra, Figueiró dos Vinhos, Leiria, Marinha Grande, Nazaré, Óbidos, Pedrógão Grande, Peniche, Pombal, Porto de Mós and Ourém. Those councils were chosen due to their geographic proximity and their historical representativeness as the area of influence of the Polytechnic Institute of Leiria (see Figure 1). According to the National Institute of Statistics, in 2003, Leiria Region represented 22 % of the active population of the Central Regional. The region is known for its significant entrepreneurial capacity, dynamism and by settling people due to its employability capacity.

The civil construction, wood and furniture, molding, and plastic industries were selected as a result of their economic and social impact and the contribution to the region development.

Figure 1 – The Leiria Region, the geographic representativeness



Source: <http://www.mapadeportugal.net/>

LITERATURE

Training is important as it provides individuals and organizations with the necessary skills and knowledge towards competitiveness. Training would help individuals to respond adequately to the organizational dynamics and to their job task demands (Dubin, 1990, Groot, and van den Brink, 2000). There is a vast literature on training needs. Goldstein,(1991) and Sleezer,(1993) analyzed training at the organizational level. Taylor, and O’Driscoll, M. P. (1998), developed a framework for the analysis of training needs. Organizational training requires program development, assessment of needs and evaluation (Goldstein, 1986, 1993). Al-Athari and Zairi, (2002) and Caetano, (2007) discussed the training evaluation. Alvarez, Salas, and Garofano, (2004) developed an integrated model of training evaluation and effectiveness, and Chiaburu, and Tekleab (2005), analysed the impact of individual and contextual influences on training effectiveness. Individuals and organizations would undertake training if they had an effective and positive impact in return. Campbell, et al., (1970), Brinkerhoff, (1988), Cascio’s, (2000) work showed how to achieve results from training, how to evaluate them in order to create organizational impact. Some researchers have developed methods and techniques for the “identification of training needs – (ITN)” Truelove (2006), or also called “learning needs” (Cook, 2005). As suggested by Mabey and Salman (1995) training needs analysis (TNA) is a data collection process that helps the organization to compare its current training needs with its desired level of performance. Performance was understood by them as the individuals’ necessary competences and attitude to do the job effectively. Armstrong (1996) corroborates this point of view as also defends that training needs measurement is about the identification of the gap between what is happening and what should be happening. This gap needs to be filled by training.

Therefore, researchers have emphasized the importance of training for the acquisition of continuous knowledge and competences. They recognise a liaison between knowledge, motivation, productivity, performance and competiveness. Researchers have also focused their attention on the development of analytical models to evaluate training needs. Nonetheless, there is few to none literature in the industrial and regional context, on the identification of the areas of training required by individuals and the qualification search according to their professional category. This research identifies for the Portuguese building construction, the wood and furniture, the molding and plastic industries in the Leiria Region, which training areas are needed, and the level of qualifications required by individuals from top to bottom.

METHODOLOGY

To test the research aims, data was collected using a variety of methods. This research is quantitative in nature. This study with the goal of obtaining a comprehensive understating and a holistic view of the training needs in the Leiria Region has used different information and method sources. It used secondary and primary data (information source triangulation) and qualitative and quantitative data (methodological triangulation).

Qualitative data was collected in the form of interviews. The lack of previous studies in identifying the training needs in the industries and in the Leiria Region compelled the use of interviews. There was a need to understand the phenomena; to comprehend the complexity of the training needs of industrial associations and firms; to understand the motivations and the different expectations of the industrial associations, the firms' managing directors, and its collaborators; to identify the lack of training in the industries; to understand the opportunities and threats of the development of determined training offer. Only the interviews allow capturing the complexity and richness of the information given by individuals. In-depth, face-to-face unstructured and semi-structured interviews with the industrial association's directors, top managers, and firms' collaborators were conducted. The goal was to capture different perspectives as it is believe that the position that individuals occupy in the organizations' hierarchy reflect different training needs.

Managing Directors/top managers were selected for interviewing, as a result of their deep understanding of the industry as a whole and its evolution. Due to their position and experience, they hold important information and are able to give a global overview of the industry. The firms' collaborators were interviewed because they feel the problems at the operational level and know which competences area needed for their resolution. They have different points of view from the managing directors that see the organisations from the top and as a whole. Individuals from large, medium, small and micro dimension were inquired. The aim was to register the highest opinion diversity possible. The interviews took place between September 2004 and March 2005. In total 55 interviews were conducted; 13 within the Building construction industry, 16 in the wood and furniture industry, 10 in the mould industry, and 16 within the plastic industry. Qualitative data was assessed through content analyses.

Based on secondary and qualitative primary data collected, a research survey instrument was developed and applied. A highly detailed questionnaire was developed for each industry studied, i.e. civil construction, wood and furniture, molding, and plastic in order to capture the specificities of each industry. Before the administration of the survey instrument, the current study pilot tested the questionnaire. The questionnaires were applied in the organizations from top to bottom. They were sent to the mailing list given by each industrial association. Three hundred and forty-nine questionnaires were collected during 2005. The firms contacted in some industries and according their industrial associations represent 87% of the total sales of the sector. While sales representativeness was not expressive in terms of percentage, the number of questionnaires gathered continued to be significant due to the features of certain industries and comparatively to other previous studies applied in those industries. The SPSS (Statistical Package for Social Sciences) was used for the analysis of the results.

FINDINGS AND DATA ANALYSIS

The comments to the results were based on the statistic mean. Using a five-point Likert-style rating scale (1= no need to 5 = strongly need), the following scale of mean was considered:

- <2,5 would be considered like slightly needed

- 2,5 <= e <3,5 needed
- 3,5 <= e <4,5 much needed
- >= 4,5 strongly needed

For the data analysis, only those findings that presented a mean >= 3,5 were considered.

In order to simplify data collection and data analyses, 5 groups of professional categories for each industry were created. In the Building construction the professional categories defined were: 1 - Managing director/Top manager, 2 – Project manager, 3 – Planning and building construction manager, 4 - Building controller and 5 - Building workers; in the wood and furniture industry: 1 - Managing director/Top manager, 2 – Commercial/Sales Assistant/Administratives 3- Plant manager, 4 – Plant workers, 5 – Apprentices; in the molding and plastic industry: 1 - Managing director/Top manager, 2 – Middle managers, 3- Plant manager/Chief section, 4 – Plant workers, and 5 - Apprentices/others.

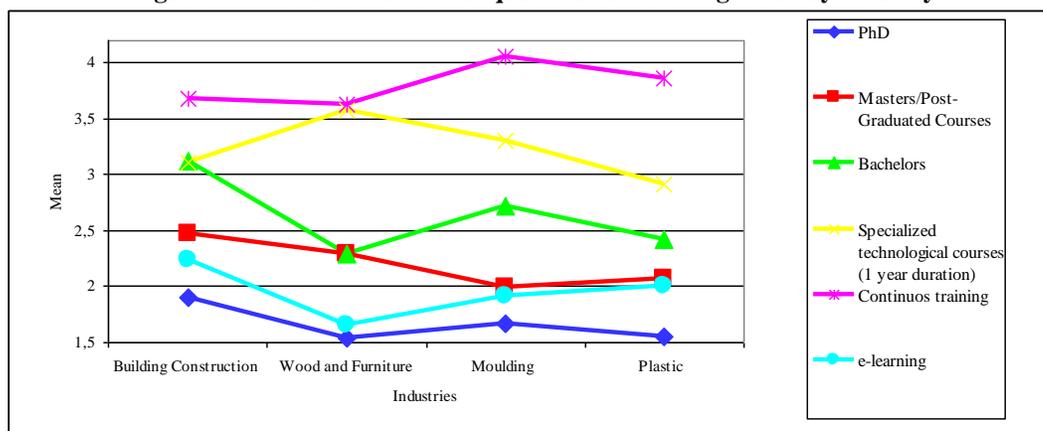
Firstly, the qualification of training needs by each industry would be presented. Secondly, it would be discussed by professional category, and thirdly the areas of training that individuals require by industry and by professional categories would be shown.

Identification of Training Qualification Needs by Industry

The industry respondents were asked to identify among Phd, Masters and Post-graduate, Bachelors, Technical courses (these courses are in between the Bachelors and the vocational/professional courses), Continuous training (short term training), and e-learning, which of those courses they would like to attend to fulfil their training needs. The results showed (Figure 2) that regardless of the industry, continuous training is the most preferred for training qualification, i.e. it was identified as “much needed”, with mean above 3,6. All the other training qualifications in the other industries scored below 3,5 i.e. “needed”.

The molding industry presents the highest score in continuous training (4,06) and the wood and furniture the highest in technical courses (3,58). The mould industry is well known by “the technological industry”, with constant new equipment. Therefore, individuals may constantly need new skills in order to deal with the latest technology. According to a managing director of the wood and furniture industry, people with bachelors or post-graduate courses would be over qualified for assuming the plant manager job that is currently taken by people with a long experience in the sector. Individuals with bachelors or post graduate courses also uphold higher salaries that those with the technical course. Thus, the industry prefers to have individuals assuming plant managerial responsibilities with technological courses, which are specific for the industry, deliver the knowledge and competences needed, and are affordable.

Figure 2 – The identification of qualification training needs by industry



Identification of Training Qualification Needs, by Industry and by Professional Category

To the previous question the professional category for analyses was added. The research findings revealed (see Table 1, Figure 3) that with the exception of (3) - Plant managers/chief section, (4) - Plant workers and (5) - Apprentices in the wood and furniture industry that identified technical courses as their first choice for training qualifications surpassing the score of the continuous training, i.e. 3, 97; 3, 89 and 3, 52 respectively, all the other professional categories, from 1 to 5, in the other industries pointed continuous training as the qualification that individuals most wished to undertake, stated as “much needed”, with a mean value of around 4.

It may be suggested that the lack of time that individuals have after work to attend a course may explain their choice. Continuous training is short term training. Another possible explanation is that individual training needs may be too specific, emerging from their daily-base job demand. As a result, they prefer continuous training as it may be customized; surgical, fulfilling precisely individual knowledge needs according to their job requirements. Bachelors and postgraduate courses take too long and give a broad view of the subject matter under study. As suggested by a top manager, in most industries the average age of individuals at organisations is high, in some cases above 45 years old. People at that age have progressed in their careers as much as possible. If training is required they would prefer short term training than long term training such as bachelors or post graduated courses.

Within the mould industry, as a second most preferable option, (3) - Plant manager, (4) – Plant workers, and (2) – Middle managers also indentify the technological courses, scoring 3,85; 3,76 and 3,55 respectively. In the Plastic industry, plant managers also choose the technical course (3,7). It seems that all the (3) - Plant manager of the above industries (wood and furniture, molding and plastics) take technical courses seriously. A reasonable explanation may be underlined in the fact that they are in charge of the production process, and their tasks involve the application and use of technical, practical knowledge.

In the Building construction, bachelors are pointed by (1) - Managing director/Top manager and (3) – Planning and building construction managers, scoring (3,54) and (3,68) respectively. In the molding industry bachelors are indicated by (2) - Middle managers accounting for a mean 3,69. The results suggest that tasks that imply managing may require further knowledge in management and therefore the bachelor with a longer duration and broader knowledge in management for instances, is pointed as the right qualification to obtain.

Table 1 - The identification of training qualification needs by industry and by professional category

Training Qualifications	Industries																			
	Building Construction					Wood and Furniture					Molding					Plastic				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
PhD	2,33	1,93	2,12	1,73	1,43	2,21	1,90	1,28	1,16	1,17	2,35	1,90	1,52	1,22	1,33	2,05	1,78	1,44	1,22	1,28
Masters/Post-Graduated Courses	2,81	2,69	2,77	2,36	1,73	3,00	2,43	1,60	1,40	1,26	2,60	2,80	1,71	1,43	1,44	3,07	2,93	1,68	1,32	1,33
Bachelors	3,54	3,37	3,68	2,93	2,11	3,37	3,12	1,98	1,53	1,46	3,08	3,69	3,15	1,96	1,75	3,17	3,40	2,55	1,69	1,28
Specialized technological courses (1 year duration)	2,92	3,00	3,16	3,38	3,06	3,04	3,48	3,97	3,89	3,52	2,64	3,55	3,85	3,76	2,73	2,68	3,38	3,70	3,05	1,75
Continuous training	3,69	3,85	3,84	3,36	3,66	3,66	3,85	3,74	3,58	3,31	3,97	4,21	4,12	4,38	3,60	3,94	4,07	3,93	4,02	3,35
e-learning	2,41	2,14	2,03	2,38	2,25	2,00	1,84	1,63	1,42	1,41	1,74	2,00	2,15	1,93	1,76	2,00	2,18	1,97	2,00	1,88

Note: 1, 2, 3, 4 and 5 correspond to the different professional categories in each industry studied:
 Building Construction: 1 - Managing director/Top manager, 2 - Project manager, 3 - Planning and building construction manager, 4 - Building controller and 5 - Building workers;
 Wood and Furniture: 1 - Managing director/Top manager, 2 - Commercial/ Sales Assistant/ Administratives, 3- Plant manager, 4 – Plant workers, 5 – Apprentices; Molding and Plastic : 1 - Managing director/Top manager, 2 – Middle managers, 3- Plant manager/Chief section, 4 – Plant workers, 5 - Apprentices/others.

Identification of the Areas of Training Needs by Professional Category

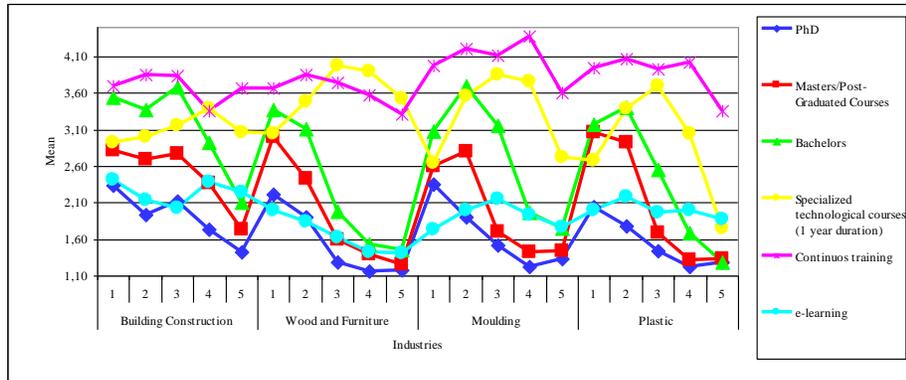
Individuals were asked to indentify the areas in which they needed training. As the previous results indicated, the highest mean by training qualification was obtained in:

- the molding industry by (4) - Plant works for continuous training,(4,38);
- the plastic industry by (2) - Middle managers for continuous training, (4,07);
- the wood and furniture industry by (3) - Plant manager for technical course, (3,97) and;
- the building construction industry by (2) - Project manager for continuous training (3,85).

In order to identify and compare whether different professional categories in the same industry have different areas of training needs, the second highest score was also analyzed. The second highest mean by training qualification was obtained in:

- the molding industry by (2) - Middle managers for continuous training, (4,21);
- the plastic industry by (5) - Apprentices for continuous training (4,02);
- the wood and furniture industry by the (4) - Plant workers for technical course, (3,89) and;
- the Building construction industry by (3) - Planning and building construction manager for continuous training (3,84)

Figure 3 - The identification of training qualification needs by industry and by professional category



The following tables were built (Table 2 and Table 3) to illustrate the areas of training by professional category.

The results showed that:

- Overall different industries have different areas of training needs;
- Overall different professional categories in the same industry have different training needs. Although, a small number of training commonalities needs within each industry can be identified;
- Different industries and different professional categories have common training needs, namely within the molding and plastic industries and between (4) - Plant workers, (4) - Apprentices, and (2) - Middle managers;
- Different industries and common professional categories, have common training needs, namely within the molding and plastic industries for (2) - Middle managers. In about 45 training needs identified, 36 are common, i.e. 80% of the training needs pointed out by (2) - Middle managers are the same in both industries;
- The higher professional category in the organization hierarchy, the higher the training needs identified.

It was expected that different industries would have different areas of training needs as their specificities compel to different knowledge requirements. As expected, individuals identify their areas of training needs according to their job task demands. Within the same industry, managers identify management related training needs and plant managers stated more technical areas of training. Even though, as both are deeply rooted in the same industry, between them there are few training areas in common. The molding and the plastic industries are complementary. In the Portuguese mold industry 95% of the molds manufactured are for plastics. The mold industry needs to understand the plastic behavior and vice-versa. So, the affinities in terms of the areas of training were not surprising. More responsibilities in the company hierarchy may mean more awareness of the lack of knowledge.

CONCLUSIONS

This paper seek to explore and develop an in-depth understanding of the organizations' training needs in the Leiria Region, namely within the building construction, wood and furniture, molding, and plastic industries.

By identifying the qualification required by individuals within organizations from top to bottom and the areas of training that they need, this research provides important insight to educational decision makers as well as to academics. The results would help to strategically adequate the educational offer to the market demand. It would help to target and communicate correctly for the potential market and learners. The implementation of training courses according to the organization's needs and the collaborators expectations provide the industry with the necessary knowledge-based competencies. Those competences would foster Regional competitiveness. For instances the affinities founded between the molding and the plastic industry in terms of the training areas and the qualification required suggest the development of short packs of training targeting both middle managers. For further research it would be interesting to apply this study to a different country and analyse whether qualifications and the areas of training by professional category would be the same.

Table 2 – The identification of the areas of training needs by professional category

Molding industry		Plastic industry		Wood and furniture industry		Building construction	
Plant workers	Mean	Middle managers	Mean	Plant managers	Mean	Plant managers	Mean
Quality control	3,53	Planning and production control	3,88	Planning and production control	4,02	Integrated management systems of quality, environment, safety and health	3,7
Work organization and harmonization procedures	3,47	Optimization of the production process	3,99	Optimization of the production process	4,13	Project and building management	3,6
Hygiene and work safety	3,64	Costs analyzes of the production process	3,89	Quality control	4,12	Legislation analyzes and rules application	4,0
Mold project	3,84	Value analyzes and gap analyzes	3,81	Quality management	3,98	Art pieces	3,5
Product design	3,45	Industrial Logistics	3,45	Environmental management	3,53	Environment impact	3,5
CAM/CAE	3,89	Costs of no quality	3,85	Organization and management maintenance	3,87	Urbanization	3,5
Product development	3,63	Quality control	3,98	Hygiene and work safety	3,77	Building projects	3,8
Mold manufacturing	4,24	Quality management	3,98	Wood engeneering	3,79	Foundations	3,7
Electro erosion	4,16	Environmental management	3,66	Raw materials	3,85	Computer assisted project	4,0
Milling	4,21	Organization and management maintenance	3,9	Recycling and materials value	3,77	Buildings thermo behavior	3,5
Quality of the mold	4,11	Work organization and harmonization procedures	3,83			Reinforced concrete and reinforced concrete pre-effort	3,7
Mold finishing	4,40	Hygiene and work safety	3,88			Safety management in building	3,7
Mold testing	4,07	Strategic management	3,5			Quality in buildings and projects	3,8
Mold maintenance	3,91	Tools for Strategic management evaluation	3,52			Planning, and management of buildings and work yard	3,8
Reading and interpretation of the technical draw	4,27	Techniques for problems solutions	4,1			Management techniques of contracted work	3,6
Injection process and equipment control	4,08	Customer management	3,94			Technical draw	3,8
		Technical English	3,97			Project and draw interpretation	3,8
		Communication, image and industrial marketing for the industry	3,52			Measurement and budgeting	3,6
		Human resources and work legislation	3,72			Building life cycle management	3,5
		Productivity and project management	3,69			Draw and management of intelligence buildings	3,5
		Mold project	3,63			Energetic management and renew energy in buildings	3,7
		Product design	3,74				
		CAM/CAE	3,55				
		Product design	3,57				
		Product development	3,59				
		Quality of the mold	3,88				
		Mold finishing	3,75				
		Mold testing	3,81				
		Mold maintenance	3,69				
		Reading and interpretation of the technical draw	3,76				
		SMED - Single Minute Exchange Die	3,65				
		MRP - Material Requirement Planning	3,59				
		ERP - Enterprise Resource Planning	3,48				
		Time and work methods analyses	3,85				
		Process statistical control	3,72				
		Layout's analyzes	3,81				
		Sequential operations	3,85				
		Balanced assembling lines	3,6				
		Injection process and equipment control	3,63				
		Plastic finishing	3,59				
		Metallic materials	3,78				
		Material recycling	3,79				
		Rapid manufacturing technologies	3,69				
		Advance techniques for plastics processing	3,85				
		Automation and robotic	3,47				

Table 3 – The identification of the areas of training needs by professional category

Molding industry		Plastic industry		Wood and furniture industry		Building construction	
Middle managers	Mean	Apprentices	Mean	Plant workers	Mean	Planning and building construction manager	Mean
Planning and production control	3,99	Costs of no quality	3,45	Quality control	3,68	Finance and management control	3,49
Value analyses and gap analyzes	3,66	Injection process and equipment control	3,59	Selection, cut and good use of wood	4,21	Computer assisted project	3,45
Quality control	3,86			Carpentry	3,50	Safety management in building	4,06
Work organization and harmonization procedures	4,03					General processes and building special techniques	3,53
Hygiene and work safety	3,72					Project and draw interpretation	3,79
Strategic management	3,6					Measurement and budgeting	3,78
Benchmarking	3,54					Draw and management of intelligence buildings	3,51
Tools for Strategic management evaluation	3,59					Energetic management and renew energy in buildings	3,55
Techniques for problems solutions	3,97					Recycling and environment management	3,6
Customer management	3,89						
Technical English	4,06						
Communication, image and industrial marketing for the industry	3,8						
Human resources and work legislation	3,82						
Productivity and project management	4,14						
Bata Base	3,47						
Mold project	4						
Product design	3,67						
CAM/CAE	3,65						
Product design	3,84						
Product development	3,71						
Quality of the mold	3,8						
Mold testing	3,6						
Reading and interpretation of the technical draw	3,75						
MRP - Material Requirement Planning	3,56						
ERP - Enterprise Resource Planning	3,65						
Time and work methods analyses	3,83						
Process statistical control	3,78						
Layout's analyzes	3,48						
Sequential operations	3,77						
Injection process and equipment control	3,46						
Plastic finishing	3,54						
Metallic materials	3,47						
Rapid manufacturing technologies	3,87						
Assisted computer technologies	3,66						

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CORPORATE ENTREPRENEURSHIP: A FUNDAMENT TO INNOVATION

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ABSTRACT

Manufacturing and technology driven enterprises are valuing corporate entrepreneurship as one of the most important mechanisms to increase their ability to innovate and compete. This paper targets at analyzing corporate entrepreneurship strategies practiced at Brasilata – Metallic Packing S/A, one of the most innovative and world-wide awarded Brazilian enterprises. This research was designed under a qualitative approach, using the case study research method. Main results show that since the implementation of corporate strategies to stimulate corporate entrepreneurship, Brasilata has grown productivity 81%. They examined about 46,000 new ideas and registered 6 patents, which alone, account for 75% of the enterprise annual revenues. This leads to the main conclusion that, at Brasilata and other similar business, corporate entrepreneurship is critical to create resilience, increase competitive advantages, improve performance and bolster business sustainability.

INTRODUCTION

The constant generation of solutions in new ways to common problems, may be perceived not only as work of man, but also as an evolving formula of nature. The study of history and evolution of the species show that, in general, being in transformation is one of the constants in all systems, which can only survive if they adapt. Systems that never adapt to changes tend to disappear sooner or later. This process, observed and described by Darwin in living beings is noticeable in the organizations as well. Companies without strategic renewal, originated in its capacities to innovate, are destined to the obsolescence and the consequent disappearance. The 20th Century, stage of the blooming of most organizations, has shown the acceleration of this process, because a fast replacement of the technological cycle by a new, more sophisticated efficient one.

For an organization to adaptively evolve, she needs to build mechanisms that increase internal resilience (REINMOELLER; BAARDWIJK, 2005), qualifying it to face operational challenges more efficiently. Resilience, however, is achieved by the construction of creative and self-managed teams, particularly by means of the incentive to the sprouting of corporate entrepreneurs, as innovation agents.

Clearly, one does not necessarily have to leave the company and to start his/her own business to be an entrepreneur. Any person can be an entrepreneur without leaving a company (PINCHOT III, 1989). It is only necessary that the companies develop mechanisms of stimulate their entrepreneurs. So, they need to develop effective corporate strategies, appropriate structures, systems, human resources and mechanisms to support entrepreneurs inside the organization (PINCHOT III; PELLMAN, 2004).

It is objective of this paper, therefore, to study the practices to motivate corporate entrepreneurship, in a selected company. To do so, we intended to identify and to analyze the politics, lines of direction and actions turned to stimulate corporate entrepreneurship in Brasilata S.A, an awarded company among the ten most entrepreneurial enterprises in Brazil, in 2006, according to the Magazine “Exame”.

THEORETICAL REFERENCE

The most important fundament of entrepreneurship, either the independent or the corporate, is innovation. To the independent entrepreneur, innovation is important because it represents the dream becoming

reality. For the corporate entrepreneur, innovation is important because it is the leverage for fellows recognition and career advancement. Thus, first the innovation is here approached and its importance in the context of entrepreneurship and latter the question of the corporate entrepreneurship.

Innovation

Innovation is today the main vehicle of stimulus to changes in society (TWISS, 1992) and the most important business-oriented handspike or lever of transformation of business and markets (MANIYCKA et al. 2007). The competitive advantage of a corporation can result from its size, or from the ownership of certain assets. However, this advantage is, more and more, common to organizations that are able to mobilize knowledge, technological capacities and experience to create new features in products and services. It also can be manifested through the ways corporations create and offer them (products and services) to the market. (TIDD, BESSANT and PAVITT, 2005). Competitive organizations are learning how to mold it much more than simply reacting to it. The main reason is the fact that technology by itself can rarely be pointed as the cause of the economic value. It is the company that creates the value. And it does so when it combines technology with new ways of doing business. Innovation is the bedding basis of the differentiation between the organizations and is, so far, the only mechanism that can guarantee the success and continuity of the business.

The Oslo Manual (2005) defines innovation as “the implementation of a new product (good or service), or a process, or a new method of marketing, or a new organizational method in business practice...” (Oslo, p.55, 2005). According to the Manual the innovation in product or service happens when a previously non-existing new product or service is developed and is made available. The innovation process implies the “implementation of a new production or a distribution method or [a method] significantly improved” (Oslo, p.58, 2005). The marketing innovation occurs “in the conception of the product or in its packing, in the positioning of the product, in its promotion or in the setting of prices”, in a new or significantly differentiated way (Oslo, p. 59, 2005). Organizational innovation involves significant changes in the structural design of the organization. It also involves new forms of allocation of resources and capacities in ways that optimize the use of such resources and that optimize the general performance of the organization. It is on these premises that the role of innovation and its relation with entrepreneurship is approached here, as the bedding of the companies’, and nations as a whole, abilities to compete.

Corporate Entrepreneurship

Pinchot III (1978), a business consultant at Harvard Business School, noticed that the entrepreneur, described by Schumpeter (1982) was not only the individual who builds the company, but also the one that inside of the corporate structures acts in a pro-active way and takes responsibility for implementing innovative ideas. Pinchot III referred to the entrepreneur inside of the corporation, as intrapreneur and popularized the term in the 80s. Nowadays, the term has been adjusted more to the expression “corporate entrepreneur”, to refer to the group of professionals who, working inside the organizations act like entrepreneurs. They take risks from their ideas, persist on defending their projects and create alternative ways to solve challenges originated in the demands from companies’ operation environment. Pinchot III’s and Pellman’s (2004) research results indicated that the corporations lost important chances to improve competitiveness. According to the authors, this happened because, instead of stimulating the creators to develop ideas inside the company, they stimulated them either to give up their projects or to leave and implement them outside the company.

Corporate entrepreneurship’s innovation power has also been studied by Kanter (1982) and Birkinshaw (1997). More recent theories, such as the organizational resilience, studied by Reinmoeller; Baardwijk, (2005), the organizational ambidexterity by Birkinshaw; Gibson (2004) and the relations between corporate creators and line managers studied by Austin; Nolan (2007), give new approaches and greater contextual amplitude, not only to Pinchot III’s initial ideas, but also to Pellman’s (2004) and Kanter’s (1982) propositions on corporate entrepreneurship.

Entrepreneurial Culture within Organizations

A corporation builds internal structure based on its values, beliefs, procedures and attitudes. This set of intangibles, shared among those who belong to a company, helps define its culture which, in turn, is also shared

among those who are part of it. In this way, corporate entrepreneurship becomes a result of corporate culture and its presence helps build the entrepreneurial history of the organization (DOLABELA, 1999; DORNELAS, 2001).

Drucker (1986) had already emphasized the needs of a favorable culture for the arising of an entrepreneurial spirit inside the organization, that is, if the company wants to commit itself to innovation. He is joined by Farrel (1993) arguing that the development of the entrepreneurial culture is necessary to create a real obsession for the knowledge of the customers and the knowledge of the company's products.

Farrel (1993) points out world-wide companies, which adopt practices aiming at the development of the entrepreneur culture, as Walt Disney and 3M among others. At 3M, for example, any collaborators who comes up with a new idea, has the chance to lead the project, if it becomes a new product. This policy is highly stimulated by top management of the corporation, making 3M be considered one of the most innovative enterprises in the world.

Scope of Corporate Entrepreneurship

Corporate entrepreneurship has become a focus of academic research in the last three decades and was has been defined in its more expanded form as: "(...) the combination of innovation, renewal and efforts of venturing of the organization" (ZAHRA, p. 227, 1995). Actually, innovation is the basis for corporate entrepreneurship's actions that collaterally cause an important by-product: strategical renewal. Strategical renewal can be defined through the contribution of distinct visions in various authors. It can be characterized by the creation of new wealth through the combination, recombination or optimized relocation of resources, (MINTZBERG, 1987). It includes actions of structural adjustment, redesign of the organization, realignment of processes (NADLER; TUSHMAN, 1997) and development of special capacities within companies (HAMEL; PRAHALAD, 2005).

Thus, in a generic way, strategic renewal means the revival of the company's operations by means of change in the scope of the business. Certainly, the revival of the operations is linked to the search and the identification of new marketing opportunities, in Hamel and Prahalad's (1995) view. The challenge, according to the authors, is to penetrate the cloud of uncertainties and develop a superior ability to forecast the whereabouts of the markets of tomorrow. They alert to the fact that companies do not have to compete only within the borders of their existing sectors, but to compete to create the structure of the future sectors. They recognize that the competition for leadership is based on core competence precedes the competition based on the leadership by costs. From this rationale comes the new paradigm pointed by them (HAMEL; PRAHALAD, 1995), that competitive edge isn't the reengineering of processes, but the regeneration of strategies; that it isn't only organizational transformation, but also the transformation of the sector; that it isn't only the competition to participate in the markets, but is also, the competition to participate in opportunities.

METHODOLOGY

This research of experimental character has had a qualitative approach, using the case-study method for the collection and analysis of data. This research aims at identifying, in an exploratory level, the best procedures, used by the object company, to stimulate corporate entrepreneurship. The collection of data was carried through the protocol of collection, analysis and interpretation of qualitative data, according to Yin's (2005) approach to case studies.

The object company for this research is Brasilata Metallic Packing S/A, a company nationally and world-widely awarded for its inventions and innovations. It has been pointed as one of the ten most entrepreneurial enterprises in Brazil by EXAME (2005). For data collection, a script of interviews was applied to four social subjects (superintendent director, director of HR and two line medium level manager). Additionally, we used information from internal reports and field observation of routines and internal processes.

RESULTS ANALYSIS

In 1985, Brasilata, targeting at the improvement of its products' quality, adopted the Japanese production management techniques, especially Kanban and the Just-in-time. Two years later, as a result of adaptive processes demands from the adopted production and quality management techniques, the company

launched the Simplification Project, aiming at adjusting its long standing processes to new ones. In practical terms, the Simplification Project has become a channel for capturing new ideas, that later turned into innovations, principally process innovations. Some of them, nevertheless, have resulted in new products.

A new cooperative climate built up gradually. So, executives, managers, supervisors and board of directors started participating effectively in the process of definition of the vision, the mission, the values, goals and strategic actions of the firm. During the late 80's and early 90's, the new management configuration resulted in a non-dismissal commitment in the firm and a monetary incentive system was implanted to motivate still more all members of the firm.

The national economic crisis, originated in the commercial opening of Brazil, in the beginning of the 1990s required a re-structuring of Brasilata to cope with the market forces. Even so, the firm kept its commitments of non-dismissal and carried through an administrative and operational reorganization by means of a participative reengineering process. Employees participated in the re-structuring process deciding on dismissals and position cuts, so that the firm went through the reforming under no conflicts. This is unusual and something difficult to be accomplished, since organizational reengineering has been, traditionally, a top-down decision making process. It does not go through without a good dose of authoritarian decision to be accomplished. As a result of these endeavors, in 2003, Brasilata's employees received a financial participation that in average represented almost an additional monthly wage. Brasilata had reached a historical mark in its profitability: 15% of net profit after income tax.

Based on the stimulus to entrepreneurs' values, on the sprouting of corporate entrepreneurship in the corporation and on the institutionalization of the politics to increase creativity among its entrepreneurs (whom they call **inventors!**), Brasilata began making an intense endeavor to innovate products and processes. As a manufacturing company, Brasilata concentrated on stimulating process innovation. Thus, the Simplification Project gained new approach, because of the new priorities of the company: process incremental innovations. These priorities transformed the company into a major laboratory of identification and testing of new ideas. The generation of ideas, however, follows an anarchical process and can be turned towards any area of the organizational structure or processes. This process increases Brasilata's objectives flexibility and expands the application levels of new ideas: "entrepreneurship demands the ability to define new and different organizational configurations. It also implies action, demands self-confidence, the ability to look forward...", as pointed by the Superintendent.

Brasilata's Simplification project currently counts on a team of specialists, responsible for prototypical tests of the ideas. The team responds directly to the Director Superintendent. The team includes five experienced technician, that judge the adequacy of the ideas in the context and for the company's interests. It resembles, however, nothing to a Research and Development Center.

Although Brasilata possesses specific instruments to test its own products, the real testing laboratory is the company's floor. In Brasilata, all of its 900 employees have the freedom to make experiments, under guided control of their supervisors, testing the technical viability and possible production process. In this way, the employees are stimulated to present ideas that can administratively or operationally improve products or process, individually or in group.

Analysis and idea selection

Brasilata's profile is innovation. The supportive policy of corporate entrepreneurship and the no-dismissal commitment renders mind safety for the 900 employees to concentrate on ideas and new proposals. The incentive to generation of new ideas, especially the ones that focus the improvement of the production process, strengthens and consolidates the Simplification Project strongly increasing the generation of new ideas.

Besides the organizational policy of stimulus to entrepreneurship there are, at Brasilata, internal mechanisms supporting the accomplishment of the innovation projects. A system of ideas collecting, with preliminary analysis by a Revising Interdepartmental Commission, initiates the process. The ideas may be proposed by individuals or groups. At first, the most stimulated process in the enterprise is group ideas, because of the possibility of better improvement and a better visualization of the exequibility of the idea in the corporate environment and later the facility of its implementation. The selected ideas receive an internal sponsor, normally a higher hierarchy executive.

The ideas preliminarily approved are selected to be awarded, in a semester system, according to a pyramid of the best ideas. To be classified on the top of the pyramid ideas must show return for the business, such as increasing productivity, lowering production cost, augmenting quality of products and improving general

performance of the corporation. In each stage, 6 ideas are awarded, by unit. The awarding occurs in a festive event, with the participation of all the inventors. The awardees appear, with their ideas, on a large screen and with their photos- pictures appearing on an internal panel.

Once a year, a Supercup takes place, where the best ideas of each unit are chosen, amongst those which have already been selected and awarded in the semestral awarding system. In the Supercup, the generators of the winning innovation have the chance to know the unit in which the idea will be developed, if not in their own unit. Thus, Brasilata gets renewed itself strategically, by means of innovation, diversification and improvement of products, processes and structures. Additionally, there is a maxim at Brasilata, that to satisfying the needs of its corporate entrepreneurs is more important than satisfying the needs of customers: “the satisfaction of our inventor comes before the satisfaction of our customers, because if our inventor is satisfied, he will be worried about our customers and also will satisfy them,” claims the Marketing Director

Innovation and Impacts at Brasilata

In the last ten years, uncountable ideas sprouted inside Brasilata’s laboratory of ideas. They have been usefully converted profits contributing to reach some important strategic objectives. The institutionalized policies of stimulus to corporate entrepreneurship at Brasilata show that the financial returns, improvements in product quality, and in design, expansion of technology domain and efficiency of processes, is really compensating the whole endeavor. During this period, formal stimulus to innovation, the culture of an entrepreneurial attitude and the application of supporting mechanisms to corporate entrepreneur, generated, in general numbers, the following:

- 6 patents awarded and used by Brasilata. The innovations incorporated in the patents to increase value of line products, currently correspond to 75% of the corporation’s revenue, according to the Executive Director.

- As per internal data, up to this research date, about 45.800 ideas presented by the employees, had been revised. This numbers represent, in average, more than 50 ideas per employee. According to the interviewed Executive, from the total number of ideas selected, 85% had been implemented, because they are useful and technically viable.

- The majority of the ideas has focused on small process improvements, and tasks and work flow simplification. It is recurrent among interviewees that the implementation of ideas has given 81% productivity increase, in these last 10 years.

Among the most important innovations of Brasilata, the tin lid locking technology is pointed as one of the 10 most creative innovations by the World Packaging Organization (WPO). According to the Superintendent “it all started in 1995, when Brasilata introduced in the Brazilian market an unknown conception of locking lid cans that revolutionized and came to replace the traditional standard lid locking can for inks, invented in 1905...” The innovation referred to by the Superintendent is a new type of mechanical locking (Plus Locking System), an awarded solution and internationally patented, included the U.S.A., European Union and in Asia.

The Plus Locking technology functioned as a platform for new applications. Two other technologies followed, based on the same kind of technical rationale, the Byplus technology and the Ploc Off technology. This line of technologies show how Brasilata learn and socializes knowledge, prompting individuals and groups to new understandings, new ideas and new applications.

The Biplus technology has been evaluated by World Packing Organization, as the best lid locking solution for customized colored inks industry. Ploc Off technology was evaluated as the best solution for seeds, nuts and similar, in the dry food industry. As a result of Brasilata’s endeavor to consolidate innovation as a prime value among its employees, the corporation has been recognized worldwide as an innovative organization. In the last 10 years, Brasilata received over 60 awards in events in Brazil, Latin America, Unite States, Europe and Asia.

FINAL REMARKS

Brasilata’s strategy to corporate entrepreneurship can lend us to important lessons leading to three main conclusions. One of them is that to engage corporate entrepreneurship into innovation, one needs the appropriation of the organizational structures to a flexible environment. Brasilata is structurally very organic. Top management understands that bureaucratized organization do not favor the emergence of corporate entrepreneurs. The chain of command is small and hierarchy is very flat, with not more than 3 levels, all along. By stressing organizational fidelity from all collaborators through the job stability policy and the long range

career path system, Brasilata can afford to break loose the internal environment, stimulating communication and idea exchanging among peers.

Second, corporate entrepreneurship impacts depend on the correct use of management techniques to stimulate the human resources to free initiative. Human resources must be directly motivated to propose ideas that may become real innovations. All ideas must be evaluated through the same set of criteria, with an impartial judging committee, which must have been communicated in advance to all members of the corporation. Managers must be trained to understand the fundamentals of the motivational theories and to be able to apply them with their subordinates. At Brasilata, managers, supervisors and collaborators work all together to develop ideas, pretest them, and present them in understandable ways.

Third, to boost corporate entrepreneurship in the organization it is necessary to develop corporate strategies aiming at structural mechanisms to support corporate entrepreneurs, based on supportive policies. Brasilata invested in the construction of special capacities and in the development of organizational mechanisms to support corporate entrepreneurship. For example, the peer communication system, box of ideas, sponsorship of ideas by higher executives and the like, are good examples of organizational mechanisms. Structural mechanisms can be seen in the personnel performance evaluation system, in the rewarding system, and in the professional career system, associated to the job stability policy.

Finally, it is important to notice yet that, at Brasilata, corporate entrepreneurship has indirectly been responsible for the reduction of the turnover and the absenteeism rates. The motivation derived from the satisfaction to see the ideas been used and given return, the motivation from the prestige before peers, and the motivation from the awarding system creates a sense of fit and loyalty in the employees toward the corporation. This means a stronger identification of the employee with the corporation, inducing naturally to a greater involvement and commitment.

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INVESTOR'S RISK-AVERSION IN OPTION HEDGING

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ABSTRACT

In this paper, approach for the option hedging, which takes into account the investor's risk-aversion, is suggested. This approach is used to construct the option hedging models in discrete and continuous time.

According to this approach, option hedging problem is turned into the portfolio optimal control problem. A self-financing portfolio consisting of the hedging-portfolio and a short position in a derivative instrument is constructed in the effective market. A stochastic optimal control approach (without consumptions) is used to find the optimal strategies of the portfolio control. The expected utility of the portfolio terminal value is used as an optimality criterion. Investor's risk-aversion is taken into account by the utility function's concave upward form.

INTRODUCTION

The traditional option hedging strategies are based on the idea that the dynamics of the hedging portfolio value must repeat the dynamics of the derivative price and do not take into account the investor's attitude to risk (Shiryaev, 1999).

An attempt to research an influence of the investor's risk-aversion in portfolio control decision-making on the optimal option hedging strategies leads to modifications of the classical option delta-hedging models.

The approach proposed in the paper takes the option hedging problem as the optimal portfolio control problem with the expected utility of the portfolio end-of-period value as an efficiency function. In discrete time the Cox — Ross — Rubinstein binomial model is taken as a basic model and the dynamic programming method is used to solve the defined problem in the case of the von Neumann — Morgenstern utility function. In continuous time the problem is stated within the bounds of the Black — Scholes — Merton option pricing model and it can be solved in the general case for arbitrary concave upward utility function by using the dynamic programming method.

The solution is that a basic asset number of units must be equal to sum of two terms at every moment. First summand is an objective term of the portfolio control which corresponds to the traditional option delta-hedging strategy. Second summand is a subjective term which is charged with allowing for the investor's risk aversion. In the paper, analytical expressions for both of the terms are constructed.

DISCRETE TIME

The effective market is described by the Cox — Ross — Rubinstein binomial model (Cox, Ross, Rubinstein, 1985, 1979). Price of a riskless bond unit B_t at time t is defined by the following expression:

$$B_t = B_{t-1}(1 + i) = B_0(1 + i)^t = B_0R^t, \quad t = 1, 2, \dots, T,$$

where i — constant rate of compound interest, $R = 1 + i$, $B_0 = 1$.

Price of a share of stock S_t at time t

$$S_t = S_{t-1}(1 + \mu_t) = S_0 \prod_{j=1}^t (1 + \mu_j), \quad t = 1, 2, \dots, T,$$

where $(1 + \mu_t)$ — alternative chance quantity with probability distribution row

$$\frac{1 + \mu_t}{p} \left| \begin{array}{cc} u & d \\ p & q \end{array} \right., \quad t = 1, 2, \dots, T, \quad 0 < d < 1 < 1 + i < u,$$

and

$$p = \frac{R - d}{u - d} \text{ —}$$

risk-neutral probability.

Rational price C_t of the european call-option with the terminal value K (units of money), exercise moment T (periods) and payoff function

$$f_T = \max \{S_T - K; 0\}$$

at time t in the Cox — Ross — Rubinstein model is defined by the following formula

$$C_t = \frac{\sum_{k=0}^{T-t} \max \{S_t u^k d^{T-t-k} - K; 0\} C_{T-t}^k p^k q^{T-t-k}}{(1+i)^{T-t}}.$$

The self-financing portfolio consisting of β_t units of riskless bond, γ_t units of underlying stock shares and a short position in one option on that stock share is constructed:

$$\pi_t = (\beta_t, \gamma_t, -1).$$

Option hedging problem turns into the problem of choosing at the beginning of the period that feasible strategy $\gamma_0^* \in \Gamma_0$ of the self-financing portfolio control over a period of time $[0; T]$ which maximizes the expected utility of the end-of-period portfolio value x_T , subject to the condition that the beginning-of-period portfolio value is equal to x_0 and stock share price — S_0 .

This problem can be formally stated as

$$\max_{\gamma_0} \mathbf{E}(U(x_T) | S_0),$$

$$\gamma_0 \in \Gamma_0, \quad x_0 \in \mathbb{R},$$

where $\gamma_0 = (\gamma_0, \gamma_1, \dots, \gamma_T)$ — strategy of portfolio control over a period of time $[0; T]$, $\Gamma_0 = \{\gamma_0 : \gamma_t \in \mathbf{R}, t = 0, 1, \dots, T\}$ — set of feasible strategies, $U(x)$ — utility function ($U' > 0, U'' < 0$), portfolio value x_T at time T is described, subject to the self-financing condition (Shiryaev, 1999)

$$B_{t-1} \Delta \beta_t + S_{t-1} \Delta \gamma_t = 0, \quad t = 1, 2, \dots, T, \quad (1)$$

by formula

$$x_T = (x_0 + C_0)R^T + \sum_{m=1}^T \gamma_m R^{T-m} (S_m - S_{m-1}R) - f_T.$$

The dynamic programming method is used to solve this problem. Particularly, in the case of the von Neumann — Morgenstern utility function (von Neumann, Morgenstern, 1944)

$$U(x) = x - bx^2, \quad b > 0, \quad x \leq \frac{1}{2b},$$

solution is: in order to maximize the expected value of the utility function of the portfolio $\pi_t = (\beta_t, \gamma_t, -1)$ value at exercise moment T the investor has to adjust the amount γ_t of stock share units in the portfolio according to the following formula

$$\gamma_t^* = \frac{\sum_{k=0}^{T-t} C_{T-t}^k p^k q^{T-t-k} \left((k_t - k_{t-1} - 1) f_T^{(2(k_{t-1} + k + 1) - T)} - (k_t - k_{t-1}) f_T^{(2(k_{t-1} + k) - T)} \right)}{R^{T-t} S_{t-1} (u(k_t - k_{t-1}) - d(k_t - k_{t-1} - 1) - R)} + \frac{1 - 2b\mathbf{E}(x_T | S_{t-1})}{2bR^{T-t} (S_t - S_{t-1}R)}, \quad (2)$$

and the amount of riskless bond units β_t — subject to the self-financing condition (1) — according to formula

$$\beta_t^* = \frac{x_{t-1}}{R^{t-1}} - \frac{\gamma_t S_{t-1}}{R^{t-1}} + \frac{C_{t-1}}{R^{t-1}},$$

where k_t — number of time steps over a period of time $[0, t]$, during which stock share price moves up to u times [during another $(t - k_t)$ time steps it moves up to d times ($0 < d < 1 < R < u$)],

$$f_T^{(2l-T)} = \max \{ S_0 u^l d^{T-l} - K; 0 \}, \quad l = 0, 1, \dots, T.$$

CONTINUOUS TIME

Dynamics of the price of a share of stock is defined by the following stochastic differential equation (**Bodie, Merton, 2000, Merton, 1992**):

$$dS_t = S_t (adt + \sigma dW_t),$$

where S_t — the price at time t of a share of stock, a — instantaneous expected rate of return on the security, σ^2 — instantaneous variance rate, W_t — standard Brownian motion.

Price of the riskless bond changes according to the equation

$$dB_t = \rho B_t dt,$$

where B_t — price of the riskless bond at time t , $\rho = \ln(1 + i)$ — constant riskless instantaneous interest rate.

Rational price $Y_t = Y(t, S_t)$ of derivative instrument at time t is defined by the Black — Scholes — Merton fundamental equation (Black, Scholes, 1973, Merton, 1973)

$$\rho Y(t, S_t) = \frac{\partial Y(t, S_t)}{\partial t} + \rho S_t \frac{\partial Y(t, S_t)}{\partial S} + \frac{1}{2} \sigma^2 S_t^2 \frac{\partial^2 Y(t, S_t)}{\partial S^2}$$

with the end-of-period condition

$$Y(T, S_T) = f_T.$$

Option hedging problem turns into the problem of choosing at the beginning of the period that feasible strategy $\gamma_t \in \mathbf{R}$ of the self-financing portfolio $\pi_t = (\beta_t, \gamma_t, -1)$ control over a period of time $[0; T]$ which maximizes the expected utility of the end-of-period portfolio value x_T , subject to the condition that the beginning-of-period portfolio value is equal to x_0 and stock share price — S_0 (units of money).

This problem can be formally stated as

$$\max_{\gamma} \mathbf{E}(U(x_T) | S_0),$$

$$dx_t = \tilde{a}(t, x_t, \gamma_t) dt + \tilde{\sigma}(t, x_t, \gamma_t) dW_t, \quad t \in [0, T],$$

$$x(0) = x_0,$$

$$\gamma = \gamma_t \in \mathbb{R}, \quad t \in [0, T],$$

where $\tilde{a}(t, x_t, \gamma_t)$ and $\tilde{\sigma}(t, x_t, \gamma_t)$ are defined, subject to the self-financing condition

$$dx_t = \beta_t dB_t + \gamma_t dS_t - dY_t, \quad t \in [0, T], \quad (3)$$

as

$$\tilde{a}(t, x_t, \gamma_t) = \rho x_t + (a - \rho) \gamma_t S_t + \rho Y(t, S_t) - R_a Y(t, S_t)$$

and

$$\tilde{\sigma}(t, x_t, \gamma_t) = \left(\gamma_t - \frac{\partial Y(t, S_t)}{\partial S} \right) S_t \sigma$$

respectively.

The dynamic programming method is used to solve this problem (Yong, Zhou, 1999, Lions, 1983, McWalter, 2004). In the continuous time case, arbitrary utility function can be considered. Solution of the problem is: in order to maximize the expected value of the utility function of the portfolio $\pi_t = (\beta_t, \gamma_t, -1)$ value at exercise moment T the investor has to adjust dynamically at the period of time $[0, T)$ the amount γ_t of stock share units in the portfolio according to the following formula:

$$\gamma_t^* = \frac{\partial Y(t, S_t)}{\partial S} + \frac{a - \rho}{R_A S_t \sigma^2}, \quad (4)$$

where

$$R_A(x) = -\frac{U''(x)}{U'(x)}$$

the Arrow — Pratt absolute risk-aversion function (Arrow, 1974, Pratt, 1964).

β_t is defined subject to the self-financing condition (3) by the formula

$$\beta_t = \frac{x_t + Y_t - \gamma_t S_t}{B_t}.$$

First summand in the right-hand member of the equations (2) and (4) is an objective term of the portfolio control. It corresponds to the traditional option delta-hedging strategy, according which the amount γ_t of stock share units in the portfolio at time t is equal to

$$\delta(t, S_t) = \frac{\partial Y(t, S_t)}{\partial S}.$$

Second summand is a subjective term. It is charged with allowing for the investor's risk aversion.

The optimal strategies for certain the most popular utility functions are defined in the table 1.

Table 1: Optimal strategies of option hedging

Utility function $U(x)$	Absolute risk-aversion coefficient $R_A(x)$ and its derivative	Optimal control γ_t
Square-law utility function (von Neumann — Morgenstern utility function) $U(x) = x - bx^2$, where $b > 0$	$R_A = -\frac{-2b}{1-2bx} = \frac{2b}{1-2bx}$ $R'_A = \frac{4b^2}{(1-2bx)^2} > 0$	$\gamma_t = \frac{\partial Y(t, S_t)}{\partial S} + \frac{(a-\rho)(1-2bx_t)}{2bS_t\sigma^2}$
Exponential utility function $U(x) = -e^{-zx}$, where $z > 0$	$R_A = -\frac{-z^2 e^{-zx}}{z e^{-zx}} = z$ $R'_A = 0$	$\gamma_t = \frac{\partial Y(t, S_t)}{\partial S} + \frac{(a-\rho)}{zS_t\sigma^2}$
Logarithmic utility function $U(x) = \ln x$	$R_A = -\frac{1/x^2}{1/x} = \frac{1}{x}$ $R'_A = -\frac{1}{x^2} < 0$	$\gamma_t = \frac{\partial Y(t, S_t)}{\partial S} + \frac{x_t(a-\rho)}{S_t\sigma^2}$
Power utility function $U(x) = \frac{x^k}{k}$, where $0 < k < 1$	$R_A = -\frac{(k-1)x^{k-2}}{x^{k-1}} = \frac{1-k}{x}$ $R'_A = \frac{k-1}{x^2} < 0$	$\gamma_t = \frac{\partial Y(t, S_t)}{\partial S} + \frac{x_t(a-\rho)}{(1-k)S_t\sigma^2}$

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CURRENT SITUATION AND REQUIREMENTS FOR DEVELOPING GENERAL AVIATION IN TURKEY

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ABSTRACT

The purpose of this paper is to introduce the current situation of general aviation in Turkey. Although general aviation is one of the most important part of civil aviation there is no consensus of the definition of general aviation. In developed countries general aviation is commonly used, on the other hand it is still not at the intended level Turkey. General aviation activities should be scrutinized to support and sustain the development of aviation in Turkey. In addition to the contribution to the aviation, general aviation plays important role both economically and socially. This paper examines what should be done to improve general aviation activities in Turkey.

INTRODUCTION

General Aviation (GA) is the largest aviation sector in the world. In 1903 Wright Brothers first flight in the world realized the GA activity was performed. GA is the foundation of military aviation is civil like. Economic and social benefits of the GA is very important for society. Aircraft and get \$ 25 billion manufacturer produce GA 4000 revenue around the world in 2008. (GAMA) in all developed countries is used as the GA-intensive activities initiated in Turkey to make use of GA to provide the benefits of Turkey and the country's economy and social life will bring a richness. In 1925 one of the world's first major business to the GA Turkey, more after it has developed. Turkey needed to improve the GA operations to work, must ensure that the development of this important civil aviation section.

Definition and Importance of General Aviation

General aviation comprises all aircraft that are not operated by commercial aviation or by the military. (www.icao.int) GA is defined slightly different in Turkey; GA includes individual and sports aviation activities not air taxi and charter operations. (www.shgm.gov.tr) In essence, GA embraces huge range of activities both commercial and non-commercial, including private flying, flight training, recreational flying, search and rescue, business flights, police aircraft, firefighting, coast patrol, air charter, aeromedical, aerial activities, gliding, experimental aircraft, sports aviation, light-sport aircraft and very light jet and many others.

GA reaches every segment of the world population and touches people in many different ways. To the business man, it means efficient, productive means of transportation. For the farmer, GA means increased crop yield and more efficient fertilizing. To those in small towns, it not only helps bring the mail, but it also means new job opportunities and new dollars brought in by industry which utilizes the general aviation airport. In other areas, general aviation fights fires, carries patients, and performs aerial mapping and pipeline patrol. (<http://www.gama.aero>)

GA is a cornerstone of the entire aviation worldwide and the primary training ground for most commercial airline pilots. Flying at low altitude, between the valleys of the mountains, almost on the plain on the banks of the river, and fly the real aircraft in flight can enjoy one of the aviation category.

GA also provides specific social and economic benefits. GA provides closely tailored, flexible, door-to-door transportation for individuals, enterprises, and local communities, increasing mobility of people, productivity of businesses and regional cohesion. General aviation has become one of the world's most important and dynamic industries. It touches every aspect of our lives, our economy, and our future. It represents over one million jobs, billions of dollars in revenue, and the growth of thousands of cities, businesses, services, and manufacturing facilities around the world.

Over 320,000 GA airplanes worldwide, ranging from two-seat training aircraft to intercontinental business jets, are flying today. GA manufacturers shipped almost 4000 GA airplanes valued at almost \$25 billion to customers worldwide in 2008. Around the world, the estimated 320,000 general aviation aircraft fly in excess of 35 million hours per year. (<http://www.gama.aero/what-ga/industry-facts-and-statistics/ga-facts>) Worldwide, GA aircraft accounted for 75% of all hours flown by civil aircraft and 118 million aircraft departures Worldwide, 101 million were General Aviation. (<http://www.gaac.co.uk/>)

GA benefits the users of transportation services and the economy at large. It increases the efficiency and productivity of businesses by reducing the travel time that would be required to drive or to use more congested commercial airports; provides public health services, such as transporting patients and medical equipment; provides public safety services, such as monitoring floods or fires; eases congestion at commercial airports; provides an important transportation link to small communities that are not served by the airlines; and provides training for the majority of all new pilots.

General Aviation plays a vital role in a country's transportation system, as do roads, railways, the airlines and shipping. Think of business aviation, flying in support of the emergency services, such as police, air ambulance and medical repatriation. Add to these flying training, for both professional and private pilots, aerial photography and survey, pipeline and electricity cable patrols and you have the measure of the contribution that General Aviation makes to the economy. Aerial works companies provide high-value, specialized services in the world. These range from map charting, off-shore services and construction works, pipeline patrolling and conservation, agricultural flights and environment surveillance to weather research, fire-fighting, TV-Live reporting, traffic surveillance and other. Recreational and sport aviation is one of the big sources of qualified aviation staff for airlines and supporting services. Many of the trainee pilots and engineers, after building the number of their hours in the air or in the hangar, subsequently move to work in the airline industry. Aeroclubs and air sports organizations promote individual's qualities, technical knowledge and aeronautical skills - especially amongst the young citizens of the European Union, raising their interest in the highly demanding and motivating air sports and future careers in commercial aviation or aeronautical research and development.

The majority of GA aircraft operate to and from regional airports. We could say that these aerodromes are the home of GA. GA small aircraft are simply unattractive for large airports, due to capacity limits. Because of the scarcity of slots it is more reasonable to provide those to large aircraft operators another factor hindering access to 'hub' airports is the level of charges applied there that virtually excludes GA from using central airports. (European Parliament Hearing on General Aviation in the European Community 2008)

Current Situation in Developed Countries

GA is an integral part of the U.S. economy, supporting more than a million jobs and more than \$150 billion of total economic activity. GA flies 166 million passengers every year. GA makes up more than 1 percent of the U.S. GDP. GA supports almost 1.3 million high-skills, high-wage jobs in professional services and in manufacturing. (General Aviation's Contribution to the U.S. Economy 2006) The GA fleet of 231,607 aircraft and America's nearly 20,000 public and private use airports and heliports allow key employees to be in the right place at the right time to meet the vital needs of today's most lucrative customers. GA passengers have point-to-point access to 5,201 public-use community airports that have the support services like fuel needed by business aircraft. In contrast, the airlines serve only 565 larger airports through an inefficient hub-and-spoke system, with 70 percent of airline traffic going to only 30 major hub airports. And in US has more than 3,400 flight schools. (<http://www.gaservesamerica.com>) Nearly two-thirds of all the hours flown by general aviation aircraft are for business purposes.

There are 50.000 motor-powered GA aircraft in Europe (including about 2.800 turbine-powered) as compared to about 5.000 aircraft in the European commercial airline fleet. In addition 180.000-200.000 of microlight and non motor powered aircraft are used for sport and recreation. (Communication from the Commission an Agenda for Sustainable Future General and Business Aviation 2008) In 2005, there were about 100,000 airport/aerodrome pairs in Europe served by GA traffic (as opposed to about 30,000 linked by scheduled airline connections). Only 5% of them had a scheduled alternative (at least one scheduled flight per working day). The same pattern remains when we look at the city-pairs. In 2005 General and Business aviation in Europe served over 80.000 city pairs. Vast majority of this traffic was between city-pairs that had only very limited scheduled alternative (less than one scheduled flight per working day). Analysis of traffic trends in Europe, GA will continue to grow in the years to come. Key factors contributing to this trend are: Need for more mobility, flexibility and point-to-point services, increasing congestion of the main airports, security constraints, continuous efforts of enterprises and individuals to increase their productivity gains, and development of new technologies, which make aircraft more efficient and less costly.

The commercial airlines in the UK operate about 850 aircraft (20% fewer than in 1950 according to Civil Aviation Authority records) and use 23 airports – some of those only occasionally. The UK GA fleet comprises more than 10,000 aircraft that operate from 140 licensed airports and aerodromes and more than 350 private air strips. There are more than one hundred air taxi operators in the United Kingdom, not only providing regular charter and ad hoc services for business travelers, but a vital part of the overnight mail, business data transportation services and freight services. (<http://www.gaac.co.uk/>) In Germany 120.000 hours flown in general aviation (General Aviation in Germany Discussion Forum on General Aviation in the European Community, Brussels, 2007)

From Yves Lambert, Director General of Eurocontrol (IAOPA World Assembly, Edinburgh, September 2000) “we all know that General Aviation plays a large role in flying circles. The rather loose term covers many important activities. In Europe alone, I believe there are 300,000 pilots flying over 50,000 GA aircraft with an economic impact of some 5.5 billion Euros.

Table 1, America, Oceania, Africa and Europe as an example is taken from the advanced countries. This country and the current status of Turkey's general aviation fleet can be seen in Table 1. As seen from this table Turkey's general aviation fleet is very few.

Table 1. Number of General Aviation Fleet by Countries

Country (Year)	Airplanes	Helicopters	Sport&Rec.*	Total
Canada (2006)	18.657	2.145	10.216	31.018
England (2008)	10.624	1.495	9.212	21.331
Germany (2008)	8.535	739	12.053	21.327
New Zeland (2005)	1.858	624	1.390	3.872
South Africa(2008)	4.469	1.009	5.215	10.693
Switzerland (2006)	1.893	284	1.645	3.822
Turkey (2009)	367	56	78	501

Source: 2008 General Aviation Statistical Databook & industry Outlook and data of SHGM

*Sport&Rec.: micro light, ultralight, glider, balloon, airship etc.

Table 2. Countries Population, Surface Area and GDP Information

Country	Population (million)	Surface Area (square km2)	2007 GDP \$ (nominal) (rank)	2007 GDP \$ (PPP) per capita (rank)
Canada	32.9	9.984.670	1,326,376 (9)	35,729 (12)
England	60.8	242.900	2,727,806 (5)	33,535 (16)
Germany	82.6	357.022	3,297,233 (3)	33,154 (19)
New Zeland	4.2	270.467	129,372 (50)	26,110 (26)
South Africa	48.6	1.221.037	277,581 (28)	9,736 (65)
Switzerland	7.5	41.284	415,516 (22)	39,963 (6)
Turkey	70.0	783.562	657,091 (17)	12,481 (51)

Source: <http://data.un.org/> and [http://en.wikipedia.org/wiki/List_of_countries_by_GDP_\(PPP\)_per_capita](http://en.wikipedia.org/wiki/List_of_countries_by_GDP_(PPP)_per_capita)

Table 2 shows the country populations, surface areas and GDP data. Turkey has more than 70 million people and; the number of general aviation aircraft is quite low despite its large surface area

Current Situation in Turkey

After the establishment of the Turkish Republic, to improve aviation in 1925 the Turkish Aeronautical Association (THK) was established. (Stuart Kline, 2002) THK's world is one of the oldest general aviation organizations. THK is the biggest GA activities organization in Turkey. In many locations, THK have many airports and a large number of aircraft.

GA, includes individual and sport aviation those are not associated with any commercial activities according to Turkish regulations. Therefore, air taxi operations are excluded from general aviation activities. Directorate General of Civil Aviation differentiates airline operators, air taxi operators, general aviation operators and balloons operators. Different regulations are applicable for all these activities. This classification is shown in the Table 3.

Table 3. Classification of Air Transportation in Turkey

Activity Type	Regulation Number	Explanation
Airline transportation	SHY 6-A	For commercial air transportation
Air taxi	SHY 6-A	For commercial purpose
General aviation	SHY 6-B	Other than commercial
Balloon	SHY 6-C	Balloons and other light aircraft

Air taxi management; SHY 6-A, the maximum on-air vehicle with a capacity of 19 seats commercial air transport operators to make the fleet for at least one of the air vehicle in Turkish Civil Air Vehicle Registry names must be recorded. Does not exceed the total of two million U.S. dollars Operator for each air vehicle at least two hundred thousand U.S. dollars per full cash money is necessary to have paid-in capital. There are 64 Air taxi companies with 226 aircraft fleet. THK with 33 aircraft and Anadolu University with 27 aircraft are the two largest air taxi operators in Turkey.

General aviation regulation SHY 6-B, defines GA as aviation activities using any type of aircraft without charge and non-commercial purposes. 29 GA enterprises operate 145 aircraft. The largest of these general aviation enterprises is THK which has 54 aircraft.

Balloon operators and the operators which has balloon in their fleet SHY 6-C, will fly to Turkey airspace standards of very light air vehicles, and flight rules to regulate business activities. 9 balloons enterprises operate 53 balloons and total balloons number is 62 in 2009.

Table 4. Number of General Aviation Enterprise and Fleet Type in Turkey 2009

	Number of enterprise	Airplane	Helicopter	Ultralight	Balloon	Total
Air taxi	64	161	43	15	7	226
GA	29	129	13	1	2	145
Balloons	9	-	-	-	53	53
Agricultural*	40	77	-	-	-	77
Total	142	367	56	16	62	501

Source: SHGM

*Agricultural flights are prohibited because of the destruction for ecosystem.

Causes of Underdevelopment

The most important reason for underdevelopment of GA in Turkey is low national income per capita. As you can see in the Table 2, Turkey's national income per capita is less than any country that has developed GA 3 to 4 times (except South Africa). Therefore, income per capita can be considered the biggest reason the

underdevelopment of general aviation in Turkey. Another obstacle of the development of GA is the high tax rate to buy aircraft. The annual tax of a small general aviation aircraft is approximately 4,000 USD. In addition to this, a small aircraft license price is up to almost price of the aircraft. (<http://www.airporthaber.com>) Generally there are some prejudices towards aviation in Turkey. Naturally, GA activities are being affected from this negative opinion. Because of insufficient information about general aviation in Turkey people thinks it is a very expensive activity. However, second-hand aircraft might cost approximately 40,000-50,000 USD.

However, military and commercial airline transport is used extensively relative to the GA activities. Nearly two third of cities in Turkey has airport. Another reason is commercial air transportation is seen profitable and aviation investors are interested in commercial aviation instead of GA activities. Mostly commercial aircraft are being bought and sold in brokerage houses because GA aircraft do not leave enough profit.

Existing legal arrangements in Turkey leads many General Aviation companies taking the air taxi license. This causes 60,000 USD GA aircraft and 30 million USD commercial airplanes falling into the same category. This is also another reason for underdevelopment of general aviation in Turkey.

Precautions for Development of General Aviation in Turkey

Development of general aviation activities and to reach the level of developed countries it is very clear that some precautions should be taken. We can sort of these as follows:

- Allowing commercial flights for general aviation aircraft. This means that some legal arrangements about commercial use of general aviation aircraft should be done.
- Reducing the tax burden of general aviation aircraft.
- Aircraft maintenance and repair facilities for GA should be subsidized.
- Air clubs and air training schools should be supported and to increase awareness of general aviation to entire society especially for young generation from childhood.
- Airport charges should to be reduced and even should be free for GA.
- General aviation activities must be supported by sponsors, universities, etc.

CONCLUSIONS

General Aviation in most of the developed countries has an important role both economically and socially. To reach the desired level, some necessary arrangements should be made in Turkey. GA development of Turkey will contribute the tourism and business significantly. For instance, if there is enough GA activity many historical places in Turkey will be visited. Tourism plays very important role for Turkish economy. General aviation will help to increase tourism revenues in Turkey. Turkey has large area relative to the European countries and GA can provide opportunities to tourists visiting favorite touristic destinations in Turkey such as Troy, Nemrut Mountain, Cappadocia, Pamukkale, Agri Mountain, etc... This will provide very important access for tourists and people who live with tourism revenues otherwise it is difficult to access.

GA provides very important benefits to communities, to the local economy, to the schools, and to the people interested in aviation. A mile of road leads nowhere; a mile of runway leads everywhere.

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CONFLICTED RESEARCH: MEDICAL SCIENTISTS ON THE PAYROLL

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ABSTRACT

This paper explores recent revelations of pervasive conflicts of interest in the United States medical industry. Because these conflicts of interest threaten the public interest in the safety and effectiveness of medical treatments and devices, they elevate the importance of addressing conflicts of interest in executive education programs. The paper also provides the professor with the unique opportunity to confront ethical issues within academic institutions, rather than merely critiquing the activities of outside business organizations, in effect challenging the professor to his put own house in order, rather than simply critiquing the activities of third parties.

INTRODUCTION

Conflicts of interest arise whenever executives have a private interest in the outcome of the task or responsibility they carry out on behalf of their employers. As a company employee, the executive owes his employer the duty to act solely for the benefit of his or her employer and not in the interest of the employee or third party; the employee's loyalty must be undivided. Whenever a conflict of interest exists, the executive cannot be said to act solely for the benefit of the employer, because the conflict of interest may cause the executive to engage in a course of action that is not in the best interest of the company or to fail to exercise independent judgment on behalf of the company, thereby breaching the duty of loyalty the executive owes to his employer.

Medical industry payments to physicians

The relationships between physicians and medical related companies in the United States, generally acknowledged to be familiar given their mutual interest in patient care, also turn out to be quite lucrative. A survey of U.S. doctors undertaken by Harvard University in 2003 and 2004, in which nearly half of the 3,167 practicing anesthesiologists, cardiologists, family practitioners, general surgeons, internists and pediatricians responded, demonstrates that one-quarter of the respondents acknowledge receiving payments from medical industry companies.

Physicians serving as department heads in medical schools and teaching hospitals are also financially tied to the medical industry. In a survey published in the *Journal of the American Medical Association*, two-thirds of department heads acknowledge they have financial or other ties to the industry (e.g., received research equipment or money to support residency and fellowship training, continuing medical education and research seminars from companies), 27% report that they worked as paid consultants, 27% report they served on companies' scientific advisory boards, 9% report they founded companies, and 7% report they served as company officers or executives.

The above noted financial relationships constitute conflicts of interest, which "occur when physicians have motives or are in situations for which reasonable observers could conclude that the moral requirements of

the physician's roles are or will be compromised," and which pose a "serious threat . . . for professionalism and for the trust that patients have in physicians."

Failure to report significant consulting compensation and equity holdings

Extensive information unearthed by Senator Charles E. Grassley (R. Iowa), ranking member of the United States Senate Committee on Finance, reveals multifaceted relationships between U.S. physicians and the medical industry, which are beginning to attract significant attention and raise ethical concerns. Recent revelations show that leading academic researchers at major universities have received (but failed to fully report) significant consulting fees from the medical industry. For example, the Senate Finance Committee reported that Psychiatry Professor Alan Schatzberg, a renowned and highly respected member of the Stanford University School of Medicine and President of the American Psychiatric Association, failed to report a \$22,000 payment from Johnson & Johnson for consulting services, ownership of stock worth \$6 million in Corcept Therapeutics which he cofounded in 1998 and which recently developed the drug Mifepristone (RU-486) for the treatment of depression, and \$109,179 profits from sales of Corcept stock in 2005. As a consequence of these disclosures, Professor Schatzberg was forced to resign as principal investigator on his grant from the National Institutes of Health (NIH) to investigate the biology of psychotic depression and to determine the effectiveness of Mifepristone as an antidepressant. The results of that research are clearly capable of affecting the value of his Corcept stock.

Inability of NIH, FDA, and academic institutions to identify conflicts of interest

While federal regulations require that researchers receiving NIH grants remain free of financial conflicts of interest, NIH relies on the academic institutions to gather financial information from grant investigators and to manage or eliminate conflicts of interest, but does not require universities to provide information about the conflicts or how they are resolved. Indeed, a report of the inspector general of the Department of Health and Human Services concedes NIH does not know the number or nature of conflicts of interest and does not track how universities and other institutions resolved them.

The FDA may be faring no better than NIH. The Office of Inspector General of the U.S. Department of Health and Human Services audited the financial disclosures made by researchers in "all 118 marketing applications approved by the FDA in the 2007 fiscal year," determined that "[o]nly 1 percent of clinical investigators disclosed a financial interest in the products they studied," and concluded that "[c]linical investigators may not be disclosing all financial interests." As noted above, the Harvard University survey of U.S. doctors determined that 28% of doctors were paid for consulting, giving lectures, or signing up patients for clinical trials, and the AMA survey determined that 27% of medical school department heads worked as paid consultants.

Most universities rely on their professors to report financial information, but lack the wherewithal to verify the information they submit. Only a handful of states and the District of Columbia require some level of disclosure of pharmaceutical company payments to physicians. There is no database which universities can use to check the disclosures made by physicians to their academic institutions or which informs the public of the fees paid by drug companies to physicians for consulting, speeches, and clinical trials.

Inherent forces fomenting conflicts of interest

Several forces have coalesced to increase the incidence of conflicts of interest in the medical industry: the vertical integration of the pharmaceutical industry, the 1980 Bayh-Dole Act, and the rapidly accelerating need of the medical industry to conduct human experiments.

Vertical integration of pharmaceutical industry. The pharmaceutical industry has become increasingly vertically integrated, giving drug companies control over the entire chain of production. Drug companies develop new products, hire university and private-sector researchers to conduct drug trials, contribute

to the design and pay for the study, and control which study results get published. Drug companies also market prescription drugs directly to consumers and physicians, support medical journals and conferences through advertising and contributions, fund physician continuing education and medical symposia, pay consulting fees to physicians for giving presentations and serving on committees and boards, and have financial relationships with the authors of guidelines establishing standards for prescribing medicines.

The 1980 Bayh-Dole Act. The second force contributing to the increase of conflicts of interest in the medical industry is the 1980 Bayh-Dole Act, which foments the commercialization of new medical products by creating a uniform patent policy among the many federal agencies funding research and giving academic researchers and their institutions the right to products developed with government money, permitting them to license the inventions to other parties, and thereby encouraging them to develop financial ties to the biotechnology or pharmaceutical industries. Doctors quickly learned that they could go into business while continuing to practice medicine.

The rapidly accelerating need of the medical industry to conduct human experiments. The third force contributing to an increase in conflicts of interest in the medical industry is the rapidly accelerating need of the medical industry to conduct human experiments as part of the drug and medical device approval process. In the early 1990s, managed care squeezed drug prices, leaving drug companies with one option: increasing the number of drugs they were selling. When the drug companies tried to hasten drug development, the academic world was unable to adapt rapidly, and drug companies began to recruit private practice doctors to mine their patient base for research subjects. In short order, the medical industry changed providers of human subject experiments required as part of the approval process. In 1991, nearly 80% of human experiments were conducted by nonprofit academic medical centers; by 2000, 40% of the 60,000 human subject studies were conducted by nonprofit academic medical centers, and 60% were conducted by for-profit companies, moving more research to “private settings and even storefront clinics.” Likewise, there has been a significant increase in private industry funding of medical research that takes place in U.S. universities. According to a *New England Journal of Medicine* study, private industry funds more than two-thirds of medical research at U.S. universities; two decades ago, the main contributor to medical research was the federal government.

Conflicts of interest and related changes in medical research

The significant increase in private industry drug studies has spawned three other changes in medical research: medical company contributions to nonprofit foundations associated with for-profit medical practices, ghost writing in medical research, and the celebrity medical expert.

Contributions to physicians’ nonprofit foundations. Physicians in private practice have begun to establish tax-exempt charities to engage in medical research or education, and drug and medical device companies are making significant contributions to these nonprofit organizations. While the nonprofit organizations are separate entities, they are closely linked to physicians’ medical practices. Typically, medical companies contribute funds to the nonprofit organizations to support medical research and educational programs.

To the extent these contributions are actually used for the foundation’s charitable purpose (research and education), there would appear to be no problem. To the extent, however, these funds are used to subsidize or offset expenses of the medical practice (*e.g.*, using fellowship funds to underwrite medical practice salary expenses), significant tax and conflict of interest issues and problems are created.

Ghost writing scientific research. Senator Grassley described the practice of medical ghost writing in his inquiry to Wyeth Laboratories and press release dated December 12, 2008:

Over the last year, the Committee has been examining a practice used by drug companies referred to as “medical ghostwriting.” I have been informed that this practice involves marketing and/or medical education companies that draft outlines and/or manuscripts of review articles, editorials, and/or research papers.... Thus, any attempt to manipulate the scientific literature, that can in turn mislead doctors to

prescribe drugs that may not work and/or cause harm to their patients, is very troubling.

The rise of the celebrity medical expert. The rise of the celebrity medical expert is the third offshoot stemming from the increase in private industry drug studies. For example, Lisa Hark parlayed her work in the nutrition education program at the University of Pennsylvania medical school, her experience as host of television nutrition programs, and her authorship of a widely used and award winning nutrition textbook into a successful consulting practice in the field of nutrition. The Florida orange industry hired her to promote the health benefits of orange juice in a six-month, \$24,800 contract that produced “more than 132 million media impressions,” including a Forbes magazine quote in which Hark touts the benefits of orange juice for preventing colds and the flu. Hark also provided a helpful comment to Tyson Foods campaign to promote its chickens as being “raised without antibiotics,” saying “This is great news for American consumers who have made it clear they pay attention to the use and presence of all sorts of antibiotics in the environment.” Hark’s website invites companies to engage her services as a nutritionist with the words,

Are you looking for a media expert to help promote and market your company? Do you want to add credibility to your brand, consult with a nutrition expert, hire a spokesperson or develop an Advisory Board? Dr. Lisa Hark has the academic background and media experience to help your company successfully reach both consumers and health professionals.”

Proposed solutions to combat conflicts of interest in the medical industry

Three major solutions have been proposed to combat the medical industry conflicts of interest detailed above in this paper. The first solution is embodied in the Physician Payments Sunshine Act of 2008, which was introduced on March 13, 2008, and requires companies manufacturing drugs, medical devices or medical supplies to make quarterly reports to the Secretary of Health and Human Services detailing payments made to physicians or their employers, and prohibits tax deductions for advertising, promotion or marketing expenses for any payments not disclosed. The reported information, in turn, will be published in the federal registry permitting patients and consumers the opportunity to learn about medical industry conflicts of interest, and thereby augmenting transparency and accountability for the various payments made to physicians.

The second proposed solution is the creation of a National Institute of Drug Testing (NIDT). The principal justifications advanced for this proposal are threefold: (1) “endemic” conflicts of interest in the system of drug evaluation have “been exacerbated by the rise in for-profit clinical trials, fast-tracking of drug approvals, government-industry partnerships, direct consumer advertising, and industry-funded salaries for FDA regulators,” (2) “those who manufacture and market products should not have undue influence and control over how the product is evaluated,” and (3) the concept of “independent science” should be reintroduced in drug testing to “prevent even the appearance of conflict of interest.”

The third proposal is the far more comprehensive policy developed by the American Medical Association and aimed at academic medical centers. In issuing its proposed policy, the AMA noted that the “standing of the profession, as much as the integrity of the pharmaceutical and medical device industries, is jeopardized by allowing obvious conflicts to continue,” and that academic medical centers “must more strongly regulate, and some cases prohibit, many common practices that constitute conflicts of interest with drug and medical device companies.” The AMA preliminarily emphasized that a wide range of psychological, sociological, and economic research demonstrates that even small gifts significantly influence physicians’ behavior and that public disclosure of conflicts of interest alone is insufficient to satisfy the need to protect the interests of patients.

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MANAGING TECHNOLOGICAL POTENTIAL

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ABSTRACT

Organizations invest in Information Technology (IT) systems to improve performance. In order to understand the benefits gained, it is necessary to study the continued use of IT systems in the post-adoption stage. Past research has shown that there is heterogeneity of use amongst professional knowledge workers, when they are given the flexibility to select features to solve the task at hand. Theory is developed that posits that, in the case of professionals, this heterogeneity is due to the interaction between the actors and their social, organizational and professional environments. The field of study is the use of Electronic Patient Records (EPR) by primary care physicians in the province of Ontario, Canada.

This 'research in progress' paper aims to improve understanding of post-adoption use of systems and the effective exploitation of their potential within organizations, both for academic and practitioner audiences, through the development of a conceptual model, building on previous work in the literature and addressing some of the weaknesses identified.

INTRODUCTION

IT investments do not always deliver what they promise (Devaraj & Kohli, 2003; Oz, 2005). Although, organizations adopt technology in order to gain a relative advantage (Choudhury & Karahanna, 2008; Rogers, 1995), there are many instances where the technology does not deliver according to expectations in spite of system designers expending time and effort to design systems so that they fulfill the needs of the users. Researchers have investigated these shortcomings by studying the factors that influence the adoption and implementation of technological innovations. From a review of the literature, studies in the last few years have started to investigate the continued use in the post-adoption phase of IT (e.g. Jasperson, Carter, & Zmud, 2005).

Research has shown that there is heterogeneity of use by professionals (Barley, 1986; Benbasat & Barki, 2007). Even when the same IT artifact is used within the same organization, different actors will use it in different ways. The focus of this research is to understand why there is this heterogeneity amongst professionals with the same IT artifact and to find solutions by way of interventions that will promote more effective use of the innovation. The research model will be developed by combining key constructs from other theories in the literature, including Adaptive Structuration Theory (Desanctis & Poole, 1994; Orlikowski, 1992), Human Agency Theory (Boudreau & Robey, 2005; Emirbayer & Mische, 1998), the Theory of Planned Behaviour (Ajzen, 1991) and the Technology Acceptance Model (Davis, 1989; Venkatesh & Bala, 2008).

LITERATURE REVIEW

Innovations are ideas or practices which are perceived as new by the adopting group. They enable individuals or organizations to reduce their effort to achieve a desired objective (Rogers, 1995). The objective may be: the increased productivity of existing processes; the enhancement of existing products or services; or the introduction of new products or services. Damanpour (1991) described adoption as a two stage process where the

first stage is the gathering and evaluation of information, followed by the second stage of implementation and use. Rogers (1995) introduced a five stage model where the first three stages are the information gathering and evaluation that lead up to the adoption decision, followed by stage 4, where the innovation is implemented and ready for trial and then, in stage 5, the trial is observed and the decision to adopt is confirmed.

Organizations adopt a technology in order to gain a relative advantage (Rogers, 1995). The realization of this advantage depends not only on the organization, but also on the users (the actors). In 1989, Davis published his seminal paper in which he asked the question 'What causes people to accept or reject a technology?' (Davis, 1989). He introduced the Technology Acceptance Model, TAM, which has been widely accepted. TAM has two determinants: perceived ease of use (PEOU) and perceived usefulness (PU). These constructs have been significantly correlated with current and future use. It therefore becomes necessary to determine the antecedents of PEOU and PU so that interventions can be designed to influence PEOU and PU which in turn will influence use.

Venkatesh et al (2000) grouped the antecedents into social and cognitive factors. Social factors are subjective norms, image and voluntariness. Subjective norm is a construct from the Theory of Reasoned Action and is defined as the actor's perception that others whose opinion is important believe that the actor should or should not be using the system (Fishbein & Ajzen, 1976, p. 302). Image refers to the perception by the actor that status is enhanced through use of the system (Moore & Benbasat, 1991, p. 195). Cognitive factors measure the actor's personal perception of the system independent of others. These factors are job relevance, output quality, result demonstrability and perceived ease of use. Venkatesh et al extended TAM to TAM2 by combining in one model the organization, via social factors, the technology, via its capabilities, and the actor's interaction with the technology and the social pressures of the organization (Venkatesh & Davis, 2000). Researchers continued to evaluate TAM and combine it with other theories. Venkatesh, Morris, Davis & Davis (2003) studied the most common theories and proposed their model of Unified Theory of Acceptance and Use of Technology (UTAUT).

IT investments do not always deliver what they promise (Devaraj & Kohli, 2003; Oz, 2005). After the IT implementation team and the attention of top management have moved on to the next project, the continued use of the system may slacken with fewer of the advantages that originally justified the system being realized. It is therefore important for practitioners to know which interventions would influence continued use of the IT system and even enhance such usage (Jasperson et al., 2005). This was the purpose behind the extension of TAM2 to TAM3 by Venkatesh & Bala (2008). Empirical evidence supported the theory of TAM3 that experience was a moderating factor. As actors used the system more, they became more knowledgeable about its capabilities. They were able to understand how the new system was relevant to their jobs and their cognitive beliefs about the system became more positive. Familiarity meant there were less problematic issues, so they perceived that the systems became easier to use. This led to recommendations that interventions should focus on antecedents such as job relevancy by showing actors how the innovation will help them with their job. Another intervention is training in order to provide the opportunity to gain experience prior to actual use, thereby influencing positively perceptions of PEOU. TAM3 was developed to provide a comprehensive integrated model of the determinants of an actor's adoption and use of a technological innovation (Venkatesh & Bala, 2008, p. 273). As a variance model, all variables were measured quantitatively and a survey was used with questions asking actors to rate themselves on a Likert scale from 1 to 7. For the variable 'use', actors were asked 'On average, how much time do you spend on the system each day?' (Venkatesh & Bala, 2008, p. 314).

Benbasat & Barki (2007) critically evaluated TAM and the subsequent research beyond TAM. They believe that there has been too much emphasis on validating PEOU and PU rather than determining their antecedents. With UTAUT and TAM3, salient beliefs have been added to the model of TAM. With these additions, the theory comes 'full circle' (Benbasat & Barki, 2007, p. 213) back to the original Theory of Reasoned Action (Fishbein & Ajzen, 1976) and the later Theory of Planned Behaviour (TPB) (Ajzen, 1991), which were used by Davis (1989) as foundations when he developed his theory of TAM. Salient beliefs from TPB include such constructs as subjective norms and perceived control. According to Benbasat & Barki (2007), salient beliefs change over time and they therefore suggest that longitudinal multi-stage models could investigate, for example, how subjective norms might change as the organization makes more use of the IT system over time. They also criticize the measure of the dependent variable 'use'. Even though there are models of IT success (DeLone & McLean, 1992, 2003), the TAM models define use in terms of the amount of time that the actor uses the system. The disadvantage of this measure is that empirical results will conclude that two actors in different organizations

using the same system for the same amount of time are using the system in the same way, as the variable for use does not provide any deeper knowledge.

However, irrespective of time spent on the system, there is heterogeneity of use. Barley (1986) sought to explain the heterogeneity of use by viewing the IT artifacts as social objects whose meanings were defined by the context of their use. The structural relationships could not be considered static because of the additional complexity of the dynamic relationship between the human actors and the social objects of technology. Barley (1986) used a different foundational framework, when investigating the results of two hospitals in Massachusetts that had implemented CT scanners in their radiological departments. Employing a case study approach, he determined that the use of the system was different between the hospitals, even though the supplier was the same. For his framework, he used the structuration theory of Giddens (1979) which posits that there is a duality to the structural properties of social systems. These social systems are defined by the outcome of practices and at the same time they are the medium for change to these practices. Existing structures are bound by the common habitual routines of actors. However, they can be changed by exogenous events and technological change. When an IT artifact is introduced, roles are changed and new routines are formed, thereby creating a new structure. Because structure is defined as the rules and resources that human actors use in their everyday interactions with other human actors as well as interactions with IT artifacts, any change to these interactions causes a change in the structure. Human actors are reflexive and due to the complexity of their interactions with each other and with the social object of technology there are many possible outcomes. Therefore heterogeneity of technology use should be expected in more complex systems.

Barely (1986) adopted a process model, in comparison to the variance model of TAM. Structure was viewed as emergent; it was a process that changed over time. This viewpoint shapes research in two ways. First, the research questions need to be framed so that they evaluate changes that have taken place over time. Second, an interpretive approach provides the opportunity to interact with the human actors and evaluate the nuances that they perceive in the social system around them, which includes other human actors and IT artifacts. The process model is in contrast to the variance model, which posits that there is an invariant relationship between independent variables and dependent variables. By studying the use of technology as a process model, different structures are seen to emerge based on the different behaviours of human actors when technological change is introduced. A case study approach, with in depth interviews, enhances the detailed understanding of the motivations of the actors (Desanctis & Poole, 1994; Orlikowski, 1992).

Orlikowski's (1992, p. 405) framework views IT as socially constructed and interpretively flexible with a 'duality of technology' that reinforces structural properties due to habitual actions and at the same time seeks change through the reflexivity of the human actors. There is a separation of time and space between the software design, top management's intent and the actual use of the system, which results in different meanings and unintended consequences of technological use. Structuration theory was extended to Adaptive Structuration Theory (AST) (Desanctis & Poole, 1994), which posited that organizational actors adapt the technology structures and effect organizational change. Although management, persuaded by system designers, has a specific intent in mind, it is the organizational actors who, as the users of the system, influence how the system becomes routine. These routines define a new structure. If the system is inflexible, actors will modify the organization around them. If there is flexibility within the system then both the system and the organization will be changed. This change is dynamic as actors become more familiar with the system, use more features and discover new ways of performing tasks. Research therefore needs to focus on the interaction of the human actors with the technology, viewed as one of the social actors, so that social processes are captured as they evolve. Using an AST lens, the heterogeneity of systems use is explained by actors adapting the system for their use within the framework of their own organization, whose structure is dynamic. Different organizations have different structures, so their use will be different. Even in the same organization, actors performing similar functions have different perceptions of the social rules around them and therefore their use of the system will differ from others. With a deterministic view, technology gives structure. However, Orlikowski (2000) argued that it was not technology that embodied structure, but the interaction of humans with the technology that defined the structure. She used human agency theory to emphasize the central role of humans rather than the central role of technology. This approach was consistent with AST, which stated that human actors influence the structure based on their growing knowledge of how the technology can be used. The stability of technology is only transitory as human agency is able to decide on new structures and adapt the system to fit.

From an interpretive study of the implementation of an ERP system in a large government agency, the concept of improvised learning was introduced (Boudreau & Robey, 2005). At the beginning, users of a new system are reluctant to embrace change. Over time, as they gain experience and familiarity with the system, they reinvent the way they work and the way the system is used. Boudreau & Robey (2005, p. 3) used human agency theory which posits that human actors are relatively free to use technologies in different ways. Human agency, more than technology, was able to explain the heterogeneity of use. Social influences were influencing factors that changed over time as a result of changing perceptions of the actors as they interact with the technology and the technology interacts with them. With the deterministic view, technology was seen to be rigid, bringing with it a defined structure. However, from empirical observations, human agency views the technology as a social object, and is resourceful enough to make the technology malleable as the capabilities and possibilities of the new system become better understood over time. Rather than technology constraining human actors, from an agency perspective the actors see technology as socially constructed and interpretively flexible.

This improvised learning is not the same as training. The latter is designed by organizational management and system designers so that actors will use the system in prescribed ways that will result in the benefits identified when making the adoption decision. Improvised learning, on the other hand, is centred around human agents who make decisions based on their ability at understanding what the system can do combined with their own social construction of how best to use the system (Boudreau & Robey, 2005). This understanding is strengthened as the actors use the system more and become more familiar with its features.

More complex technological innovations provide more features that can be used within a department, more functions that can be shared across departments and more processes that can be bridged between organizations. Such choices result in greater heterogeneity amongst users even though they are seeking the same outcomes (Jasperson et al., 2005). The binary variable of adoption/non-adoption needs to be replaced by a construct that measures the extent to which the organization is using the capabilities introduced by the technological innovation. The simple variable of time using the system is insufficient. Zmud & Apple (1992) investigated the infusion of supermarket scanners between 1983 and 1984 and they categorized the functionality used after adoption into three levels of increasing functionality where information was shared: within a department, between departments and between companies. The appropriation of the technology refers to the way that users evaluate, adopt, adapt and integrate a technology into their everyday practices (Beaudry & Pinsonneault, 2005; Carroll, Howard, Peck, & Murphy, 2002; Chin, Gopal, & Salisbury, 1997). In the first stage of appropriation, the basic features of the system are used to replace existing tasks. The second stage is when these features become routine due to experience with the system and resulting organizational structural changes. In the third stage, actors learn new processes in a recursive and reflexive manner such that the use of the system affects the surrounding structure (Carroll, Howard, Peck, & Murphy, 2003). By viewing technology use through the lens of AST, the consequences of the introduction of technology arise because of the interpretation of the human actors rather than the embedded features. This combination of human actor, social structure and technology is able to explain the many choices that arise when using a system. Heterogeneity of use is to be expected.

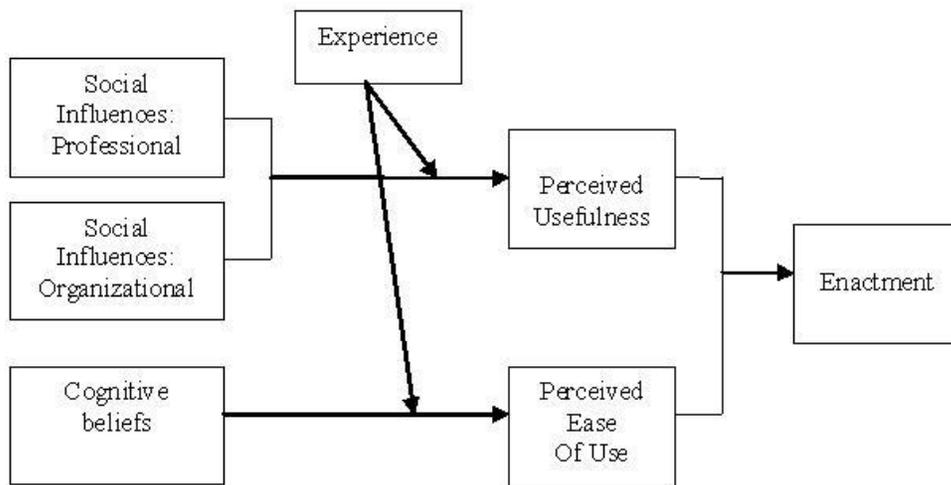
According to some researchers (Barley, 1986; Boudreau & Robey, 2005; Markus & Robey, 1988; Orlikowski, 2000), the term 'appropriation' implies that the causal agency is the technology and a measure of appropriation is a measure of the degree that an actor is using the existing features of the system within an unchanged structure. These researchers prefer to use 'enactment' to encompass the emergent nature of change that happens to the actor, the system and the organization. This research will use the term 'enactment'. From this review of the literature, there is limited research in evaluating the influences on enactment and a gap in studying enactment through professional knowledge workers. Therefore there is an opportunity to explore how the use of technology can assist professional knowledge workers in the application of their expertise.

METHODOLOGY

The research model (see Figure 1) is a process model which seeks to explain how social and cognitive pressures influence the professional's level of enactment. It combines factors from TAM (Davis, 1989) with process constructs from AST resulting in a more comprehensive model, which includes constructs from TPB (Ajzen, 1991). There is similarity to TAM3 (Venkatesh & Bala, 2008) which also reintroduces the constructs from TPB. One significant difference from TAM3 is the change from 'use' to 'enactment'. Use has been measured

in terms of time spent on the system (Venkatesh & Bala, 2008), which does not capture the depth of features in use. *Enactment* implies that actors are involved in determining how they use the technology within emerging structures (Orlikowski, 2000, p. 407). *Perceived Usefulness* and *Perceived Ease of Use* are from TAM (Davis, 1989). *Experience* is the time spent using the system and becoming familiar with it (Venkatesh & Davis, 2000). The concepts of *Cognitive Beliefs* include Job Relevance (Venkatesh & Davis, 2000), Perception of External Control and Computer Anxiety, (Ajzen, 1991; Benbasat & Barki, 2007; Venkatesh & Bala, 2008). The concepts of *Social Influences: Organizational* include Subjective Norm, Image (Ajzen, 1991; Fishbein & Ajzen, 1976; Venkatesh & Bala, 2008), Organizational Environment, (Desanctis & Poole, 1994) and Facilitating Conditions (Gallivan, 2001). *Social Influences: Professional* is a new construct with similar concepts to *Social Influences: Organizational*, except that the influences are from the professional association rather than the organization.

Figure 1: Research Model



The literature has not looked specifically at professional workers, whose skills are transferable across other organizations. They belong to professional associations that encourage them to continually renew their skills and introduce them to new technologies to enhance their productivity. There is an additional influencing factor of the interaction between the professional association and the actor. The research model is a process model which seeks to explain how social and cognitive pressures influence the professional's level of enactment. The use of a case study strategy is well suited to examine the themes that emerge as the actor gains experience with the technological innovation over time (Hartley, 2006). According to Yin (2003, p. 213), the case study is defined as "an empirical enquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident". The dependent variable in the research model is the level of enactment by the individual. Therefore the unit of analysis is the professional. The case study will examine the changes of the level of enactment that take place as experience is gained over time. The context is the interaction of professionals with the social influences of the organization and the social influences of their professional association.

The selection of cases will be based on non-probabilistic samples purposively selected by the researcher to ensure that the concepts and constructs of the model are present. The professional must be working within an organization with an IT artifact that has levels of complexity and where use of the system by the professional is voluntary. The system will be in the post-implementation stage. Where the researcher is confident that participants will be available at a later time, cases will be selected where the professionals have limited experience and, later in the study, the same professionals will be interviewed to determine how their level of enactment has changed as they gained experience with the system. When the participant is only available for one interview, the researcher will select professionals who have been exposed to the system for at least six months and in their interviews they will be asked about how their level of enactment has changed over time. As part of the case study protocol, the selection criteria for each case will be documented. This transparency will lend internal validity to the study.

The context of the research will be the Canadian Healthcare System, investigating the introduction of the Electronic Patient Record (EPR) system and how health professionals enact this technological innovation. The research objective is to gain a deeper understanding of heterogeneous use of the same IT artifact (e.g. Barley, 1986). In order not to be overwhelmed by a preponderance of data, the case study will focus on understanding the social and organizational contexts within specific settings (Eisenhardt, 1989, p. 534). Many of the concepts within the research model have been defined in the literature (Benbasat & Barki, 2007; Desanctis & Poole, 1994; Orlikowski, 1992) and these concepts will be used to frame the questions in semi-structured interviews (King, 2006). Evidence gathering will be focused on how actors are impacted by the social and cognitive influences around them. Content analysis techniques will be used to look for themes based on the research model (Easterby-Smith, Thorpe, & Jackson, 2008).

LIMITATIONS AND CONCLUSION

The research will be limited because it focuses on a physician's enactment of EPRs in a clinical organization. At the completion of the research, more information will be available about the context of the organization and the professional association from which broader cases could be inferred (Remenyi, Williams, Money, & Swartz, 2005). It is anticipated that because physicians are professional knowledge workers and EPR's are systems with flexible capabilities, the research will be transferable to other professional knowledge workers using flexible systems within an organizational structure.

In conclusion, as the research progresses, development and confirmation of the conceptual model will aid academics through greater understanding of how the enactment process is influenced. Heterogeneity of use will be the expected outcome when professionals use complex IT systems. The process model will contribute to theory by empirically evaluating the social influence of the association to which the professional belongs in addition to the social influence of the organization.

Both Canada and USA are investing in e-health infrastructure and the use of EPR is a major initiative (Flaherty, 2009, p. 94; Obama, 2009). Practitioners managing e-health desire that the EPR be used in a manner that benefits both the professional and the organization. The results of this research will identify interventions that will improve post adoption use for those professionals who are not yet using the more advanced features of the system. Results will be transferable to other professionals using IT systems. Given the complexity of IT systems and the large investments required, both in terms of hardware, software and implementation effort, practitioners desire that actors not only use IT systems routinely to perform the activities that were intended by system designers, they also wish to see the creation of new processes that further enhance the task at hand. With a deeper understanding of what influences more advanced users, practitioners will be able to design interventions in order to improve the level of use for all actors

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STANDARDS COMPETITION AND COOPERATION AT THE COMPUTER HARDWARE AND SOFTWARE MARKET

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ABSTRACT

The paper is motivated by competition and cooperation of hardware (Intel, AMD), operating systems (Microsoft Windows and Linux), and software applications (Microsoft Office and OpenOffice).

The objective of the paper is to show the conflicts in pricing and the frequency of new releases which is contrary to the general view of well aligned incentives of complementary network products.

The research of competing complementary products have started with the classic work of Cournot published in 1838. The usual modern approach in such studies is to consider network effects in complements competition as one-sided.

This paper presents some extensions and modifications of the dynamic model of Windows/Intel competition presented by Cassadesus-Masanell and Yoffie in 2007 who have introduced the two-sided network effects approach into research of competing complements. In this model the two-stage game is analyzed when at the first stage the competitors invest into R&D, and at the second stage they set prices. Cassadeus-Masanell and Ghemawat assumed that in each period of time a new “cohort” of potential users enters the market. We here measure the market size not in “cohorts” but in “users” assuming that the market is growing and in each period of time the fixed number of potential users enters the market.

Another extension to Cassadesus-Masanell and Ghemawat’s model brings into consideration competitive interactions between Microsoft Windows and Linux, Intel and AMD, Microsoft Office and OpenOffice.

The mechanism of the conflict is investigated when Intel sets prices too high and supports Linux team, the major competitor of Microsoft, while Microsoft releases new versions too late and backs AMD, Intel’s main competitor.

The investigation of hardware and software opposition provided in this paper is important for revealing the nature and mechanisms of competition at the knowledge markets. The model could be used as an instrument for decision-making at the IT market and as a basis for future research.

The assumption of linear market growth and particular attention given simultaneously to a conflicts between hardware and software manufacturers, competing software vendors, and competing hardware manufacturers form the basis of the model’s originality.

INTRODUCTION

The paper is motivated by competition and cooperation of hardware (*Intel, AMD*), operating systems (*Microsoft Windows and Linux*), and software applications (*Microsoft Office and OpenOffice*).

The product at the personal workstations market is a combination of hardware and preinstalled operating system. At the modern PC workstations hardware market there is a duopoly of two manufacturers: *Intel* and *AMD*, and at the operating systems market there is a duopoly of commercial (proprietary) operating system *Microsoft Windows* and open source (free) OS *Linux*.

The software product cost is the sum of fixed cost, vendor profit (margin), variable cost and maintenance cost. Fixed costs of commercial and non-commercial software are quite small, variable costs of commercial and non-commercial software tend to zero (it costs almost nothing to write a CD or to put a release to Internet), maintenance costs of these two types of software are approximately equal, and the profit of commercial software vendor is positive while one of non-for-profit player is equal to zero. Non-for-profit players indeed earn their money but (opposed to profit-makers) not on sales but on maintenance.

The hardware product cost is also the sum of fixed cost, vendor profit, and maintenance cost, where fixed cost is relatively large, variable cost tend to zero (to produce a chip one should build a plant which is very expensive like several \$M and then variable cost of one chip is less than \$1), hardware maintenance cost is approximately equal to software maintenance cost, and the profit of hardware vendor is positive.

The objective of the paper is to show the conflicts in pricing and the frequency of new releases which is contrary to the general view of well aligned incentives of complementary network products.

The research of competing complementary products have started with the classic work of Cournot published in 1838.

There are several publications on network effects investigation in the IT economics [Brandenburger and Nalebuff (1996), Chen, Nalebuff and Nalebuff (2006), Choi and Stefanadis (2001), Dockner, Jorgensen, Van Long and Sorger (2000), Economides (1996), Farrell and Katz (2000), Katz and Shapiro (1985), McAfee, McMillan and Whinston (1989), Varian, Farrell and Shapiro (2004), Yu (1998)]. The usual modern approach in such studies is to consider network effects in complements competition as one-sided.

Some special attention to free software economics was put by Bitzer and Srhroder (2006), and the problem of Intel, Microsoft and Cisco leadership was diskussed by Gawer and Cusumano (2002).

The dynamic mixed duopoly of *Linux* and *Windows* was investigated by Casadesus-Masanell and Ghemawat (2006) and by Soloviev (2008a, 2008b). They combined the classic market duopoly theory with the demand-side learning and extended this approach to a dynamic situation where the objectives of players are mixed rather than symmetric.

Using the optimal control theory Casadesus-Masanell and Ghemawat (2006), and (with some extensions) Soloviev (2008a, 2008b) have obtained the conditions when *Linux* and *Windows* coexist at the market and when *Linux* is pushed out by *Windows* and vice versa are obtained and discussed. The special focus in these models was given to a piracy of *Windows* and strategic contribution to *Linux* issues.

This paper presents some extensions and modifications of the dynamic model of *Windows/Intel* competition presented by Cassadesus-Masanell and Yoffie in 2007 who have introduced the two-sided network effects approach into research of competing complements. In this model the two-stage game is analyzed when at the first stage the competitors invest into R&D, and at the second stage they set prices.

Cassadeus-Masanell and Ghemawat assumed that in each period of time a new “cohort” of potential users enters the market. We here measure the market size not in “cohorts” but in “users” assuming that the market is growing and in each period of time the fixed number of potential users enters the market.

Another extension to Cassadesus-Masanell and Ghemawat’s model brings into consideration competitive interactions between *Windows* and *Linux*, *Intel* and *AMD*, *Microsoft Office* and *OpenOffice*.

The mechanism of the conflict is investigated when *Intel* sets prices too high and supports *Linux* team, the major competitor of *Microsoft*, while *Microsoft* releases new versions too late and backs *AMD*, *Intel*’s main competitor.

MODEL

We assume that *Intel* (denoted by I bottom index in all the formulae) is a monopolist at the workstation hardware market, and there are two competing products at the operating systems market: *Microsoft Windows* (denoted by M) which is commercial (proprietary), and *Linux* (denoted by L) which is free. Hardware and operating system are strictly complementary products which means that the bundle “hardware + operating system” is valuable for the customer while neither a PC alone nor an OS alone have any value for the user. It is reasonable because every computer is selling with preinstalled operating system, and the competition between Windows and Linux grows because for example at cheap notebooks segment the price of *Windows* makes more than 10% of the price of the combined product while *Linux* is free.

The buyers at the market value *Intel* more than *AMD* and they value *Windows* more than *Linux*, that’s why *Intel* and *Microsoft* are not pushed out from the market but dominate there. *AMD* is cheaper than *Intel*, and *Linux* is free while the price of Windows license is positive that’s why *AMD* and *Linux* co-exist at the market with *Intel* and *Microsoft*.

Let us denote q_{\max} the size of the computer workstations market, C_I the maximal price of a PC with *Linux* C_{I+M} the maximal price of *Intel*-based PC with *Windows* (it is assumed that users value PC with *Windows* more than PC with *Linux*), and use the linear demand functions

$$(1) \quad q_{I+M}(c) = q_{\max} \left(1 - \frac{c}{C_{I+M}} \right),$$

and for *Intel*-based PC with *Microsoft Windows*

$$(2) \quad q_{I+L}(c) = q_{\max} \left(1 - \frac{c}{C_I} \right)$$

for the PC with *Linux*.

Then if *Intel* sets the price for a PC at c_I , and *Microsoft* sets the price for *Windows* at c_M the demand for PCs with *Windows* will be

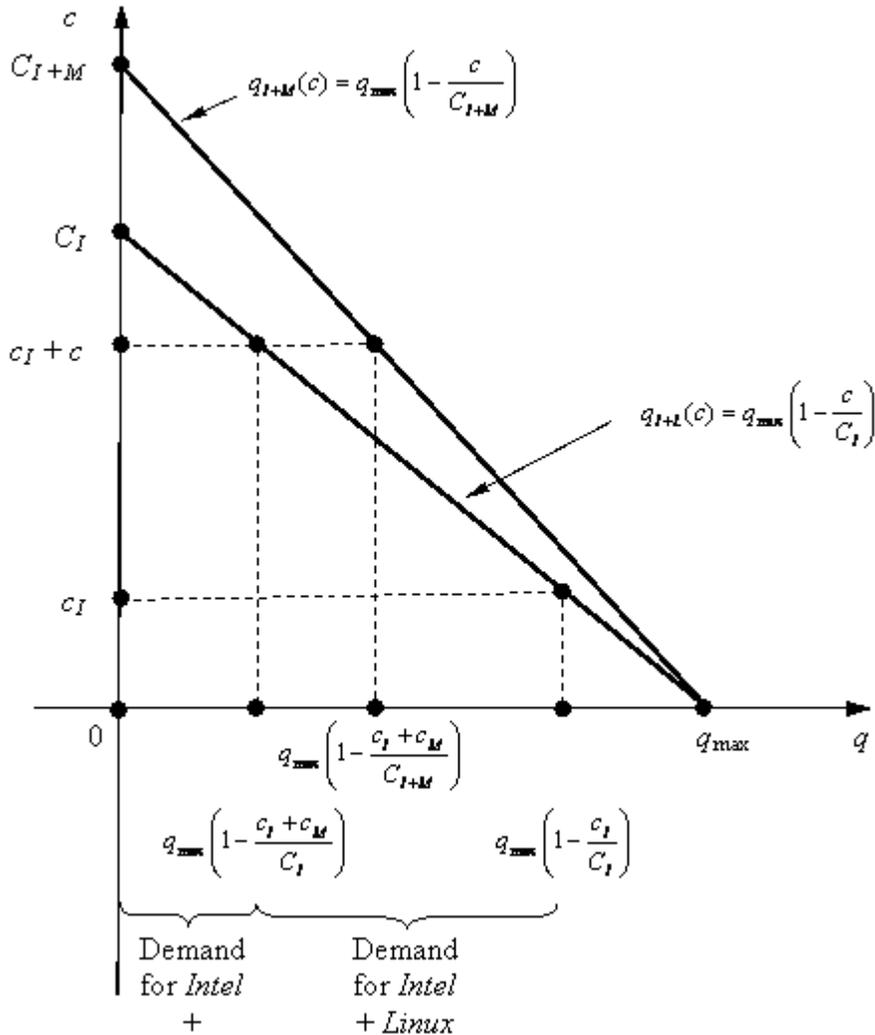
$$(3) \quad q_M = q_{\max} \left(1 - \frac{c_I + c_M}{C_I} \right),$$

and the demand for PCs with *Linux* will be

$$(4) \quad q_L = q_{\max} \left(1 - \frac{c_I}{C_I} \right) - q_{\max} \left(1 - \frac{c_I + c_M}{C_I} \right) = q_{\max} \frac{c_M}{C_I}.$$

It means that a user will buy a PC with *Windows* if and only if he or she value this product more than its price (see Fig. 1).

Figure 1. Demand functions



The overall demand for *Intel* is

$$(5) \quad q_I = q_{\max} \left(1 - \frac{c_I + c_M}{C_I} \right) + q_{\max} \frac{c_M}{C_I} = q_{\max} \left(1 - \frac{c_I}{C_I} \right).$$

It is important that the demand on *Linux*-based PCs depends only on *Windows* price but not on the PC price, and overall demand for *Intel* depends only on *Intel* hardware price but not on the PC price, while the demand on *Windows*-based PCs depends on *Windows* price and on the hardware price!

If f_I and v_I are fixed and variable costs for *Intel*-based PC, and f_M and v_M are fixed and variable costs for *Microsoft Windows*, then we can state the problem of *Intel*:

$$(6) \quad \pi_I = q_I (c_I - v_I) - f_I = q_{\max} \left(1 - \frac{c_I}{C_I} \right) (c_I - v_I) - f_I \rightarrow \max ,$$

and the problem of *Microsoft*:

$$(7) \quad \pi_M = q_M (c_M - v_M) - f_M = q_{\max} \left(1 - \frac{c_I + c_M}{C_I} \right) (c_M - v_M) - f_M \rightarrow \max .$$

Here π_I and π_M are the profits of *Intel* and *Microsoft*.

INVESTIGATION

The first-order conditions for *Intel* problem gives us its solution:

$$(8) \quad \frac{d\pi_I}{dc_I} = 0 \Leftrightarrow q_{\max} \frac{C_I - 2c_I + v_I}{C_I} = 0 \Leftrightarrow c_I^* = \frac{C_I + v_I}{2} ,$$

and the maximal profit of *Intel* is

$$(9) \quad \pi_I^* = q_{\max} \frac{(C_I - v_I)^2}{4C_I^2} - f_I .$$

Then *Microsoft*'s best response function could be found from the following conditions:

$$(10) \quad \left. \frac{\partial \pi_M}{\partial c_M} \right|_{c_I = c_I^* = \text{const}} = 0 \Leftrightarrow q_{\max} \left(\frac{C_I + v_M - c_I^* - 2c_M}{C_I} \right) = 0 \Leftrightarrow c_M^* = \frac{C_I + v_M - c_I^*}{2} \Leftrightarrow c_M^* = \frac{C_I + 2v_M - v_I}{4} ,$$

and the maximal profit of *Microsoft* is

$$(11) \quad \pi_M^* = q_{\max} \frac{(C_I - 2v_M - v_I)^2}{16C_I} - f_M .$$

RESULTS

We can see that

$$(12) \quad \frac{\partial c_M^*}{\partial c_I^*} = -\frac{1}{2}$$

which means that if *Intel* raise the price by \$1 then *Microsoft* should cut the price by 50 cents.

Let us find the conditions when *Intel*'s profit is greatest than *Microsoft*'s:

(13)

$$\begin{aligned} \pi_I^* > \pi_M^* &\Leftrightarrow q_{\max} \frac{(C_I - v_I)^2}{4C_I^2} - f_I > q_{\max} \frac{(C_I - 2v_M - v_I)^2}{16C_I} - f_M \Leftrightarrow q_{\max} \frac{4(C_I - v_I)^2 - (C_I - 2v_M - v_I)^2}{16C_I(f_I - f_M)} > 0 \Leftrightarrow \\ &\Leftrightarrow q_{\max} \frac{(3C_I - 3v_I - 2v_M)(C_I + 2v_M - v_I)}{16C_I(f_I - f_M)} > 0. \end{aligned}$$

We can assume that $f_I > f_M$, $C_I + 2v_M > v_I$, therefore *Microsoft's* profit is greater than *Intel's* if and only if

$$(14) \quad v_M < \frac{3(C_I - v_I)}{2},$$

and this condition is executed in practice.

The competitive interactions between *Windows* and *Linux*, *Intel* and *AMD*, *Microsoft Office* and *OpenOffice* will be discussed, and the mechanism of the conflict when *Intel* sets prices too high and supports *Linux* team, the major competitor of *Microsoft*, while *Microsoft* releases new versions too late and backs *AMD*, *Intel's* main competitor.

The differences between this model and a model when there are just two vendors of complementary products (*Intel* and *Microsoft*) are discussed as well.

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THE PREDICTIVE VALIDITY OF THE NOWICKI-STRICKLAND & LEFCOURT I/E SCALES FOR ACADEMIC SUCCESS

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ABSTRACT

Selecting students for university is a world wide problem. Traditionally, school achievements were used as selection criteria to gain access to South African universities. An alternative procedure namely locus of control is therefore researched. Significant relations were found between academic success in average major subject and locus of control.

INTRODUCTION

At universities there are frequently more applicants than available vacancies as confirmed by van der Vyfer (1984:1), Brink (1999:518), Gourley (1992:71), Engelbrecht (1993:1) as well as Singh (2000:5). Universities are confronted daily with issues relating to the formulation of admission requirements for prospective students, in order to ensure academic success. If a valid measure were to be found to predict academic success, this would not only prevent personal failure, but also bring about financial savings for both the student and the university. (Herman, 1995:264; van der Merwe and de Beer, 2006:547; Visser and Hanslo, 2005:1160). With the quick changes in South Africa's labour situation it can be expected that labour unions and individual employees will continuously question the fairness of present selection techniques. The issue of fairness in testing relates to a concern for securing equality of opportunity for all, which is often interpreted as selecting those individuals who are most likely to be successful (Eiselen, Strauss and Jonck, 2007:39).

Mitchell and Fridjhon (1987:559) mention that only a small percentage of students with matriculation exemption attend universities or other university institutions, therefore it appears that examinations that hold additional advantages for future achievements assist a minority of students rather than a majority. Admission tests will always be controversial. However, tests which do not discriminate will be less controversial if they lead to accurate predictions.

MEASURING INSTRUMENT - ROTTER/NOWICKI-STRICKLAND AND LEFCOURT I/E SCALES

Description

Locus of control is a personality variable that has been defined as a generalised expectancy that rewards, reinforcements or outcomes in life that are controlled by one's own actions (internally) or by other forces (externally) according to Spector (1988:335), Klein and Wasserstein-Warnet (2000:9).

The concept “locus of control” was created by Rotter (1966:2) who described the internal-external locus of control construct as a generalised expectancy, relating behaviour to reinforcements in a variety of situations as mentioned in Lefcourt (1983:15). The internal pole of this continuum refers to the individual’s belief that outcomes are a consequence of own striving, ability and initiative. The external pole, on the other hand, refers to the individual’s belief that outcomes are independent of own behaviour according to O’ Brien (1986: 134) and confirmed by Le Roux, Schmidt and Scheepers (1997:2).

Internal locus of control is a generalised expectancy that a person’s own attempts will result in a positive reward. If a person perceives that external factors such as luck, faith or other influential people, are responsible for rewards it indicates an external locus of control according to de Kock and Roodt (1995:12), Thebe (1992:12), as well as James (1957:84).

The largest body of empirical data about perceived control is provided by Rotter’s (1954) social learning theory. The role of reinforcement, gratification and regard plays a crucial role in determining behaviour. Brewin (1988:110) argues that this construct reflects the degree to which individuals believe that reinforcements, such as the good and bad things that happen to them, are under their own control or under the control of external factors such as chance.

Rotter (1966:1) formulates the following definition of locus of control:

“When a reinforcement is perceived by the subject as following some action of his own but not being entirely contingent upon his action, then, in our culture, it is typically perceived as the result of luck, chance, fate, as under the control of powerful other, or as unpredictable because of the great complexity of the forces surrounding him. When the individual interprets the event in this way, we have labelled this a belief of external control. If the person perceives that the event is contingent upon his own behaviour or his own relatively permanent characteristics, we have termed this belief as an internal control.”

Locus of control is not an expectancy concerning a particular type of reinforcement but rather a problem solving generalised expectance, addressing the issue of whether behaviours are perceived to be instrumental to goal attainment regardless of the specific nature of the goal or reinforcer. It focuses on the belief that a response will, or will not, influence the attainment of a reinforcement according to Deci and Ryan (1985:167).

Lefcourt (1983:26) states that a person’s actions are predicted on the basis of values, expectations, and the situation. The formula for prediction of behaviour at a specific time and place is:

$$BP_{x, S_1, R_a} = (E_{x, R_a, S_1} \& RV_{a, S_1})$$

This formula reads:

the potential behaviour x to occur in a situation 1 in relation to a reinforcement, a is a function of the expectancy of the occurrence of reinforcement a following behaviour a , in situation 1, and the value of reinforcement a in situation 1. In this formulation the importance of expectancies is not secondary to values. This equal emphasis upon value, expectancy of reinforcement, and situational specificity makes Rotter’s theory unique among learning theories which, more commonly, accentuate only the value or motive end of predictive formulas.

The more general formula of Rotter’s theory explicates the place of perceived control within social learning theory and reads as follows:

$$NP = f (FM \& NV)$$

The potentiality of occurrence of a set a behaviours that lead to the satisfaction of some need (need potential, NP) is a function of both the expectancies that these behaviours will lead to these reinforcements (freedom of movement, FM) and the strength or value of these reinforcements (need value NV).

CRITERION OF SUCCESS

Plug, Louw and Meyer, (1997:196) defines a criterion as a variable, which provides an acceptable indication of what a psychological test should measure, and it can be used to investigate the empirical validity of a test.

Academic achievement is a complex and multi-faceted phenomenon, which encompasses numerous aspects. Knowledge of the factors influencing academic achievement sheds little light on accurately describing academic achievement. University achievement in contrast to school achievement is more complex. School achievement is defined as the achievement at school in the results of a final examination. At school level a student either passes a grade year or fails it. At university level a student accumulates credits for individual subjects, although the student may not necessarily be promoted to the next academic year, (Monteith, 1988:23).

As a result of this more complex promotion system, at university institutions, academic achievement is not easily defined. Add to that the problem of:

- diverge study fields;
- differences of requirements and standards in diverge study fields; as well as
- differences between various faculties.

Generally university academic achievement is defined as the ability of a student to obtain his/her degree or diploma within the prescribed period indicated by the institution according to Fourie (1992:3) and confirmed by Stoker, Engelbrecht, Crowther, du Toit and Herbst (1985:26).

If the method that a student uses in his/her studies could be based on a criterion scale, university achievement could be tuned in more detail. This will result in canvassing the limitations of the pass versus fail dichotomy and a better usable norm will be established. Diverse study fields, differences in evaluation measurements and promotion systems and especially different perceptions of university achievement contribute to the difficulty to lay down a generally accepted norm according to which a student's university achievement can be expressed in a qualitative manner. Different perceptions of what should be used as a point of reference when a norm for university achievement is determined, inevitably result in different norm scales. Examination results obtained in different subjects are the traditional criterion according to which academic achievement is evaluated according to Fourie (1992:4) and Louw, Meyer and van Schalkwyk, (1998:150).

Although examination results do not offer a complete representation of academic progress and adaptation, it is regarded as the most significant aspect of these processes. Examination papers in different subjects cover the work of a semester or year. These are meticulously compiled, administered and marked therefore it is fair to accept that examination results provide a valid and reliable indication of academic achievement.

The assumptions used in this research are the following:

- The percentage of a student's final mark in an examination, and specifically the major subjects, is an objective measurement of university achievement;
- A mark obtained in a specific subject is equal to the same mark obtained in another subject, provided the subject level is equal. Factors such as evaluation standards or differences in complexity between different subjects are not taken into account but condoned, because the pass mark is 50% for every subject.;
- The degree of difficulty of different subjects on the same level is the same therefore Human Resources Management 1 is not more difficult than Industrial Engineering 1; and
- The prescribed syllabi in one faculty are weighted equally to that of another faculty consequently a first-year course in Environmental Sciences earning 12 credits is equal to a first-year course in Economic Sciences consisting of 14 credits;

Smith (1979:42) confirms the above assumptions as a point of departure in formulating criteria for university selection.

METHODOLOGY

All first-year, second-year and third-year students studying Human Resources Management (n=286) and Industrial Engineering (n=57) were included in the sample. Students completed the Rotter/Nowicki- Strickland and Lefcourt I/E scales and the examination results of the two major subjects namely Human Resources Management and Industrial Engineering were gathered. The SPSS for windows was used for statistical analysis.

RESULTS

Descriptive statistics

Table 1: Descriptive statistics of the Rotter/Nowicki-Strickland & Lefcourt I/E Scales (N=286)

	Minimum	Maximum	Mean	Standard error of the Mean	Standard Deviation	Variance	Skewness	Kurtosis
Rotter	12.00	65.00	27.2448	.3306	5.5910	31.259	1.186	8.180

Table 1 indicates that the distribution of the Rotter/Nowicki-Strickland & Lefcourt I/E Scales are skewed with the skewness coefficients greater than zero. The kurtosis values show that the distribution is not in the form of a bell curve but leptokurtic ≥ 0.263 .

Table 2: Comparative descriptive statistics of Industrial Engineering and Personnel Management students (N=343)

		N	MEAN	STANDARD DEVIATION	STANDARD ERROR OF THE MEAN
Rotter	Industrial Eng	61	28.4918	4.5520	.5828
	Personnel Man	225	26.9067	5.8037	.3869

Multiple Regression Analysis

Human Resources Management as a dependent variable

Regression analysis was conducted on the various measuring instruments in order to predict the Personnel Management mark. The following results regarding the measuring instruments were found:

Table 3: Coefficients of the model tested (N=286)

	Unstandardised Coefficients	Std. Error	Standardised Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	29.055	59.821		.486	.628
Rotter	.473	.150	.219	3.147	.002

The shaded value as indicated in Table 3 indicates a significant contribution to the model.

Industrial Engineering as a dependent variable

Regression analysis was conducted on the Rotter/Nowicki-Strickland & Lefcourt I/E Scales in order to predict the Industrial Engineering mark.

Table 4: Coefficients of the model tested (N= 286)

	Unstandardised Coefficients	Std. Error	Standardised Coefficients	T	Sig.
	B	Std. Error	Beta		
Rotter	.532	.500	.182	1.064	.294

Table 5: T-test of measuring instruments (N=286)

		LEVENE'S TEST FOR EQUALITY OF VARIANCES		T-TEST FOR EQUALITY OF MEANS				T-TEST FOR EQUALITY OF MEANS		
		F	SIG.	T	DF	SIG. (2-TAILED)	MEAN DIFFERENCE	STD. ERROR DIFFERENCE	95% CONFIDENCE INTERVAL OF THE DIFFERENCE	
									Lower	Upper
Rotter	Equal variances assumed	2.336	.128	1.974	284	.049	1.5851	.8030	4.534E-03	3.1657
	Equal variances not assumed			2.266	118.380	.025	1.5851	.6996	.1999	2.9704

($p \leq 0.05$)

The shaded values in Table 5 indicate significant relations between academic success in average University major subject and the Rotter/ Nowicki-Strickland Lefcourt I/E scales.

CONCLUSION

Selecting students for university study is a world wide problem. Traditionally, scholastic achievements were used as selection criteria to gain access to South African university institutions. An alternative procedure is therefore researched and the focus had to move to assessing the individual's ability to achieve academic success.

It is concluded that admission to Universities cannot depend solely on school results and that milieu limitations regarding education systems, social and economic factors must be taken into consideration. This sets new challenges to Universities.

One of the limitations of this study is that the number of Industrial Engineering students included in the sample was only 57.

The validity and reliability of the Nowicki-Strickland Lefcourt I/E scales can contribute significantly to the journey of fine-tuning admission models. The results indicates the Nowicki-Strickland Lefcourt I/E scales predict academic success and that a student should obtain a mark of 30 or more in this instrument

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THE EFFECTS OF PERCEPTIONS ON FEEDBACK SEEKING BEHAVIORS OF EMPLOYEES

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ABSTRACT

This study investigates whether perceptions about task importance and performance level influence the way employees seek performance feedback. The findings indicate that task importance and performance level affect the propensity of seeking feedback through direct inquiry from supervisors and peers. When employees are engaging an important task, they are more likely to request feedback from their supervisors and peers. Similarly, when employees feel that their performance is below the average (thus expect negative feedback), they are more likely to request their supervisor to indicate his/her opinions about the performance. Contrary to expectations, the interaction effect of task importance and perceived performance level is found to be insignificant. Employees are not more likely to seek feedback when they demonstrate below average performance at important tasks. Results are discussed together with their implications.

INTRODUCTION

Ambiguity, change and uncertainty are unavoidable features of our lives. To reduce the tension created by ambiguity and uncertainty, we try to gather information either by asking questions to other people or monitoring the environment (Ashford, 1986). This information seeking seems to have an instrumental value for people who want to clarify the uncertainties and make sense of things happening around them. Realizing its importance, many researchers conducted studies about information seeking concept, which includes feedback seeking concept as well (e.g., Ashford, 1986; Morrison, 2002; Tuckey, Brewer & Williamson, 2002).

The article written by Ashford and Cummings (1983) stimulated the research on employee feedback seeking. In this article, Ashford and Cummings defined feedback seeking concept as “conscious devotion of effort toward determining the correctness and adequacy of behaviors for attaining valued end states”. To clarify this definition, Ashford and Cummings listed the situations in which employees are more likely to seek feedback. They proposed that individuals are more likely to seek feedback to reduce uncertainty about what goals to pursue, to understand what behaviors are required to achieve the goals, to learn how their behaviors are being evaluated by others, and to achieve sense of competency. After Ashford and Cummings’s (1983) article, other researchers started to investigate the antecedents and consequences of feedback seeking behaviors. In these studies, researchers either investigated attitudinal aspects (the motives for seeking feedback) (e.g., Ashford, 1986; Battman, 1988) or behavioral aspects of feedback seeking concept (from whom to seek feedback, in what frequency to seek feedback, etc.) (e.g., Fedor, Mathieson, & Adams, 1990; Larson, 1989). In a number of studies, both attitudinal and behavioral factors were considered to see whether certain attitudes were related to certain feedback seeking behaviors (e.g., Tuckey et al, 2002) To better understand the feedback seeking mechanism, the attitudinal and behavioral aspects of feedback seeking need to be examined closely.

This study investigates how perceptions about task importance and expected feedback sign affect employee’s feedback seeking behaviors. More specifically, employees’ willingness to seek feedback and the choice of people from whom they prefer obtaining feedback are assumed to be affected by their feelings about the importance of the task and expectations about the sign of the feedback (positive or negative feedback). There are studies about the effects of expected feedback sign on feedback seeking behaviors of employees, yet to the knowledge of the authors, there is no specific study that investigated the joint effects of task importance and

expected feedback sign. This study seems to be unique in this respect. Moreover, this study is expected to reveal people's motives for searching performance information by taking perceptions into account. For example, if employees avoid asking performance-related questions to their supervisors when they expect negative evaluations, it may indicate the existence of image and ego concerns, which could be maladaptive for the organization. To enhance their image in the eyes of others, employees may search for performance information even if they are performing a trivial task or they are performing well thus expecting positive evaluation.

As it can be realized, majority of the studies listed in this article were conducted in Western, industrialized countries. There is a need for conducting research in countries that are not fully industrialized and have different cultural orientations because culture may affect people's perceptions about the value and cost of the feedback. For example, people living in a country that is characterized with high power distance may be reluctant to seek feedback from their supervisors and instead seek feedback by asking questions to their peers. Being conducted in Turkey, this study has a potential to contribute to the literature regarding the cross cultural differences in feedback seeking attitudes and behaviors. Results could give valuable insights about the behaviors of employees from countries that are applying Western management practices and holding traditional values like Turkey.

In order to understand how people seek feedback, it is necessary to understand the motives (namely what induces people to search feedback?) behind this information search. In the following section, attitudinal side of the feedback seeking (motives) is explained in detail.

ATTITUDINAL ASPECT OF FEEDBACK SEEKING: THE MOTIVES

Because feedback is valuable, people often proactively seek it from others rather than passively wait for it. In this active information search, however, people may have different motives. Some people may seek feedback in order to make others aware of their good performance; whereas others may seek it in order to understand their mistakes and obtain diagnostic information. These different motives may affect when (after good or bad performance), from whom (from supervisor or peers), and how people search for feedback (by asking questions or monitoring).

In their studies, Ashford and Cummings (1983) and later Morrison and Bies (1991) mentioned about three different motives that may instigate certain feedback seeking behaviors. These are desire for useful information, which is related to instrumental value of feedback; desire to protect ego and self esteem from the threat of negative feedback, which is related to the self protection motives of people; and desire to control the impressions of others, which involves both defensive and assertive impression management desires.

According to Ashford and Cummings (1983), individuals are motivated to seek feedback from relevant others because feedback can give information about goals worth pursuing, likely rewards associated with goal attainment, behaviors most relevant to goal attainment, and the evaluation of the performance. Because of the instrumental value of feedback, many researchers (e.g., Ashford & Cummings, 1983; Battman, 1988) claim that people have a desire for obtaining useful information and this desire increases their propensity of feedback seeking. Studies conducted so far have supported this claim because there is evidence consistent with feedback seeking being motivated by the "*desire for useful information*" (Tuckey, Brewer, & Williamson, 2002).

Although accurate self relevant information is more instrumental for attaining goals and achieving desired outcomes, people appear to have an overwhelming preference for favorable information about themselves that help them maintain a positive self view (Ashford, Blatt, & VandeWalle, 2003). With this self enhancing motive (named as desire to protect ego and self-esteem motive), people may avoid (e.g., Ashford & Cummings, 1983), distort (e.g., Morrison & Cummings, 1992), or deemphasize the value of feedback (e.g., Roberson, Deitch, Brief, & Block, 2003) if they feel that feedback can hurt their pride and ego.

Besides these two motives (desire for useful information and desire to protect ego and self-esteem), "desire to control impressions in the eyes of others" motive may lead people to seek (or not seek) in feedback. People having defensive impression motives generally avoid creating negative impression. This avoidance was

found to be related to increased nervousness and anxiety in the feedback receiving and seeking process (Northcraft & Ashford, 1992). For people having this motive, public delivery of feedback pose significant risks because of the possible negative feedback that may be received. Studies assessing such concerns have shown that public requests for feedback (e.g., Northcraft & Ashford, 1992; Levy, Albright, Cawley, & Williams, 1995; Northcraft & Ashford, 1990) and public delivery of feedback (e.g., Northcraft & Ashford, 1990) inhibit feedback seeking, especially when performance expectations were low. People having defensive impression motives were more likely to inhibit their explicit feedback seeking activities when public feedback was given (Northcraft, & Ashford, 1990).

People weigh the instrumental or ego benefits of feedback against potential image costs and when individuals fear that feedback will damage their images, they may sacrifice the instrumental benefits of that feedback (Northcraft & Ashford, 1990, 1992). However image considerations need not be strictly defensive. Morrison and Bies (1991) argue that individuals' images can be enhanced as well as harmed by feedback seeking. They proposed that individuals sometimes attempt to enhance their images by seeking positive feedback even if it has no instrumental value. For example, people may seek additional feedback after a favorable performance review, or they may seek feedback from those with whom they have a good relationship. These assertive impression management tactics may affect from whom, when, and how to seek feedback.

Relative salience of these three motives depends largely on perceived value and perceived cost of the feedback (e.g. ego and image costs). Instrumental value of the feedback is related to usefulness of the information and could be affected by variety of factors such as task difficulty and importance. Perceived cost of the feedback, on the other hand, is much more related to the expected sign of the feedback. In the following sections, the effects of feedback sign and task importance on feedback seeking behaviors are discussed.

The Effects of Feedback Sign and Task Importance on Feedback Seeking

The desire to seek performance feedback depends in large part on whether the seeker expects the feedback to be favorable (Ashford & Cummings, 1983). This creates a conflict for individuals who believe they are performing poorly- a conflict between the desire to obtain diagnostic information (to improve their performance) and the desire to protect their self esteem by avoiding negative information about themselves (Morrison & Cummings, 1992). Studies investigating this conflict yielded mixed results. Some studies found that individuals are motivated most strongly by the desire to obtain diagnostic information about their abilities and performance (e.g., Trope, 1975; Trope & Bassock, 1982). Other studies, however, found that desire for protecting self esteem takes precedence and becomes more salient motive for people (e.g. Meyer & Starke, 1982; Sachs, 1982; Swann & Read, 1981). Depending on the expected feedback sign, individuals could increase or decrease their feedback search or use more defensive methods such as monitoring or an aggressive method such as direct inquiry.

Perceived importance of the task, however, may change employees' attitudes toward negative feedback. Diagnostic value of the feedback may outweigh the perceived cost of the feedback for important tasks because the consequences of poor performance in such tasks are generally severe. Thus when engaging important task, employees may prefer seeking feedback even when they expect negative information which threatens their ego and images. They may ask questions to their supervisors and peers about their performance level even though this could highlight their deficiencies and hurt their image.

Many researchers mentioned about two methods by which individuals seek feedback (e.g., Ashford, Blatt, & VandeWalle, 2003; Vancouver, & Morrison, 1995). These methods are direct inquiry and monitoring. Direct inquiry involves explicit verbal requests for feedback. Individuals using this tactic ask questions in order to obtain the needed information. Monitoring, on the other hand, is an indirect method of feedback seeking. It involves observing aspects of the environment, particularly other people, that provide indications of how one is doing, how one compares to others (e.g., Festinger, 1954), and what other people think of oneself (e.g., Jones & Gerard, 1967). From these observations, a feedback message is extracted (Ashford, Blatt, & VandeWalle, 2003). Individuals may prefer seeking feedback through direct inquiry because this method provides opportunities to clarify potential ambiguities in messages received (Miller & Jablin, 1991). However, inquiry exposes the

seeker's uncertainty and need for help. It may draw attention to deficiencies, which makes this feedback seeking method ego and image threatening. As a covert feedback seeking tactic, monitoring reduces these image and ego costs substantially. Yet, since information is inferred from nonverbal behaviors of the supervisors and peers, the quality of interpretation determines the quality of feedback gathered in monitoring.

Since feedback gathered with direct inquiry could be more direct and informative compared to feedback gathered with monitoring, this feedback seeking method could be more instrumental for employees engaging difficult tasks. On the other hand, employees could be hesitant to seek feedback through direct inquiry because asking questions draws attention to performance, which is not desirable especially when expecting negative feedback. Since perceptions about task importance and feedback sign are expected to affect the propensity of seeking feedback through direct inquiry more, this study will focus only on direct inquiry as a mode of obtaining feedback.

To the knowledge of authors, there are no specific studies investigating the interaction between performance level and task importance. Yet considering people's desire for obtaining diagnostic feedback, it seems reasonable to expect them to seek feedback when engaging difficult tasks:

Hypothesis 1: Employees are more likely to seek feedback by asking questions to their supervisors about their performance at important tasks.

Hypothesis 2: Employees are more likely to seek feedback by asking questions to their peers about their performance at important tasks

By showing the mistakes, negative feedback may enable employees to improve their performance, which is not possible with positive feedback. Despite the diagnostic nature of negative feedback, people may avoid seeking it because of image concerns. For unimportant tasks, the perceived usefulness of negative feedback may decline and people prefer seeking feedback only when they expect positive evaluation. For important tasks, however, the perceived usefulness of negative feedback is expected to make people more willing to seek negative feedback because mistakes at important tasks can be severe.

Hypothesis 3: Employees are more likely to seek performance feedback by asking questions to their supervisors when they expect negative feedback.

Hypothesis 4: Employees are more likely to seek performance feedback by asking questions to their peers when they expect negative feedback.

Hypothesis 5: Employees are more likely to seek performance feedback by asking questions to their supervisors when they expect negative feedback at important tasks (compared to unimportant tasks)

METHOD

Participants:

A total of 246 questionnaires were distributed to the employees of private and state-owned companies operating in different industries in Turkey. Two hundred four questionnaires were returned by the respondents, constituting an 83 % response rate. Majority of the participants (N = 125) were working at private-owned companies, which were either banks, ground service providers or pharmaceutical firms. The remaining participants (N = 79) were working at public banks of Turkey. All participants were white-collar employees, who had at least one supervisor and one peer from whom they could obtain feedback. Regardless of the company they were working for, all participants were responsible for providing services to customers and preparing reports if requested. In this respect, combining data from the employees of different companies and industries did not seem to be a problem. However, the effects of ownership and company type were controlled by dummy coding these variables.

Majority of the participants were female (53.4%), quite young (the average age = 32.19 years with a mode of 28 years) and high educated (70.1% of participants had bachelor of science degree). The average tenure of the participants at the present company was 6.25 and the average total tenure (number of years spent working) was 9.55 years. In Table 1, the characteristics of the sample are presented in detail.

Table 1: Sample Characteristics

Variables	Frequency	% of all sample	Mean	Std. Dev
<u>Gender</u>				
Male	95	46.6%		
Female	109	53.4		
<u>Education</u>				
High School	30	14.7		
O. High School	15	7.4		
University	143	70.1		
Master of Sc.	14	6.9		
PhD	2	1		
<u>Position tenure</u>			6.25	6.58
<u>Total Tenure</u>			9.55	6.82
<u>Age</u>			31.19	6.87

Note: Position tenure, total tenure and age were measured in years.

Measures

The questionnaire package used in this study consisted of two sections. The first section included questions about demographic measures, namely, sex, age, and education, and questions about employment status, namely, tenure at the position and total tenure. The second section composed of four hypothetical situations which were written to create perceptions about performance level and task importance. Participants were requested to imagine a situation in which they exhibited above/ below average performance at an important or unimportant task. In the first and second hypothetical situations, participants were asked to imagine a situation in which they performed *well* (perform above the average) and perform badly (perform below the average) at *an important task respectively*. In the third and fourth hypothetical situations, participants were asked to imagine a situation in which they performed *well and badly at an unimportant task*. Since the order of hypothetical situations may affect the responses of the participants, four different versions were prepared. In these versions, the order of hypothetical situations was changed. Then participants were asked to indicate how frequently they would ask feedback from their supervisors (e.g., “I would go to my supervisor, ask his/her opinions about my performance and request him/her to give feedback”) and peers (e.g., “I would request my peers to indicate his/her opinions about my performance”). Ratings were again done on a five-point scale (1 = Never; 2 = Seldom; 3 = Sometimes; 4 = usually, and 5 = Always). High scores indicate greater propensity to seek feedback through direct inquiry from supervisors and peers.

RESULTS

In order to investigate the effects of perceived task importance and performance expectancy on feedback seeking behaviors, 2x2 repeated measures ANOVA were conducted for each feedback seeking behavior listed in hypothetical situations (See Table 2). The effects of demographic variables on dependent variables turned out to be insignificant, thus they are not presented in Table 2.

According to the results of analyses, employees were more likely to request feedback from their supervisors when they perceived task as important ($F = 3.88; p < .05$). That is, mean frequency of direct inquiry from supervisors was higher when task was regarded as important (for important tasks, mean frequency of direct inquiry from supervisors = 2.99, for unimportant task, mean frequency of direct inquiry from supervisors = 2.85). So Hypothesis 1 was supported.

Table 2: Results of Repeated Measures ANOVA: Comparison of Hypothetical Situations for Specific Feedback Seeking Methods

	F	Task Important M	Task Unimportant M	Performance Above M	Performance Below M
Direct Inquiry (Supervisor)					
Task Importance	3.88*	2.99	2.85	-	-
Performance Level	16.17**	-	-	2.74	3.10
Task Importance X Performance	2.94	-	-	-	-
Direct Inquiry (Peers)					
Task Importance	11.86**	3.00	2.78	-	-
Performance	1.53	-	-	2.86	2.94
Task Importance X Performance Level	.81	-	-	-	-

Note. Task importance was measured with two levels: 1= Important task, 2= Unimportant task. Performance Level was measured with two levels: 1= Above Average, 2= Below Average Performance. All feedback seeking behaviors were measured with 5-point Likert scale. $p < .05$, $p^{**} < .01$. M = means

Employees seem not to rely solely on supervisor's opinions; they also try to get the opinions of their peers. For important tasks, they strived to gather feedback from their peers by asking questions about their performance ($F = 11.86$, $p < .01$; mean frequency of direct inquiry from peers at important task = 3.00, versus mean frequency at unimportant task = 2.78). Hypothesis 2 was fully supported.

The results of the ANOVA supported the Hypothesis 3. In other words, employees are willing to request performance-feedback from their supervisors even though they expected negative feedback. ($F = 16.17$, $p < .01$; for below average performance situations, mean frequency of direct inquiry from supervisors = 3.10 versus for above average performance situations, mean frequency = 2.78). Employees seem to behave rationally and strive to obtain feedback from their supervisors although this feedback could highlight their deficiencies and hurt their image and ego. Although employees are willing to request performance-feedback from their supervisors, they are not willing to request performance-feedback from their peers when they perform below the average ($F = 1.53$, $p > .01$; for below average performance situations, mean frequency of direct inquiry from peers = 2.94 versus for above average performance situations, mean frequency = 2.86). Lastly, the interaction effects of task importance and perceived performance level (expected feedback sign) were not significant for both direct inquiry from supervisors and peers ($F = 2.94$, $p > .05$ and $F = 0.81$, $p > .05$). That is, employees are not willing to seek more feedback when they perform below the average, thus expect negative feedback at important tasks. Importance of the task could not alleviate the desire for seeking feedback for employees who expect negative feedback. So hypothesis 5 was not supported.

DISCUSSION

The aim of this study was to investigate the effects of perceived task importance and performance level on frequency of requesting feedback from supervisors and peers. Results demonstrated that employees are more likely to request feedback from their supervisors and peers when they see task as important. Employees may be willing to seek feedback because the consequences of poor performance are severe in important tasks, and feedback may provide invaluable information about what goals to pursue and how to achieve these goals.

Analyses also revealed that employees requested feedback from their supervisors when they performed poorly. Although asking direct questions about performance could draw attentions to deficiencies and expose their need for help, employees seemed to prefer using this method (i.e., direct inquiry). Several explanations could be offered for this finding. Firstly, employees might have preferred this method because they may have thought of asking direct questions as the best way of understanding the reasons for failure. Employees seemed to

have accepted short-term unpleasantness of negative feedback for the purpose of long run benefits, such as performance improvement and gaining mastery (Audia & Locke, 2003). Secondly, employees might have preferred seeking negative feedback from their supervisors because they wanted to seem as conscientious and responsible. As Larson (1989) states, employees may seek negative feedback in order to mitigate the reactions of their supervisors about poor performance. According to Larson, employees, who actively seek performance feedback from their supervisors, may catch their supervisor before the buildup to negative feedback is complete. If this happens, supervisor may see the performance problem less severe and may get less emotionally involved (i.e., angry). If employees seek negative feedback, they may reduce the reactions of their supervisors. In this study, employees might have requested negative feedback from their supervisors because they believed that negative feedback would be given anyway and it was better to mention about poor performance before problems became much more severe.

Employees are willing to seek feedback from their supervisors and peers when they deal with an important task or when they perform below the average, Yet they are not more willing to seek feedback when they perform below the average at important tasks. In other words, importance of the task could not induce employees to seek negative feedback. Performing below the standards at a particular task (regardless of its perceived importance) seems to be enough for inducing employees to seek feedback. Desire for seeking negative feedback even for trivial tasks demonstrates that employees want to obtain diagnostic information and behave rationally.

Although this study did not directly measure cultural values, it could have contributed to the cross cultural understanding of feedback seeking. As it is known, collectivist societies place relatively little emphasis on assertion of individual needs and rights. There are social norms against direct communication and against discussing one's performance openly (Morrison, Salgado, & Chen, 2004), and this could affect the likelihood of seeking feedback through direct inquiry. In addition to collectivism, high power distance may reduce the use of direct inquiry by making employees reluctant about interacting with their supervisors and soliciting feedback from them. Collectivism and high power distance may increase the defensiveness and induce people to seek feedback through indirect means. The findings of this study, however, are not in line with the above expectations. Although Turkish culture is characterized by high power distance and high collectivism (Aycan & Kanungo, 2000; Hofstede, 1980; Pasa, 2000), direct inquiry from supervisors was found to be one of the most preferred methods of feedback seeking. Participants preferred direct inquiry although this method draws attention to individual success or failure, which is not desired in the collectivist cultures. Paternalistic relationship between employees and supervisors, a characteristic of Turkish culture (e.g. Aycan & Kanungo, 2000), could have made employees more willing to seek feedback from their supervisors. In a paternalistic relationship, the role of superior is to provide guidance, protection, and care to the subordinate. Employees might have regarded their supervisors as mentor or guide, with whom they can discuss their performance, thus may be more likely to seek feedback from them. Future studies could investigate the role of cultural variables like paternalism, uncertainty avoidance on employees' feedback seeking behaviors.

LIMITATIONS AND FUTURE DIRECTION OF RESEARCH

The limitations of this study should be acknowledged while interpreting the findings and setting direction for future research. The major limitation was about the measurement of feedback seeking behaviors. Participants indicated the frequency of demonstrating feedback seeking behaviors after reading the hypothetical situations, which gave them information about the expected feedback sign and task characteristics. However, hypothetical situations may not have been powerful enough to create performance expectancies as intended. Although the analysis on the manipulation check item confirmed that people had understood the performance level described in the hypothetical situations, hypothetical situations might not have been powerful enough to create performance expectancies, as intended. In real life organizations, where meeting performance standards are essential to be successful, the cost of being incompetent is higher than the cost perceived in the scenarios. This perception difference could have affected the self-reported feedback seeking behaviors of employees in an unexpected way. The frequency of demonstrating feedback seeking behaviors in real life organizations might be different from the frequency reported in this study. Therefore, it is impossible to make firm judgments about the feedback seeking mechanism in organizations. Future studies could use observation or diary keeping techniques

to record feedback seeking behaviors of employees. These techniques may enable researchers to understand the feedback seeking motives and behaviors of employees in field settings.

Another limitation was about the way the data were obtained. The data of this study relied on self reports of the employees. This method was chosen because no other source could provide the detailed information about the feedback seeking behaviors of the employees. However, the use of purely self-report methodology to obtain information is questionable because the ability of participants to analyze and indicate their behavior can be biased by their need for achievement, security and social acceptance. Future studies could make use of other sources such as company reports, supervisor or peer opinions to obtain information about the feedback seeking behaviors of employees. This is also essential to minimize common method bias threat that existed for the present study.

Despite the limitations that are listed in here, this study hopefully gave important insights about how perceptions affected feedback seeking behaviors of employees. By testing the interaction effects of perceived task importance and performance level for the first time, the study hopefully filled the gap in the feedback seeking literature. Besides, the results of the present study have several implications for practitioners. In order to promote feedback seeking, practitioners should know what induces people to seek feedback. Perceived task importance and expected feedback sign seem to affect people's willingness to search for feedback by determining the benefits and costs of feedback. Although it could hurt their image and ego, employees are willing to hear negative feedback probably because they expect negative feedback to demonstrate their mistakes and provide guidance. Practitioners or top management can support this adaptive behavior persuading employees about the usefulness of the negative feedback and showing the expertise of the feedback provider. In order to make employees more willing to seek feedback, practitioners could make feedback sessions more constructive and private. Private and constructive feedback may lessen the perceived cost of seeking and receiving feedback.

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THE MODERATORS OF ATTITUDES AND PURCHASE INTENTIONS TOWARDS COUNTERFEITS OF LUXURY BRANDS

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ABSTRACT

The study aims to understand the moderators that would enhance the relationship between attitudes towards counterfeits of luxury brands and purchase intentions of Chinese consumers. Data collection was conducted in a major shopping complex in downtown Shanghai. A response rate of 14% was recorded. Findings reveal that both social and personality factors enhance the relationship of attitudes towards counterfeits of luxury brands and purchase intentions. However, only value consciousness was found to be insignificant moderator. Various implications were derived and limitations and future directions of the study were also delineated.

INTRODUCTION

The increase in world trade in recent years has spurred the growth of counterfeiting, especially in China (Wee et al., 1995; Bloch et al., 1998). Accompanied by globalization and technological advancements, counterfeits have become easier to manufacture and is low in cost to produce (Gentry et al., 2006). Furthermore, as the Chinese are fast becoming wealthier, the demand for luxury goods is also increasing. In conjunction, the demand for counterfeits of luxury brands is also increasing. Although, government officials have implemented intellectual property legislation is still riddled with loopholes and flaws. This allows counterfeit syndicates and manufacturers to continue with counterfeiting activities without heavy penalties and threats (Clark, 2006). While studies in the past have confirmed that attitudes towards counterfeits of luxury brands has a significant influence on purchase intentions (Phau and Teah, 2009; Wang et al., 2005), it has never been investigated whether any factors would enhance this relationship. As such, this study will examine the moderating factors that impact on the relationship between attitudes towards counterfeits of luxury brands and purchase intentions. The findings would allow practitioners and policy makers to formulate effective strategies to curb the counterfeiting problem in China.

This paper is organized into several sections beginning with a discussion on extant literature and hypotheses development. This is followed by a description of the research method. Lastly, the discussion of the findings and analysis, managerial implications and limitations of the study will next be presented.

LITERATURE AND HYPOTHESES DEVELOPMENT

Counterfeits are reproductions of a trademarked brand (Cordell et al., 1996), which are closely similar or identical to genuine articles. This includes packaging, labelling and trademarks, to intentionally pass off as the original product (Kay, 1990; Ang et al., 2001). Nia and Zaichkowsky (2000) stated that counterfeiting and piracy are in essence the same since they are both the reproduction of identical copies of authentic products. Even though the two terms have been used interchangeably, piracy is mainly related to software and fixed medium content such as film and music recordings (Ang et al., 2001). Research has also identified two types of consumers of counterfeit products. The first is a victim, who unknowingly and unintentionally purchases

counterfeit goods due to it being so closely similar to the genuine articles (Grossman and Shapiro, 1988; Bloch et al., 1993; Mitchell and Papavassiliou, 1997; Tom et al., 1998). However, the second is a willing participant or consumer of counterfeit products, wherein they sought out counterfeit products even when they knew that the products were illegal (Cordell et al., 1996; Prendergast et al., 2002).

Counterfeit products diminish the symbolic value of authentic luxury products and dilute the brand equity (Zhou and Hui, 2003). As counterfeits are cheaper alternatives of more expensive genuine products, there might not be a noticeable difference in perceived quality (Gentry et al., 2006), which will result in the erosion of genuine luxury brand equity (Grossman and Shapiro, 1988). According to Tom et al. (1998), consumers are more inclined to purchase products with a fashion component attached, such as is the case for luxury products. Consumers are willing to pay for the visual attributes and functions without paying for the associate quality (Grossman and Shapiro, 1988; Cordell et al., 1996). Consumers are also expected to prefer counterfeit products with a famous brand name attached that would present some meaning to the consumer (Cordell et al., 1996). This reinforces the concept that only brand names that are well known or worth counterfeiting are targeted for illegal production (Eisend and Schuchert-Güler, 2006).

Past research has examined the economic, quality, and legal or ethical factors that shape and influence attitudes of consumers (Cordell et al., 1996; Ang et al., 2001; Wang et al., 2005). Ultimately, the functional benefits are important when purchasing counterfeits of luxury brands. However, much more so is the desire to own the prestige and status symbol that the trademarked brand suggests (Cordell et al., 1996). More commonly price is also reflective of consumer attitudes towards the value of counterfeit products. Counterfeits of luxury brands are intentionally capitalizing on the fact that their products are positioned at a lower and more competitive price (Gentry et al., 2006). The general perception is that the low financial risks provide the added benefit for consumers to purchase counterfeit goods, as prices of counterfeits are relatively advantageous. In addition, because counterfeits are often at a lower price, the expectation of quality would not be equivalent to that of the genuine, hence satisfaction is easier to achieve (Eisend and Schuchert-Güler, 2006). However, the product quality of counterfeit products has been improving in recent years due to better technological advancement, bringing a competitive advantage to counterfeit products (Phau and Teah, 2009). It has been found that if the perceived product attributes between the genuine product and the counterfeit product are similar in terms of quality, the purchase intention will be higher (Wee et al., 1995; Penz and Stöttinger, 2005).

Furthermore, attitudes towards counterfeits of luxury brands are more enduring and are not easily altered by mood states and purchase situations (Penz et al., 2009). It has been suggested that attitudes can be moderated by external factors, whereby attitudes become less accessible (Penz et al., 2009). In view of the Chinese consumers, it is suggest that social factors which are normative and informational susceptibility towards social influence and collectivism; and personality factors such as value consciousness, integrity, personal gratification, novelty seeking, and status consumption will moderate the relationship between attitudes towards counterfeits of luxury brands and purchase intentions.

According to the theory of planned behaviour (TPB), the purchase behaviour is determined by the purchase intention, which is in turn determined by attitudes (Fishbein and Ajzen, 1975). Attitudes towards behaviour instead of towards the product are noted to be a better predictor of behaviour (Fishbein, 1967; Fishbein and Ajzen, 1975; Penz and Stöttinger, 2005). However, the theory also stated that the opportunities and resources, such as the accessibility of counterfeit products, must be present before purchase behaviour can be performed (Chang, 1998). Unethical decision making such as purchasing of counterfeits is explained largely by the attitudes, regardless of product class (Wee et al., 1995; Chang, 1998; Ang et al., 2001). The more favourable consumer attitudes towards counterfeiting are, the higher the chances that they will purchase counterfeit brands. It is therefore postulated that:

- H₁** There is a significant relationship between attitude and purchase intention towards counterfeits of luxury brands.

Social and Personality Factors

Two common forms of consumer susceptibility to social influences that affect consumer's behaviour are information susceptibility and normative susceptibility (Bearden et al., 1989). Information susceptibility is when a purchase decision is based on the expert opinion of others (Ang et al., 2001; Wang et al., 2005). The assurance of opinions of others plays an important role as a point of reference especially when consumers have little knowledge of the product category in question. If peers or reference groups were to have expert knowledge on the differences between originals and counterfeits (such as in product quality), the negative consequences of being perceived to purchase counterfeits, it will have an effect on consumers' perception towards counterfeits of luxury brands. Therefore, consumers would have a negative attitude towards counterfeits of luxury brands. On the other hand, normative susceptibility concerns purchase decisions that are based on the expectations of what would impress others (Ang et al., 2001; Wang et al., 2005; Penz and Stöttinger, 2005). As self-image plays a huge role, purchasing counterfeits of luxury brands does not enhance or portray a good impression.

A number of prior researches have stated that the Chinese collectivistic culture is one of the primary contributing reasons to high counterfeiting rates in China (Swinyard et al., 1990; Wang et al., 2005). Based on the Chinese philosophy, it is believed that people should share for the greater good of the community (Swinyard et al., 1990; Wang et al., 2005). Collectivism has been discussed as one of the factors in Asian societies to positively influence consumer attitudes towards pirated products and counterfeits (Wang et al., 2005).

While most consumers of luxury brands pursue the image and status benefits of a luxury product, they are less willing to foot the heavy price tag attached with it (Bloch et al., 1993). Counterfeits then serve as an alternative, whereby a lower price and a slightly substandard quality but still retaining the functional benefits of the original, counterfeits deem it as value for money (Lichtenstein et al., 1990; Wang et al., 2005). For consumers who are value conscious, they would have positive attitudes towards counterfeits of luxury brands.

Novelty seeking is defined as the curiosity of individuals to seek variety and difference (Wang et al., 2005). A consumer who is inclined to try new products would probably have positive attitudes towards counterfeits of luxury brands. Novelty seeking consumers are particularly inclined towards products with low purchase risk. Hence the low cost of counterfeit products are well suited to satisfying their curiosity and the need for experimentation (Wee et al., 1995).

In accordance to Kohlberg's (1976) moral competence theory, consumer's behaviours are affected by their personal sense of justice. The influence of basic values like integrity will affect the judgement towards succumbing to unethical activities (Steenhaut and van Kenhove, 2006). Integrity is determined by personal ethical standards and obedience towards law. If consumers view integrity as crucial, the chances of them viewing counterfeits of luxury brands in a positive light would be much smaller (Wang et al., 2005).

Personal gratification is the need for a sense of accomplishment, social recognition, and the desire to enjoy the finer things in life (Wang et al., 2005). Consumers with high sense of personal gratification would be more conscious of the appearance and visibility of fashion products. They are probably less prone to accept goods of slightly inferior quality. Consumers with a high sense of personal gratification will value the genuine versions of luxury products hence they will have a negative attitude towards counterfeits of luxury brands.

Status consumption has long been defined as the purchase, use, display and consumption of goods and services as a means of gaining status (Veblen, 1899; Eastman et al., 1997). Furthermore, it involves a social ranking or recognition that a group would award to an individual (Eastman et al., 1997), that is irrespective of social and income level. It is inaccurate to assume that only the wealthy are prone to status consumption (Eastman et al., 1997; Shipman, 2004). Status consumption is for consumers who are seeking self-satisfaction as well as to display their prestige and status to surrounding others usually through visible evidence (Eastman et al., 1997). Status consumers seek to possess brands that reflect their self-identity.

Based on the above discussion, the following hypotheses have been formulated:

- H_{2a}** Normative and information susceptibility moderates the relationship between attitudes towards counterfeits of luxury brands and purchase intention.
- H_{2b}** Collectivism moderates the relationship between attitudes towards counterfeits of luxury brands and purchase intention.

- H_{2c}** Value consciousness moderates the relationship between attitudes towards counterfeits of luxury brands and purchase intention.
- H_{2d}** Novelty seeking moderates the relationship between attitudes towards counterfeits of luxury brands and purchase intention.
- H_{2e}** Integrity moderates the relationship between attitudes towards counterfeits of luxury brands and purchase intention.
- H_{2f}** Personal gratification moderates the relationship between attitudes towards counterfeits of luxury brands and purchase intention.
- H_{2g}** Status consumption moderates the relationship between attitudes towards counterfeits of luxury brands and purchase intention.

METHODOLOGY

A mall intercept method was employed to collect data in a major shopping complex in downtown Shanghai, China. Every fifth shopper that crossed a designated spot outside the main entrance of the shopping complex was approached to participate in a self administered questionnaire. Data was collected over a two week period, including weekdays and weekends. A response rate of 14% was recorded. The ecological validity of the study has been improved by studying consumer attitudes and perceptions in a shopping environment (Hornik and Ellis, 1988; Nia and Zaichkowsky, 2000).

The survey instrument was developed in English and translated into Chinese by a professional native speaker. It was then back translated and checked for inconsistencies by another professional translator. Established scales were used from a number of sources (Bearden et al., 1989; Wang et al., 2005; Lichtenstein et al., 1990; Rokeach, 1973; Vinson et al., 1977; Wee et al., 1995; Eastman et al., 1997; Ang et al., 2001) and their reliabilities of the scales are all above 0.6, which is deemed reliable (Nunnally, 1979). Sections A and B measured social factors and personality factors. Section C examined attitudes and the purchase intentions towards counterfeits of luxury brands. Section D comprised of items regarding purchasing habits of counterfeit products and brands. Section E comprised of demographic information of respondents. All the scales used are measured on a 7-point Likert scale. In total, 270 questionnaires were collected and only 202 usable responses were retained for analysis using SPSS software version 14. It was recorded that 58.4% of the respondents were male. The percentage of buyers was higher than non-buyers, representing high counterfeiting rates in China (Eisend and Schuchert-Güler, 2006).

ANALYSIS AND RESULTS

Regression analysis was conducted between the attitudes towards counterfeits of luxury brands and purchase intention. Attitudes towards counterfeits of luxury brands significantly influences purchase intentions, accounting for an R^2 of 0.292 ($p < 0.000$, $\beta = 0.544$). It shows that if consumers hold positive attitudes towards counterfeits of luxury brand it will lead to a more positive purchase intention. Therefore, the findings are in support of H_1 .

Hierarchical moderated regression was conducted on the social factors, which are “information susceptibility”, “normative susceptibility” and “collectivism” on attitudes towards counterfeits of luxury brands and purchase intentions. As shown in Table 3, results showed that the three social factors are all significant moderators (Sig. = .000) of attitudes towards counterfeits of luxury brands and purchase intentions. The factors recorded a ΔR^2 of .052, .079 and .021 respectively. The results therefore support H_{2a} and H_{2b} .

Hierarchical moderated regression was then conducted on the personality factors, which are “personal gratification”, “value consciousness”, “integrity”, “novelty seeking”, and “status consumption”. It was revealed that all the personality factors were significant (Sig. = $< .05$) except for the factor “value consciousness” (Sig. = .05), deeming the factor an insignificant moderator of attitudes towards counterfeits of luxury brands and purchase intentions. The significant factors recorded a ΔR^2 of .038, .049, .095 and .072 respectively. The results are in support of H_{2c} , H_{2e} , H_{2f} and H_{2g} . However, H_{2d} is rejected.

Table 3: Results for Hierarchical Moderated Regression

Independent Variables	Sig.	R ²	F	df	Δ R ²	F Change	df	β
Attitudes	.000	.302	78.822	1	.302	78.822	182	-.550
Attitudes + Information Susceptibility	.000	.351	49.024	1	.049	13.718	181	-.549
Attitudes + (Attitudes + Information Susceptibility) + (Attitudes x Information Susceptibility)	.000	.403	40.561	1	.052	15.682	180	1.332
Attitudes	.000	.295	76.424	1	.295	76.424	183	-.649
Attitudes + Normative Susceptibility	.000	.468	80.028	1	.173	59.289	182	-.610
Attitudes + (Attitudes + Normative Susceptibility) + (Attitudes x Normative Susceptibility)	.000	.547	72.852	1	.079	31.595	181	1.658
Attitudes	.000	.299	75.891	1	.299	75.891	183	-.333
Attitudes + Collectivism	.000	.440	69.429	1	.141	44.443	182	-.205
Attitudes + (Attitudes + Collectivism) + (Attitudes x Collectivism)	.010	.461	50.096	1	.021	6.846	181	1.043
Attitudes	.000	.317	83.184	1	.317	83.184	179	-.627
Attitudes + Personal Gratification	.000	.440	69.943	1	.123	39.030	178	-.390
Attitudes + (Attitudes + Personal Gratification) + (Attitudes x Personal Gratification)	.010	.478	54.126	1	.038	13.034	177	1.358
Attitudes	.000	.302	78.580	1	.302	78.580	182	-.115
Attitudes + Value Consciousness	.000	.401	60.612	1	.100	30.086	181	-.091
Attitudes + (Attitudes + Value Consciousness) + (Attitudes x Value Consciousness)	.050	.414	42.392	1	.013	3.967	180	.766
Attitudes	.000	.301	77.602	1	.301	77.602	180	-.908
Attitudes + Integrity	.000	.349	47.972	1	.048	13.118	179	-.570
Attitudes + (Attitudes + Integrity) + (Attitudes x Integrity)	.000	.398	39.187	1	.049	14.422	178	1.469
Attitudes	.000	.309	80.972	1	.309	80.972	181	-.721
Attitudes + Novelty Seeking	.000	.457	75.879	1	.148	49.216	180	-.680
Attitudes + (Attitudes + Novelty Seeking) + (Attitudes x Novelty Seeking)	.000	.553	73.717	1	.095	38.108	179	1.659
Attitudes	.000	.291	73.068	1	.291	73.068	178	-.776
Attitudes + Status Consumption	.000	.498	87.751	1	.207	72.914	177	-.758
Attitudes + (Attitudes + Status Consumption) + (Attitudes x Status Consumption)	.000	.570	77.707	1	.072	29.430	176	1.868

* Dependent Variable: Purchase Intention

* Independent Variable: Attitudes = Attitudes towards counterfeits of luxury brands

DISCUSSION AND IMPLICATIONS

The findings have revealed and confirmed the relationship that attitudes towards counterfeits of luxury brands have a significant influence on purchase intentions (Phau and Teah, 2009; Wang et al., 2005). Furthermore, social factors moderate the relationship between attitudes and purchase intentions. There are numerous implications for brand managers to target consumers of counterfeits of luxury brands. It is found that if consumers have positive attitudes towards counterfeiting of luxury brands, the influence of their peers and information available will enhance their attitudes to induce positive purchase intentions. As such, it is very important for brand managers to formulate advertising campaigns that educate consumers on the “embarrassment” and low quality of counterfeits of luxury brands, such as potential health risks with faulty bag

straps. It is especially important for consumers who are susceptible to peer influence, especially in China whereby “face” among friends is very important (Li and Su, 2007). Furthermore, as a collectivism also enhances the relationship, if consumers realize that their support of counterfeits of luxury brands could well harm the overall welfare of the society with loss of jobs, physical harm and the negative consequences that counterfeiting has on the society, it could discourage the positive attitudes towards counterfeits of luxury brands.

In addition, personality factors are found to enhance the relationship between attitudes towards counterfeits of luxury brands and purchase intentions, with the exception of value consciousness. Personal gratification, integrity, novelty seeking and status consumption are significant and have a positive moderation effect on the relationship between attitudes towards counterfeits of luxury brands and purchase intentions. Unsurprisingly, novelty seekers and status consumers would be more likely to purchase counterfeits of luxury brands if their attitudes are positive would suggest that for the “fun” and variety seeking consumer, counterfeits of luxury brands offer that array of choice. As for status consumers, their possible lack of financial capability to afford the highly expensive luxury brands could be encouraged by the low price but high quality counterfeits of luxury brands in China as an alternative to the original. However, brand managers would have to beware that even consumers with high levels of personal gratification and integrity would be induced to purchase counterfeits of luxury brands if their attitudes towards counterfeits of luxury brands are positive. Therefore, it is important to understand that the counterfeiting phenomenon could well stem from consumers’ attitudes towards counterfeits of luxury brands. If consumers hold positive attitudes, chances are even consumers who believe that it is unethical and illegal to purchase counterfeits might be induced to purchase as their perceptions of counterfeits of luxury brands could be of good quality and consumers won’t be easily caught. As such, imposing penalties would still be an important process to form negative attitudes and luxury brand owners will have to continuously innovate to ensure that products are much highly differentiated from counterfeits of luxury brands. Lastly, the findings of this study suggest that if consumers have existing positive attitudes towards counterfeits of luxury brands, it could be very damaging to the original brands as social factors and personality factors can both induce stronger purchase intentions. Therefore, making the eradication of counterfeiting a very tricky business.

There are a number of limitations worthy of improvement and future research. The study was conducted using mall intercept method, which may limit the populations that could be reached. Those who may purchase may not be regular shoppers at a shopping mall but may be in wholesale markets where counterfeit products are largely sold. Furthermore, this study only examined the moderation affect on attitudes and purchase intentions towards counterfeits of luxury brands. Other studies could look into the non-buyer and buyer differences or to extend this study with other antecedents.

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BUYER AND NON BUYER OF COUNTERFEITS OF LUXURY BRANDS: EXAMINING THEIR DIFFERENCES IN BEHAVIOURAL OUTCOMES

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ABSTRACT

The purpose of the study is to examine the behavioural differences between non-buyer and buyer of counterfeits of luxury brands. Data was collected using a mall intercept in downtown Shanghai, China. 202 useable responses were retained for analysis. Findings revealed that there are differences between both group of consumers. Social and personality factors do influence attitudes and purchase intentions towards counterfeits of luxury brands. Managerial implications were also discussed.

INTRODUCTION

China, other than being the international economic superpower, is also the world's most notorious country for counterfeiting (Furnham and Valgeirsson, 2007). A wide range of counterfeit goods ranging from pharmaceuticals to luxury brands that are produced, are traced to China as the source of production (Cheung and Prendergast, 2006; Bian and Veloutsou, 2007; Phau and Teah, 2009). Furthermore, due to the economic growth, there is an increase in luxury consumers, thereby spurring the growth of counterfeit production to an astronomical level (Li and Su, 2007). Although there has been visible effort that the Chinese officials are committing to prosecute counterfeiters and eradicate the problem, the fundamental flaws and loopholes in the copyright and IP legislation allow counterfeiting to continue (Clark, 2006).

Buyer and non-buyers attitudes towards counterfeiting

Past research have shown that buyers and non-buyers of counterfeits of luxury brands hold different attitudes towards counterfeits of luxury brands (Ang et al., 2001; Wang et al., 2005). Buyers of counterfeits of luxury brands will perceive their actions in a more favourable light, and are also known to have some degree of loyalty towards counterfeit goods (Tom et al., 1998). It was also found that there are notable differences between non-buyer and buyer attitudes towards counterfeits of luxury brands. Buyers do tend to perceive quality, reliability and functional aspects of the counterfeits of luxury brands to be higher and more closely similar to the genuine articles (Phau and Teah, 2009). Furthermore, with the improving quality of counterfeits of luxury brands today, it provides more reason for consumers to purchase the counterfeits as it serves a similar purpose to that of the genuine.

As counterfeits are cheaper alternatives of more expensive genuine products, there might not be a noticeable difference in perceived quality (Gentry et al. 2006). According to Tom et al. (1998), consumers are more inclined to purchase products with a fashion component attached, such as is the case for luxury products. Buyers of counterfeits are willing to pay for the visual attributes and functions without paying for the associate quality (Grossman and Shapiro, 1988; Cordell et al., 1996). Buyers of counterfeits are also expected to prefer counterfeit products with a famous brand name attached that would present some meaning to the consumer (Cordell et al., 1996). This reinforces the concept that only brand names that are well known or worth counterfeiting are targeted for illegal production (Eisend and Schuchert-Güler, 2006). Furthermore, it has been found that if the perceived product attributes between the genuine product and the counterfeit product are similar

in terms of quality, the purchase intention will be higher (Wee et al., 1995; Penz and Stöttinger, 2005). In view of the Chinese non-buyer and buyer differences in their attitudes towards counterfeits of luxury brands, it is postulated that there are two groups of factors that influences the attitudes towards counterfeit of luxury brands. Therefore, this study will attempt to examine the differences between non-buyer and buyer attitudes and purchase intentions towards counterfeits of luxury brands.

Numerous researches in the past have examined various aspects of counterfeiting from both the supply and demand perspective (Ang et al., 2001; Albers-Miller, 1999; Phau and Teah, 2009). However, even though studies have examined all these areas, little has been done to examine in specific the behavioural differences between buyer and non-buyer of counterfeits of luxury brands. This study extends and provides deeper insights into the differences in mindset between non-buyers and buyers, thereby providing practitioners with important information to formulate better and more effective strategies in dissuading consumers from purchasing counterfeits of luxury brands.

This paper is organized into several sections beginning with a discussion on extant literature and leading to the model and hypotheses development. This is followed by a description of the research method. The discussion of the findings and analysis will next be presented. Finally, the managerial implications and limitations of the study are highlighted.

LITERATURE AND HYPOTHESES DEVELOPMENT

Counterfeits are reproductions of a trademarked brand (Cordell et al., 1996), which are closely similar or identical to genuine articles. This includes packaging, labelling and trademarks, to intentionally pass off as the original product (Ang et al., 2001). Research has identified two types of consumers of counterfeit products. The first is a victim, who unknowingly and unintentionally purchases counterfeit goods due to it being so closely similar to the genuine articles (Grossman and Shapiro, 1988; Bloch et al., 1993; Mitchell and Papavassiliou, 1997; Tom et al., 1998). However, the second is a willing participant or consumer of counterfeit products, wherein they sought out counterfeit products even when they knew that the products were illegal (Bloch et al., 1993; Cordell et al., 1996; Prendergast et al., 2002).

Social and Personality Factors

Social influence refers to the effect that others have on an individual consumer's behaviour (Ang et al., 2001). Two common forms of consumer susceptibility to social influences are information susceptibility and normative susceptibility (Bearden et al., 1989; Wang et al., 2005). Information susceptibility is when a purchase decision is based on the expert opinion of others (Ang et al., 2001; Wang et al., 2005). The assurance of opinions of others plays an important role as a point of reference especially when consumers have little knowledge of the product category in question. On the other hand, normative susceptibility concerns purchase decisions that are based on the expectations of what would impress others (Ang et al., 2001; Wang et al., 2005; Penz and Stöttinger, 2005).

Although there has been past research stating that the Chinese collectivistic culture is one of the primary contributing reasons to high counterfeiting rates in China (Swinyard et al., 1990; Wang et al., 2005), the degree of collectivism varies depending on geographical locations. Inland Chinese are deemed to be more collectivistic than residents in the more developed coastal cities such as Guangzhou, Beijing and Shanghai (Koch and Koch, 2007). Collectivism has been constantly discussed as one of the factors in Asian societies to positively influence consumer attitudes towards pirated products and counterfeits.

Most purchasers of genuine luxury brands pursue value for brand, prestige and image benefits, but maybe unwilling to pay the high price for it (Bloch et al., 1993). For a lower price and a slightly substandard quality, counterfeits are still considered as value for money (Bloch et al., 1993; Lichtenstein et al., 1990; Ang et al., 2001; Wang et al., 2005). As counterfeits of luxury brands usually provide the same functional benefits as the original, but at a fraction of the price of the genuine product, it is perceived favourably. For consumers who are value conscious, they would have positive attitudes towards counterfeits of luxury brands.

Novelty seeking is the curiosity of individuals to seek variety and difference (Wang et al., 2005). A consumer who is inclined to try new products would probably have positive attitudes towards counterfeits of luxury brands. Novelty seeking consumers are particularly inclined towards products with low purchase risk. Hence the low cost of counterfeit products are well suited to satisfying their curiosity and the need for experimentation (Wee et al., 1995).

In accordance to Kohlberg's (1976) moral competence theory, consumer's behaviours are affected by their personal sense of justice. The influence of basic values like integrity will affect the judgment towards succumbing to unethical activities (Steenhaut and van Kenhove, 2006). Integrity is determined by personal ethical standards and obedience towards law. If consumers view integrity as crucial, the chances of them viewing counterfeits of luxury brands in a positive light would be much smaller (Ang et al., 2001; Wang et al., 2005).

Personal gratification is the need for a sense of accomplishment, social recognition, and the desire to enjoy the finer things in life (Ang et al., 2001; Wang et al., 2005). Consumers with high sense of personal gratification would be more conscious of the appearance and visibility of fashion products. They are probably less prone to accept goods of slightly inferior quality. Consumers with a high sense of personal gratification will value the genuine versions of luxury products hence they will have a negative attitude towards counterfeits of luxury brands.

Status consumption has long been defined as the purchase, use, display and consumption of goods and services as a means of gaining status (Veblen, 1899; Eastman et al., 1997). It involves a social ranking or recognition that a group would award to an individual (Eastman et al., 1997), that is irrespective of social and income level. It is inaccurate to assume that only the wealthy are prone to status consumption (Eastman et al., 1997). Status consumption is for consumers who are seeking self-satisfaction as well as to display their prestige and status to surrounding others usually through visible evidence (Eastman et al., 1997). Status consumers seek to possess brands that exude brand symbols that reflect their self-identity. Status consumers are more conscious of the display of accomplishment, their attitudes towards counterfeits of luxury brands would be unfavourable.

Based on the above discussion, a comparison will be made between non-buyers and buyers for the following hypotheses:

- H_{1a}** Normative and information susceptibility have a negative influence on consumer attitudes towards counterfeits of luxury brands.
- H_{1b}** Collectivism has a positive influence on consumer attitudes towards counterfeits of luxury brands.
- H_{1c}** Value consciousness has a positive influence on consumer attitudes towards counterfeits of luxury brands.
- H_{1d}** Novelty seeking has a positive influence on consumer attitudes towards counterfeits of luxury brands.
- H_{1e}** Integrity has a negative influence on consumer attitudes towards counterfeits of luxury brands.
- H_{1f}** Personal gratification has a negative influence on consumer attitudes towards counterfeits of luxury brands.
- H_{1g}** Status consumption has a negative influence on consumer attitudes towards counterfeits of luxury brands.

According to the theory of planned behaviour (TPB), the purchase behaviour is determined by the purchase intention, which is in turn determined by attitudes (Fishbein and Ajzen, 1975). Attitudes towards behaviour instead of towards the product are noted to be a better predictor of behaviour (Fishbein, 1967; Fishbein and Ajzen, 1975; Penz and Stöttinger, 2005). However, the theory also stated that the opportunities and resources, such as the accessibility of counterfeit products, must be present before purchase behaviour can be performed. Unethical decision making such as purchasing of counterfeits is explained largely by the attitudes, regardless of product class (Wee et al., 1995; Chang, 1998; Ang et al., 2001). The more favourable consumer attitudes towards counterfeiting are, the higher the chances that they will purchase counterfeit brands. It is therefore postulated that:

- H₂** There is a significant relationship between attitude and purchase intention towards counterfeits of luxury brands for non-buyers and buyers.

In addition, social and personality antecedents have long been established to have an influence on consumer decision making (Miniard and Cohen, 1983) towards purchase intention. It is therefore postulated that:

- H₃** There is a significant relationship between social and personality factors (information susceptibility, normative susceptibility, collectivism, value consciousness, novelty seeking, integrity, personal gratification, and status consumption) and purchase intention towards counterfeits of luxury brands between non-buyers and buyers.

METHODOLOGY

Data collection was conducted using a mall intercept method in a major shopping complex in downtown Shanghai. Trained interviewers were directed to approach the fifth shopper that crosses a designated spot outside the main entrance of the mall to participate in a self administered questionnaire. Respondents with different demographic profiles were approached over a two week period consisting of both weekdays and weekends. A 14% response rate was recorded. Rather than using a student sample (Wang et al., 2005), measuring the consumers in a shopping related environment would enable respondents to relate to what the research intends to measure, therefore improving the ecological validity of the study (Hornik and Ellis, 1988).

The survey instrument was developed in English and translated into Chinese by a professional native speaker. It was then back translated and checked for inconsistencies by another professional translator. The five sections consisted of established scales and demographics. Established scales were used from a number of sources (Bearden et al., 1989; Wang et al., 2005; Lichtenstein et al., 1990; Rokeach, 1973; Vinson et al., 1977; Wee et al., 1995; Eastman et al., 1997; Ang et al., 2001) and their reliabilities of the scales are all above 0.6, which is deemed reliable (Nunnally, 1979). Sections A and B measured social factors and personality factors. Section C examines attitudes and the purchase intentions towards counterfeits of luxury brands. Section D comprised of items regarding purchasing habits of counterfeit products and brands. Section E comprised of demographic information of respondents.

270 questionnaires were collected and of these 68 responses were discarded due to incompleteness or if respondents were not Chinese nationals. The remaining 202 usable responses were analysed with SPSS software version 14. The sample distribution between buyers and non-buyers was approximately in the ratio of 1:3. 58.4% of the respondents were male. 74.2% of buyers were 21-35 years old. There were more non-buyers (15.7%) that were under 36-45 in comparison to buyers (13.9%). The percentage of buyers was higher than non-buyers, which is representative of high counterfeiting rates in China (Traphagan and Griffith, 1998; Wang et al., 2005), therefore justifying the basis of the study.

ANALYSIS AND RESULTS

An exploratory factor analysis was conducted on the original 10-item attitudes towards counterfeits of luxury brands scale. Through Varimax rotation, two factors emerged and were named “perceptions of counterfeits” and “social consequences”. The composite “attitudes towards counterfeits of luxury brands” scale was used for all subsequent regression analyses.

Multiple regression was conducted on the “social factors” and “personality factors” towards attitudes towards counterfeits of luxury brands. Table 1 below revealed that only normative susceptibility, novelty seeking and status consumption (Adjusted R²= .524) were significant influencers of attitudes towards counterfeits of luxury brands for non-buyers. There were no significant influencers for buyers of luxury brands.

Table 1: Influence of Social and Personality Factors towards Attitudes

	B-Values	Standard Error	Beta	t-value	Sig.
Non-Buyers					

Normative Susceptibility	.356	.141	.555	2.519	.016
Novelty Seeking	-.501	.166	-.624	-3.025	.005
Status Consumption	.592	.135	.666	4.375	.000

* Independent variable: Attitudes towards counterfeits of luxury brands

* Dependent variable: Purchase Intention

Multiple regression comparing both non- buyers and buyers was conducted on “attitudes towards counterfeits of luxury brands” and “purchase intentions towards counterfeits of luxury brands”. It was revealed that there is a significant difference between the attitudes of both groups of consumers. It is recorded that for non-buyer attitudes towards counterfeits of luxury brands significantly influences on purchase intentions, accounting for an Adjusted R^2 of .544. It is also found that there is a significant relationship between buyer attitudes towards counterfeits of luxury brands on purchase intentions, accounting for an Adjusted R^2 of .197.

Table 2: Influence of Attitudes towards Purchase Intentions

	B-Values	Standard Error	Beta	Adjusted R^2	t-value	Sig.
Non-buyers	1.621	.213	.744	.544	7.629	.000
Buyers	.679	.116	.451	.197	5.871	.000

* Independent variable: Attitudes towards counterfeits of luxury brands

* Dependent variable: Purchase Intention

Multiple regression was conducted on the “social factors” and “personality factors” towards “purchase intentions towards counterfeits of luxury brands”. It was found that normative susceptibility, novelty seeking and status consumption influences purchase intentions towards counterfeits of luxury brands (Adjusted $R^2 = .516$) for non-buyers. Whereas, for buyers only status consumption is the only factor that showed a significant relationship towards purchase intentions (Adjusted $R^2 = .406$).

Table 3: Influence of Social and Personality Factors towards Purchase Intentions

	B-Values	Std Error	Beta	Adj R^2	t-value	Sig.
Non-buyers						
Normative Susceptibility	1.103	.316	.775	.516	3.488	.001
Novelty Seeking	-.851	.363	-.479		-2.344	.024
Status Consumption	1.039	.298	.536		3.488	.001
Buyers						
Status Consumption	.758	.167	.628	.406	4.551	.000

* Independent variable: Attitudes towards counterfeits of luxury brands

* Dependent variable: Purchase Intention

DISCUSSION AND IMPLICATIONS

In summary, it is evident that there are notable differences between non-buyer and buyer behaviour towards counterfeits of luxury brands. Firstly, for non-buyers normative susceptibility, novelty seeking and status consumption are important factors that influence their attitudes and purchase intentions towards counterfeits of luxury brands. Secondly, it is similar that both non-buyers and buyers’ attitudes towards counterfeits of luxury brands will influence their purchase intention. Lastly, only status consumption was found to influence buyer purchase intentions towards counterfeits of luxury brands.

Non-buyers are affected by normative susceptibility suggests that their peers play a huge role in influencing their attitudes. As such, negative image and connotations of counterfeits of luxury brands could within a peer group or social network could well deter positive attitudes towards counterfeits of luxury brands. This is a cue for brand managers to indoctrinate in their advertisements the negative consequences and embarrassment if discovered owning a counterfeit to ensure that non-buyers hold that attitude.

Interestingly, novelty seeking non-buyers hold negative attitudes and purchase intentions towards counterfeits of luxury brands. This could suggest that non-buyers could be looking for wider brand choices or more innovative designs. It could be attributed to the fact that counterfeits of luxury brands are only limited in choices and only the best known and the most in fashionable designs are available, therefore limiting any innovative designs that could be different to the abundant copies and counterfeits in the market. This is a cue for the continuous innovation for brand companies and providing more alternative designs and brand choices that could appeal to the novelty-seeking, who may be looking for products that are different or inspired products but not direct copies.

It is shown that attitudes do influence purchase intentions. For both non-buyers and buyers, positive attitudes towards counterfeits of luxury brands will influence the purchase intentions. This is a cue for brand managers to be mindful of the quality of their products. If non-buyers hold increasingly positive attitudes towards counterfeits of luxury brands, the chances are they may be prone to purchase in future. Hence, there is a need for brand managers to uphold the quality of their products and be continuously innovative.

Lastly, both non-buyers and buyers behavioural intentions are influenced by status consumption. This suggests that the more consumers are prone to status consumption, the likelier the chances of purchase. It is important for brand managers to continue to tailor to the status consumers to ensure that they are satisfied and will be continued to quench their thirst for status goods. This is also the prime motivator for buyers to purchase, however it could also potentially lead non-buyers to buyers in future. As such, it is important to emphasize how counterfeits are only fake “status”, not the real deal to reiterate the exclusivity of the genuine product.

There are a number of limitations worthy of improvement and future research. The study was conducted using mall intercept method, which may limit the populations that could be reached. Those who may purchase may not be regular shoppers at a shopping mall but may be in wholesale markets where counterfeit products are largely sold. Although the distribution of buyers and non-buyers is reflective of the counterfeit purchasing activities, future studies could examine only non-buyers of counterfeits of luxury brands to gauge what deters them from purchasing. The study only captures the Chinese consumers in the coastal areas, therefore limiting generalizability across other parts of China. Future studies can also examine other factors such as materialism or “face consumption”.

Further exploration using qualitative approaches to examine consumer purchase behaviour of counterfeit products may provide deeper insights. Actual ownership can be measured to determine if buyers are also owners of counterfeit products or if non-buyers actually own counterfeit products.

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BUSINESS FAILURE PREDICTIONS IN ISTANBUL STOCK EXCHANGE

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ABSTRACT

This study aims to develop business failure prediction models using the data of selected firms from ISE markets. The sample data comprise ten selected financial ratios for 27 non-going concerns (failed businesses) and paired 27 going concerns. Two non-parametric classification methods are used: Artificial Neural Networks (ANN) and Decision Trees. The classification results show that there is equilibrium in the classification of the training samples by the models, but ANN model outperform the decision tree model in the classification of the testing samples. Further, the potential usefulness of ANN and Decision Tree type data mining techniques in the analysis of complex and non-linear relationships are observed.

INTRODUCTION

Making good decisions is directly related to reducing the instability and uncertainty conditions that each and every decision-maker encounters. In a frequently changing business atmosphere, educated guesses about the future are really valuable, because these guesses give the organizations the chance of being ready against the situations that are unusual. Thus, every professional uses forecasting methods to be able to see at least one step ahead from their current position.

Forecasting methods can be examined in two broad categories: qualitative methods (depend on subjective assessments of people, known also as “judgmental methods”), and quantitative methods (which are mechanical procedures and depend on manipulation of the historical data, known also as “objective methods”). Whatever the method is, usually an accurate forecast means significant increases in revenue, decreases in expenses, or both. Moreover, costly mismatches of capacity to demand can often be avoided through consistent forecasting, and thus professionals who are responsible for monetary decisions become for effective in cost controlling issues.

Statistical classification, which is a type of casual forecasting, is a procedure of placing individual items into groups, based on quantitative information about the characteristics of these items. Some well known statistical classification methods are: logistic regression (LR), decision trees, neural networks and discriminant analysis. These methods are used heavily in prediction of financial performance studies. Some of these studies are credit risk measurement, business failure prediction, and financial distress prediction. The financial performance studies are important both for a group of people who care about the financial conditions of the firms for some specific reasons and for investors, specialists, creditors, stockholders and managers.

In Turkey, as well as the rest of the world, these certain groups are interested in the results of these performance studies. On the light of this fact, this study examines some specific firms which are previously traded and are traded presently in Istanbul Stock Exchange (ISE). In this study, “listing” status of the firms in the ISE markets is used as an indicator of financial performance, and the firms which are permanently delisted from the ISE markets are thought as “financially unsuccessful”. We use the two well known statistical classification techniques, namely decision trees and neural networks, to built financial performance models.

The structure of the rest of the paper is as follows. In the next section, relevant literature that is about the prediction of financial performance issues is reviewed. Section three explains the generation of the data set

and the methods used. Section four examines the models developed for the study and presents the results, and section five concludes.

LITERATURE REVIEW

Financial performance prediction, pioneered by Beaver (1966), has been studied by scholars more than a half century. In this sense, the “prediction of bankruptcy”, “prediction of business failures”, “prediction of stock performances”, “corporate financial distress prediction” were studied. Beaver’s univariate method was improved in Altman’s (1968) study by developing it for multivariate cases. Deakin (1972) used the same 14 ratios of Beaver’s (1966), and tried to find a linear combination of these ratios which best predicts a potential business failure. Edmister (1972) tested the usefulness of financial ratios in predicting failures of small businesses. Blum (1974) constructed a model called “The Failing Company Model” examining three general denominators (liquidity, profitability and variability) underlying the cash-flow framework.

There are models that were constructed with methods besides discriminant analysis as in the Beaver (1966). Ohlson (1980) used Logit models and Zmijewski(1984) employed Probit models to obtain the probabilities of firm failures and measured the effects of some specific variables on these probabilities.

The decision trees and artificial neural networks are well known non-parametric techniques in this area of research. RPA (Recursive Partitioning Algorithm), CHAID (Chi squared Automatic Interaction Detector) algorithm, CART (Classification and Regression Trees) algorithm, ID3 (Iterative Dichotomiser 3) and C4.5 (an extension of ID3) algorithms are the commonly used decision tree algorithms. Frydman et al. (1985) applied RPA to their financial distress model and compared this technique to discriminant analysis. ID3 method was applied in credit scoring by Carter and Catlett (1987) and corporate failure prediction by Messier and Hansen (1988). Shirata (1998) studied the bankruptcy in Japan by employing a CART model. Koh and Low (2004) used CHAID algorithm in their going concern prediction study which they compared the usefulness of ANN, LR and decision trees. Koyuncugil and Ozgulbas (2007) examined small and medium-sized enterprises of Turkey. They created financial performance profiles of these enterprises by using CHAID algorithm, and also tried to develop an early financial performance warning mechanism for these enterprises.

Odom and Sharda (1990)’s study is one of the well known studies that applied ANN to bankruptcy prediction. They used Altman (1968)’s financial ratios as the inputs of the ANN model, developed for a number of bankrupt and solvent US firms. They also created a multiple discriminant analysis (MDA) model as a comparison. Salchenberger et al. (1992) studied prediction of thrift failures. They compared neural networks and logit models and observed that the ANN model outperformed the LR model. Wilson and Sharda (1994) made an explanatory study that compared the predictive capabilities of ANN and MDA. Both of the models used Altman (1968)’s five financial ratios as inputs and the Moody’s dataset which included some bankrupt and non-bankrupt firms. They concluded that the ANN model outperformed the MDA model in predicting the corporate bankruptcy.

In this particular study, ANN and decision tree techniques were used to develop models that predict the business failures of the selected firms from ISE markets

DATA AND METHODS

The data set of this study was obtained from the Istanbul Stock Exchange (ISE)’s website and transformed into financial ratios used in the study. This data set consists of the financial statements of 27 non-going (or failed) concerns and 27 paired going-concerns (paired by industry and size). Financial statements of the paired firms belong to the year that is two years prior to the failure of the non-going concern in the pair.

The selection procedure of the 27 matched pairs is as follows. First, the non-going concerns were selected. The list which is published in the ISE website with the title “Companies with Stocks De-listed from the ISE Markets Permanently as from Year 2000” was used for this selection process. From this list, 27 non-going concerns were selected according to the availability of their financial statements. Financial institutions were not included to these 27 firms in order to keep all financial statements in a unique form. Second, these 27 non-going concerns were matched with 27 going concerns according to their industries and asset sizes.

Financial ratios are generally good predictors of performance, since the interpretation and the calculation of them are easier than trend and static (vertical) analyses. Moreover, financial ratios can reveal a company’s strengths and weaknesses better than the individual items on the financial statements.

We used 11 variables to create the models. 10 of them are financial ratios and are used as explanatory (independent) variables, and the one remaining variable is a dummy variable that showed whether a firm is listed or de-listed. Three criteria were used to select these 10 ratios from the set of ratios available in the literature. These criteria are 1) popularity in the literature, 2) performance in the previous studies, and 3) potential relevancy to the study and computability with the information gained from the financial statements (Beaver 1966 and Altman 1968). The ratios used in the study are as follows: Current Ratio, Quick Ratio, Working Capital to Total Assets, EBIT to Total Assets (Basic Earning Power), Retained Earnings to Total Assets, Sales to Total Assets (Total Assets Turnover Ratio), Return on Total Assets (ROA), Return on Common Equity (ROE), Total Liabilities to Total Assets (Debt Ratio), Paid-in Capital to Total Assets.

Artificial neural networks (or neural networks) are useful for recognizing patterns in a data set when the type of the relationships between the dependent and independent variables is unknown or complex (Koh and Low 2004). Neural networks consist of basic units (nodes) that mimic the behavior of biological neurons found in the nature (Berry and Linoff 2004). Each node receives inputs from at least one node in a previous layer and combines these inputs, then generates output to at least one node in the next layer (Koh and Low 2004).

The first technique we employed is the neural networks. In a feed-forward neural network, the units are organized into three layers: input layer, hidden layer and output layer. Signals flow from input layer to the output layer through hidden layer. Each unit in the hidden layer is fully connected to all units in the input layer. The units in the hidden layer calculate their output by multiplying the value of each input by its corresponding weight, adding these up and applying a transfer function (Berry and Linoff 2004). In the output layer, a transfer function is applied to the information coming from the hidden layer again and the final output is obtained.

One of the most popular neural network training methods is backpropagation (BPN). The BPN algorithm measures the overall error of the network by comparing the values produced on each training process to the actual value, and then a group of adjustment procedures are followed to lower the output error to an acceptable level. After the training process the network model is “tested” using a new set of data that is not used in the training process.

The second technique we used is decision trees. The decision tree models are, also, popular and powerful data mining techniques for prediction. Basically the decision tree approach begins by searching the independent variable that divides the sample in such a way that the difference with respect to the target variable (dependent variable) is largest among the divided subgroups (Koh and Low 2004). This process continues repeatedly, and the data is split into smaller groups in such a way that each new generation of nodes has greater purity than its ancestors with respect to the target variable (Berry and Linoff 2004).

There are several decision tree algorithms in the literature. The most popular of these tree algorithms are CHAID, CART, ID3 and C4.5. Among these models CHAID and CART like each other in the way that they build decision trees, but CHAID differs in the way that it chooses its splits. Instead of the entropy or Gini metrics for choosing optimal splits, CHAID uses chi square test. Moreover, CHAID differs from the other three methods in tree generating: CART, ID3 and C4.5 generate binary trees whereas CHAID can generate nonbinary trees. CHAID works all types of categorical and continuous variables, but continuous predictor variables automatically categorized for the purpose of the analysis (Koyuncugil and Ozgulbas 2007). In developing CHAID models, two groups of variables are used. These are the target variable and the predictor variables that will explain the target variable. Basically CHAID algorithm operates as follows:

- Step 1: The best predictor is chosen from the set of the predictor variables by using a chi square test of independence. The “best” in the previous sentence means the predictor with the most significant p-value.
- Step 2: By using this predictor the data set is divided into two or more subsets.
- Step 3: Each subset coming from Step 2 is divided into new subsets based on the criterion in Step 1, and this is repeated until it can no longer be split into statistically significant subsets.

THE MODELS AND RESULTS

In this section we present the results obtained by employing the ANN (Multilayer Perceptron) and Decision Tree (CHAID Algorithm) models.

a. Artificial Neural Networks Model

The ANN model consists of ten input and two output nodes. The input nodes are the financial ratios, and the output nodes are the current status of the selected firms in the ISE market lists. To state it more clearly, output nodes indicate that whether the selected firms are still listed in ISE markets (going concern) or permanently de-listed from ISE markets (failed business). For simplicity a dummy variable called “Status” is used for creating the output nodes and within this variable “1” stands for the firms that have failed and “0” stands for the going concerns.

The ANN model used in this study is a multilayer perceptron which is a feed-forward artificial neural network model. Multilayer perceptron is a modification of standard linear perceptron in that it uses three or more layers with non-linear activation functions. In this study, sigmoid function is used as the activation function. The network is trained using backpropagation algorithm. This algorithm can be summarized in three steps:

1. The network gets a training example and using the existing weights in the network, it calculates the output or outputs.
2. Then the error is calculated by the backpropagation algorithm by taking the difference between the calculated result and the expected (actual result).
3. The error is fed back through the network and the weights are adjusted to minimize the error- hence the name backpropagation because the errors are sent back through the network (Berry and Linoff 2004).

The data set is split into two subsamples. The first subsample that consists of 19 paired firms (38 firms in total) is used for the training. The second subsample that consists of 8 paired firms (16 firms in total) is used for the testing of the network. In other terms, 70% of the data is allocated for the training and 30% for the testing purposes.

The network is built using one hidden layer, and there are “10” hidden units (nodes) in the hidden layer. The number of hidden units is defined by trial and error. Starting with “1” hidden units, the number of hidden units is gradually increased and the optimum results are observed with 10 hidden units. “Sum of squares error” is used as the classification error for the network.

In Table 1, model summary for the ANN is presented. As is presented, 15.8% of the training sample is misclassified with Sum of Squares Error (SSE) of 5.308, and 18.8% of the testing sample is misclassified with SSE of 3.229.

Table 1: Model Summary for ANN Model

Model Summary		
Training	Sum of Squares Error	5.308
	Percent Incorrect Predictions	15.8%
Testing	Sum of Squares Error	3.229
	Percent Incorrect Predictions	18.8%

Table 2 shows the classification results for the ANN model. It is observed that 84.2% of the data in the training sample and 81.3% of the data in the testing sample were classified correctly.

“Independent variable importance” is a sensitivity analysis that computes the importance of each predictor in determining the neural network. In Table 3, importance values and the normalized importance of the independent variables in the network are presented. Normalized importance is simply the importance values divided by the largest importance values and expressed as percentages. According to this table, “EBIT / TA” and “ROE” are the two most important predictors in determining the neural network model.

Table 2: Classification Results for ANN Model

Classification				
Sample	Observed	Predicted		
		0	1	Percent Correct
Training	0	15	4	78.9%
	1	2	17	89.5%
	Overall Percentage	44.7%	55.3%	84.2%
Testing	0	7	1	87.5%
	1	2	6	75.0%
	Overall Percentage	56.3%	43.8%	81.3%

Table 3: Independent Variable Importance of ANN model

	Importance	Normalized Importance
WC/TA	0.085	54.6%
RE/TA	0.027	17.6%
EBIT/TA	0.156	100.0%
Sales/TA	0.093	59.9%
TL/TA	0.089	57.2%
P-in-C/TA	0.079	50.5%
CA/CL	0.099	63.4%
ROA	0.123	79.1%
ROE	0.143	92.0%
QR	0.107	68.6%

b. Decision Tree Model

The second model used in the study is a decision tree model. CHAID algorithm is used to develop the model. Basically, CHAID algorithm operates using p-values adopted from chi square tests of independence. Independent variables of this model are 10 financial ratios and the dependent variable is a dummy variable that represents the current status of the selected firms. The dummy variable is the same variable that is used in the ANN model, and again “1” stands for the businesses that have failed and “0” stands for the going concerns.

5% significance level is selected for both splitting the nodes and merging the categories. Likelihood-ratio method is selected to calculate chi square for determining splitting and category merging. Split-sample validation is used for the validation of the model. The same subsamples that are used in the ANN model are used in the training and testing phases of this model, which means again the training sample has the 70% and the testing sample has 30% of the total data set. Table 4 shows the classification results for the Decision Tree model. As it can be seen, 84.2% of the data in the training sample and 62.5% of the data in the testing sample are classified correctly.

Table 4: Classification Results for Decision Tree Model

Classification				
Sample	Observed	Predicted		
		0	1	Percent Correct
Training	0	16	3	84.2%
	1	3	16	84.2%
	Overall Percentage	50.0%	50.0%	84.2%
Testing	0	4	4	50.0%
	1	2	6	75.0%
	Overall Percentage	37.5%	62.5%	62.5%

The model indicates that “TL / TA” ratio is the most important independent variable in defining failures since it stands in the terminal node. The other important independent variables are “ROA” and “QR” which stand in the child nodes. The model also suggests that the main indicator of a going concern is having a “TL / TA” ratio less than or equal to 0.71, and the reverse is true for the failed businesses.

In short, looking at the percentages of predictions in Table 2 and Table 4, we can say that “Multilayer Perceptron” algorithm has a better predictive ability in predicting failed businesses (denoted with “1”) than its predictive ability in predicting going concerns (denoted with “0”) in the training sample. On the other hand, there is a balance between the predicted groups in the second case in training sample where “CHAID” decision tree algorithm is used. As it can be concluded from the table, overall classification percentages of the two models are equal for the training sample (84.2%). Looking to the literature, it is generally expected that the classification percentages to decrease in the testing samples. This statement holds true in the ANN model with a slight decrease in the classification percentage from 84.2% to 81.3% in the testing sample. However, the rate of the decrease is dramatic for the decision tree model: the classification percentage decreases from 84.2% to 62.5%.

Looking to these results it can be said that ANN model outperforms decision tree model by its better performance in the testing sample.

Although the two models have approximately the same classification abilities, the methods that they use indicate different ratios as the most important performance indicators except one. The "Multilayer Perceptron" algorithm indicates "EBIT / TA", "ROE" and "ROA" ratios as the most important predictors in determining the ANN model. On the other hand, "CHAID" algorithm presents "TL / TA", "ROA" and "QR" ratios as the most important predictors in determining the decision tree model. "ROA" is the only ratio that is selected by both models as one of the most important predictors.

CONCLUSION

This study explores the potential usefulness of financial ratios in predicting the business failures of the firms whose stocks are traded in the ISE markets. Comparative analysis of the classification results indicates that the ANN and decision tree models have similar performances in the training sample, but the ANN model outperforms the decision tree model in the testing sample.

The general trend in the business failure literature is to compare the results of the parametric models with the non-parametric ones, and the results of these comparative analyses indicate that the models constructed by non-parametric techniques outperform the models constructed by the parametric techniques. However, the number of the studies which compare non-parametric techniques is relatively smaller. Therefore, in this study it is aimed to compare two non-parametric techniques to see whether there is a significant difference in their performance of predicting the business failures. Our results for the Turkish case are consistent with literature. The prediction performances of the two techniques are almost equal. In the literature, studies with similar results are common. Koh and Low (2004) compare three models constructed using logistic regression, ANN and decision tree techniques and find that all three models give adequate results. Among these results the best one belongs to decision tree model. Likewise, Olmeda and Fernandez (1997) show in their study about the hybrid classifiers that ANN and decision tree models have almost the same predictive ability when they are thought as single models.

The difference between the classification percentages of the ANN and the decision tree model in the testing sample might be the effect of the sample size, because previous studies made in this topic generally have larger sample sizes. Therefore, this study is a case specific one and a generalization may only be possible using larger sample sizes and making the all available tests to measure the method related effects. Another important issue is an ANN model is a "black box" and hence it is difficult to interpret the exact relationships that the technique builds between the input and output layers. Since the necessary test statistics for effect assessment are not available yet, ANN and the other data mining techniques do not replace traditional statistical methods.

One of the limitations about the study may be number of the financial ratios used in the study. Only ten selected financial ratios are used in the study as a result of the availability of the data and the computability of the ratios. Including more independent variables and implementing different models to select the most appropriate and predictive ones may be a better approach. In the study, the classification percentages are computed in a simple manner and ignoring the misclassification costs that may occur in the practice. Determining the potential breakpoints and classification costs may be a point that increases the power of the models in practice.

Despite the limitations stated above, this study suggests that some key financial ratios such as "EBIT/TA", "ROE", "TL/TA", "ROA" are beneficial for managers (especially managers in Turkey) to notice and handle some potential problems about their firms. Financial ratio analysis is not a sufficient way alone for a decision maker, and it has to be supported by some other critical analyses such as industry and company analyses. However, it is beneficial for the decision makers, since it gives some clues about the potential threats that may be faced.

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PUBLIC SECTOR ICT FIRMS: ELEMENTS OF A FRAMEWORK TO HELP CARRY OUT THEIR STRATEGIC ANALYSES

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ABSTRACT

Increasingly, public sector information and communication technology - ICT service firms are facing competition from private and other public sector ICT firms as well as pressures from their governments to provide more efficient services. With a view to contributing to the efforts of the managers of these firms to enhance their effectiveness, we conducted research to collect elements for developing a framework that could help them carry out the necessary analyses for improving their strategic management in this context. In this article we share the main results of the first stage of this research that involved an extensive literature review on strategic networks and alliances, and public entrepreneurship and that focused on Brazilian ICT firms. We assumed that both a network and entrepreneurship approach could be critical for improving the performance of public sector firms, especially ICT firms. We present a preliminary draft of the framework at issue and explain the next stages of the research.

INTRODUCTION

Since the late 20th century, governments have been under pressure from society to provide more efficient services, generating a trend towards public sector reforms designed to improve their quality and thus fulfill societal expectations. Moreover, government activities in several spheres have been facing increasing competition from private sector firms.

The aim of many public sector reforms in different governments has been to promote the adoption of administrative practices that place a greater emphasis on the behavior of their consumers, in order to offer services with the quality they expect. Kim (2007) lists privatizations, public-private sector partnerships, outsourcing and public entrepreneurship as the solutions that have been adopted in response to pressures to enhance the public sector's efficiency. In each of the first three solutions, operational responsibility is transferred to private sector organizations, but in the case of entrepreneurship the aim is to create opportunities for public administrators to promote innovations in their organizations and thus provide better quality services.

In Brazil, where we initially focused our research, firms have been created since 1964 in different spheres of government, specifically for data-processing purposes that are currently referred to as information and communication technology - ICT firms. At the federal government level, the Federal Data-Processing Service – SERPRO, was instituted by Law 4516 of December 1964. DATAPREV, an information technology company linked to the Social Security Ministry, was also set up by law in 1975. Both are private law public sector companies. In 1998, DATASUS was created to support the activities of the Ministry of Health, a direct administration body.

In the state government sphere there are twelve private law public sector firms and eight public law autarchies, according to data extracted from the Brazilian Association of State Information and Communication Technology Entities - ABEP website. This pattern repeats itself in the municipal sphere, that is, legal entities were created to manage municipal data-processing services, such as, for example, IPLANRIO in Rio de Janeiro, PRODABEL in Belo Horizonte, PROCEMPA in Porto Alegre, ICI in Curitiba and PRODAM in São Paulo. Even in smaller municipalities it is not hard to find firms whose sole purpose is to manage ICT. However, their efficiency has been questioned.

An explanation for the transfer of the ICT function from direct administration bodies to specific purpose private law firms, or autarchies, is provided by Cepik, Eisenberg and Eklund (2001). The aim is to facilitate the hiring of personnel without having to hold public competitions and contract services and equipment using a more flexible bidding process, thus giving these firms a greater administrative agility than their direct administration counterparts. In Brazil, this possibility was institutionalized by Decree Law 200 of 1967. However, this administrative flexibility was greatly reduced by the 1988 Constitution, which determines that the rules governing the activities of direct administration institutions must be applied to public autarchies, foundations and firms.

Nowadays, the fact that they are public sector firms or autarchies does not protect them from the threats of competitors. It is evident that barriers to entry, based on legislation, are high for private-sector ICT service firms. However, this market's potential makes it quite attractive. Indeed, SERPRO's revenues were approximately of US\$ 750 million, in 2006, and DATAPREV's revenues of roughly US\$ 340 million in 2007.

Regarding competitive pressures, their position appears to be quite different from their private sector counterparts, as, in principle, they tend to have a captive market provided by the government they are serving. However, these pressures may take other forms. For example, private-sector ICT firms can establish direct contact with government organizations to try to win contracts, circumventing the "jurisdiction" of public-sector firms. They can also question the actual technical competence of these firms and influence a decision to privatize them.

The acquisition of the firm Datamec by Unisys evidences another important aspect of the problem. The two firms had maintained a close commercial relationship over a considerable period of time. Since the 1970s, Unisys had been Datamec's exclusive supplier of large-scale computers and had also provided various consulting services. In this case a public sector firm maintains a long-term relationship – in fact a partnership – with another firm, which may, depending on the circumstances, also be a competitor. Situations of this kind are believed to be commonplace in the sector. Private sector ICT firms can market their services in the public sector, treating ICT public sector firms as their target market.

Another strategic problem, that is made evident when one examines the situation of these firms in terms of their purpose, regards how ICT firms should support direct administration institutions in their operations and in accordance with their strategic objectives; in other words, how to align ICT strategies with those of governments. The alignment between the ICT function and corporate strategy has been the theme of several studies. Alignment between partners, ICT firms and government customers is indeed viewed as important for the success of ICT firms. However, it is noted that there are specific factors at play in the government sector in Brazil, due in part to the profile of the sector's leaders, who are elected politicians or administrators chosen by the latter, and, in part also due to the country's legislation.

Thus, one can assume that in Brazil, government ICT firms face the challenge not only of seeking a strategic alignment with their customers and of dealing with competition from their private sector counterparts, but also of contending with the difficulties generated by the lack of administrative flexibility caused by this country's legislation. Their top management should thus understand this environment's complexity and use the managerial tools necessary to establish and manage strategies that increase their chances of success.

The objective of this article is to share some of the main results of the first stage of research, initially focused on Brazil, that aims at contributing to the efforts of the managers' of public sector ICT firms in this country to enhance their effectiveness in terms of supporting the actions of government organizations that control them and of contending with the increasing competition from both private and other public sector ICT firms.

In this article we present elements for developing an analytical framework, as well as a preliminary draft of the latter which is intended to help public sector ICT firms carry out the necessary analyses for ensuring the adequateness of their strategies to the more competitive context, considering the specific contingencies of the firm. With a view to identifying elements pertinent to such a framework, research was conducted on how public sector ICT firms formulate their strategies and establish strategic alliances and on how an environment favorable to entrepreneurship in such firms can be developed.

The environment surrounding public sector organizations is subject to society's influence, that is, these firms must operate in a complex, turbulent and ever-changing world, obliging them to constantly adapt in order to be able to provide efficient services. In this context, strategies that encourage public entrepreneurship and networks of alliances constitute ways of equipping these firms to deal better with the specific challenges of their sphere of activity.

Thus, we assumed that our research could contribute to more effective strategic management of the type of firms at issue, by drawing on existing knowledge regarding not only strategic management, but especially

strategic networks of alliances and entrepreneurship in public organizations, and adapting it to the specific case of the ICT sector.

Besides this introduction, the article is composed of four parts: a review of the literature, description of research methods, presentation of results and preliminary outline of the analytical framework, followed by final considerations.

REVIEW OF THE LITERATURE

Strategic Alliances

Preliminarily, we should like to make clear that in our research we used a definition of strategy that was based on Grant (1998) and complemented by Macedo-Soares (2002:1), as follows:

“Strategy is a unifying proposition that gives coherence and direction to the actions and decisions of an (...) organization, especially for leveraging and allocating the necessary resources for improving or sustaining its performance, in keeping with its vision, and considering the internal and external environmental conditions”.

Strategy’s role for optimizing performance is thus assumed to be essential. This definition is coherent with the integrative approach adopted in the research, i.e. an approach that considers the conjunction of strategically significant factors for taking a strategic decision. In other words, it takes into account not only structural, environmental factors, as focused on by proponents of the positioning school (PORTER, 1979; AUSTIN, 1990), but also organizational factors, namely resources/competencies and conditions to manage these, as emphasized by the Resource-Based-View – RBV (WERNERFELT, 1984; BARNEY, 1997; HAMEL & PRAHALAD, 1989, 1994).

Also important for this integrative perspective is the theory developed by Brandenburger and Nalebuff (1995, 1997), with its concept of *complementor* to explain a situation where the value of a firm’s products increases in accordance with the availability of another product supplied by a different firm. The value net concept proposed by these authors is also relevant and is based on the principle that a firm can adopt different roles in relation to the focal firm at issue: for example it can be both a *complementor* and competitor. The value net includes all the strategic actors and their inter-dependencies with the focal firm that can contribute to the capture or creation of value that is significant for its competitive advantage.

In relation to alliances, it should be noted that very often - and this is increasingly the case since the 1990s - firms form strategic alliances that require a new set of constructs for carrying out their strategic analyses. Alliances are viewed here as voluntary arrangements between firms involving exchange, sharing or co-development of products, technologies or services (GULATI, 1998). They are considered strategic when they contribute to the firm’s competitive advantage. With these alliances, a firm meets its needs with the resources of the firms with which it establishes the alliance, not with those over which it has direct control.

Dyer and Singh (1998) affirm that for an alliance to be established, it must confer an advantage on its participants that cannot be obtained in the market without the formation of an alliance, that is, there are situations in which a firm cannot exchange its alliance partner for another market participant without losing revenue. Alliances are established when their constitution will generate value - relational revenue, due to a special combination of these firms’ attributes - that could not be created by these firms separately. The main sources of relational revenues are: a) investments in assets that are specific to the alliance relationship; b) substantial exchange of knowledge; c) the combination of complementary resources and abilities, generating new products and services; d) lower transaction costs due to better process governance.

Gulati (1998) identifies the reasons that lead firms to establish alliances, the kind of contracts that formalize them, how the alliance and its members develop over time, which factors influence their success and the effect of these alliances on the firms that form them. This analysis can be performed by examining the relations between two firms but for Gulati a social network approach is more appropriate. A social network is a set of nodes (people and organizations) linked by social relations of a certain kind (Laumann, 1978). The influence of social networks can be analyzed using two approaches: one that emphasizes the information that these networks can generate and the other that focuses on the control that can be ensured for actors who are well positioned in the network.

Gulati, Nohria & Zaheer (2000: 203) define a strategic network as:

“a firm’s set of relationships, both horizontal and vertical, with other organizations – be they suppliers, customers, competitors, or other entities, - including relationships across industries and countries. (They) are composed of inter-organizational ties that are enduring, (...) of strategic significance for the firms entering them, and include strategic alliances.”

According to Gulati et al., the analysis of a firm’s strategic network is more suitable for understanding the performance of specific firms than an isolated analysis of its situation in an industry or its internal resources. They emphasize that strategic networks provide the firm with access to information, resources, markets and technology. However, they highlight the risk of being locked into the network, thus making it difficult for the firm to leave and establish new relationships with other firms. A firm’s performance is strongly influenced by the strategic network in which it operates and through which it competes with other groups or networks (GOMES-CASSARES, 1994).

The research at issue in this article draws upon constructs that are part of the Strategic Network Analysis - SNA tools proposed by Macedo-Soares (2002). See also Macedo-Soares, Lange & Freitas (2004) as well as Macedo-Soares, Tauhata & Lima (2005). These tools are intended to help managers carry out strategic analyses, considering the strategic implications at industry and firm levels of alliances and networks, given their characteristics. They include a methodology to carry out strategic analyses from a relational perspective, lists of pertinent relational variables, constructs and indicators and a SNA model to map the most important macro-environmental factors, actors/partners, and interdependencies of the focal firm’s value net.

Public Entrepreneurship

The research also contemplated constructs pertinent to public entrepreneurship. In the literature, studies of individual entrepreneurship usually address three distinct aspects: 1) the result of the entrepreneur’s action; 2) entrepreneur’s characteristics; 3) how he acts. In this article the emphasis is on the latter aspect and therefore adopts Stevenson and Jarillo’s (1990: 23) definition for public entrepreneurship: “a process by which individuals – either on their own or inside organizations – pursue opportunities without regard to the resources they currently control”. In sum, for Stevenson and Jarillo entrepreneurship refers basically to the readiness to pursue opportunities constituted by desired situations that are considered to be feasible, even if, in principal the actor does not control the necessary resources.

Zerbinati and Souitaris (2005) add that these opportunities do not only involve the generation of profits, but also other factors, such as the advancement of a career, social recognition and political election.

Stevenson and Jarillo (1990) go beyond individual entrepreneurship and, based on their definition, present propositions regarding organizational entrepreneurship. The entrepreneurial organization is one that pursues opportunities even if it does not, in principle, possess all the resources needed to achieve success. The degree of entrepreneurship depends on the attitude of individuals within the organization, that is, it does not depend solely on the attitude of executives at the top of the organizational hierarchy. To achieve a greater entrepreneurial attitude, individuals must be able to detect opportunities and there must be a conscious effort on the part of the firm to minimize the negative consequences of failure due to these entrepreneurial attitudes and to institute forms of recognition in case of success. In this context, the ability of employees to exploit opportunities will have a direct impact on the organization’s entrepreneurial behavior. Considering the fact that entrepreneurs do not, in principle, control all the resources necessary for a specific undertaking, the authors emphasize that the entrepreneurial attitude is related to the establishment of internal and external networks, as it is through these networks that the necessary resources can be obtained.

Fernandes and Santos (2008) developed and tested a theoretical model in order to understand the impact of entrepreneurial behavior on organizational performance. This model considers that the entrepreneurial leadership of the firm’s top executives has a positive influence on the organization’s strategic entrepreneurial stance and thus produces a direct positive impact on performance. Furthermore, an entrepreneurial organizational stance produces greater innovatory success, and this enhanced capacity to innovate also has a positive impact on the firm’s results. The model articulates entrepreneurship with the organizational learning and market orientation variables. Thus, entrepreneurship has a positive impact on organizational learning capacity and the latter, in turn, has a positive impact on both the organization’s capacity to innovate and its market orientation. The hypothesis that organizational size has a moderating impact on the relation between an entrepreneurial posture and performance was not confirmed.

Foss, Klein, Lor & Mahoney (2008), seek to integrate entrepreneurship with strategic management. For these authors, entrepreneurship is a collective act in which different mental management models interact to create solutions that are superior to those created by a single individual. It is a subjective process which presupposes that the people involved may have different preferences, thus opening up opportunities for creativity, given that the different mental models encourage debates between different perspectives and often produce a positive dynamic. Thus, entrepreneurship is seen as a corporate phenomenon and its unit of analysis is the management team.

Similarly to private sector firms, public sector organizations also need to innovate. Arguments in favor of private sector firms are frequently also valid in the context of public administration. Drucker (1986) highlighted the need for public organizations to adopt entrepreneurial practices to achieve success in their mission, emphasizing how innovations are a consequence of entrepreneurs' efforts. For Morris and Jones (1999), the idea that the environment in public organizations is stable does not correspond to present-day reality. On the contrary, their environment is turbulent, complex and hostile, which would, theoretically, imply a need for change to adapt them to this new context. Entrepreneurship is seen as constituting a strategic response to these problems.

However, the term "public entrepreneurship" appears to have come to the fore with the work of Osborne and Gaebler (1992) who proposed that public sector organizations be managed in a similar fashion to private sector firms. These authors presented ten principles that public organizations should pursue in order to achieve a greater degree of entrepreneurship. They are: i) promote competition; ii) give power to citizens; iii) measure performance based on results; iv) adopt a mission-oriented rather than a regulation-oriented approach; v) treat service users like customers; vi) prevent problems before they appear; vii) seek a positive financial result; viii) decentralize authority; ix) use market instead of bureaucratic mechanisms; x) catalyze all sectors of the organization. In sum, the aim is to adopt corporate managerial practices in order to break or reduce the rigidity of public organizations' bureaucracies, thus enhancing their performance.

These propositions had a great influence on public administration during the 1990s. Gore (1993) proposed that, by adopting entrepreneurship, public organizations could improve their performance and thus correspond to society's expectations. His project was based on four principles: cutting red tape, placing customers first, empowerment and producing more, while spending less.

The adoption of entrepreneurship and corporate entrepreneurship concepts in public organizations led to a reaction from researchers who questioned its implications for ethics and politics. Edwards, Jones, Lawton and Llewellyn (2003) questioned how appropriate these principles were, given that they could conflict with values of public administration such as fairness and honesty and increase the institutions' exposure to risk. Box (1999) observes that the administration of public organizations with a focus on entrepreneurship leads to the adoption of private sector managerial practices. The citizen would be seen as a customer and the administrator would take initiatives that were hardly compatible with the values of democracy. Similarly, for Terry (1998), the greater autonomy of managers required by entrepreneurship that provides them with the incentives to break the rules, makes them more difficult to exercise control and conflicts with the principles of democracy.

Note that prior to Box and Terry, Gore (1993) had already made a distinction between citizens and customers in the U.S. context. All people would be citizens, with the ability to influence government decisions, but in the use of public services they would be customers.

Spicer (2004) makes a distinction between two concepts of the State in the history of social ideas. One views the State as an association with a specific purpose and the other as a civil association without a specific end, but which determines how conflicts between its members are to be resolved. After identifying the culture of the United States with associative States, the author affirms that public entrepreneurship is appropriate merely in the case of a specific purpose State. Otherwise it could represent a threat to that country's successful tradition.

On the other hand, Cohen and Eimicke (2000), who also analyze the U.S case, observe that public entrepreneurship has been essential in enabling public organizations to achieve the levels of quality desired by society. However, they recommend that managers and business school students be made aware of the discussion regarding ethics in public administration.

In our research it is assumed that public entrepreneurship does not conflict with ethics or the principles of public administration. It is deemed necessary to enable governments to meet their societies' demands, especially in an environment marked by more frequent and radical change. Also in keeping with Gore's (1993) line of thought, it is not a question of what should be done, which must be determined by some societal process, but how it should be done.

A growing number of studies of public entrepreneurship have been published in recent years (IRELAND, REUTZEL and WEBB; 2005), showing that it is an area of knowledge that needs to be developed

further. Even so, few studies have attempted to construct theoretical models or frameworks for public entrepreneurship.

Ramamurti (1986: 143) defines the public entrepreneur as “an individual who develops actions to initiate, maintain, or increase one or more public sector organizations”, and he analyzes public entrepreneurship based on the personal characteristics of the entrepreneur who works in government organizations. He studied the characteristics of leaders with entrepreneurial characteristics in public organizations in various countries. His aim was to investigate why people with personal entrepreneurial characteristics work in government organizations instead of in the private sector. Moreover, even if a person possesses such characteristics, why does he or she behave in an entrepreneurial fashion in government. The author identified features that they share with private sector entrepreneurs: they are creative and self-confident, have innovative ideas and possess a fierce determination to transform their ideas into reality. On the other hand, their economic motivation is significantly lower, given that, in the public sector, they do not capture a part of the undertaking’s financial results. Therefore, motives such as personal achievement, power and prestige are more important for the public entrepreneur.

Ramamurti (1986) continues with an analysis of five environmental factors, or barriers to entrepreneurship, that require the public entrepreneur to possess characteristics that are different from those found in the private sector entrepreneur: i) the multiple and ambiguous objectives of public organizations; ii) management autonomy that is limited and subject to interference; iii) great visibility of the actions undertaken; iv) a biased reward system (it is relatively easy to penalize failures but difficult to reward success); v) excessively short-term focus (hindering strategic changes the results of which only appear in the long term); vi) restrictions on the management of people (hirings, dismissals, promotions). Public entrepreneurs do not combat these factors but know how to recognize them and how to develop their initiatives in spite of them.

Following a similar line of argument, Bernier and Hafsi (2007) consider that the public entrepreneur is a person who contributes to the construction of a public organization or to increase his or her ability to provide services and create value.

Researching the actions of local governments in the European Union, Zerbinati and Souitaris (2005) developed a typology of public entrepreneurs based on three dimensions. The first distinguishes between entrepreneurs according to their career path, that is, whether they have come from the political or public administration spheres. The second examines the entrepreneur’s objectives, using the criteria of expected rewards, his strategies to lead the organization that is executing the project and the undertaking’s available time horizon. The third dimension examines the entrepreneur’s operational methods (political contacts, professional contacts, management skills, knowledge of internal structures and processes). Thus, the typology proposed is composed of five types: i) professional politician; ii) spin-off creator; iii) political business entrepreneur; iv) manager dedicated to his public sector career; v) politically ambitious public sector manager.

Mack and Vedlitz (2008) proposed a way of objectively assessing the personal attributes of people with outstanding performances as entrepreneurs in innovation processes and in the public organization environment. They define personal and situational attributes. The personal ones are: attitude in relation to innovation, leadership, team building, innate qualities (risk taking, persistence, energy). The situational attributes include social contact networks, membership of professional and community organizations and ties with the local community.

Llewellyn and Jones (2003) examine public entrepreneurship from a content-view as opposed to an entrepreneurial process perspective. They use a model with three variables, which, when combined in different ways, establish eleven possible types of entrepreneurial action. The first variable involves the kind of service created, which may be entirely new, either new for the specific sector in which the organization operates or new for the organization. The second variable concerns how new undertakings are structured, which can occur within the existing organization or through the creation of a new firm. Finally, the third variable deals with the way the service is provided, which may or may not be innovatory. The combination of these three variables generates a scale of public entrepreneurship. The entirely new firms that were created to offer an entirely new service are located at one end of the scale. At the other end are the already existing organizations that carry out small improvements in the services that already exist. Naturally one may question whether the latter can be called entrepreneurial. Another example, positioned in the middle of the scale, is the development of an entirely new service for the sector provided by the already existing organization. Table 1 presents the eleven points identified on the scale. Moreover, according to Llewellyn and Jones (2003), entrepreneurship should be associated with the concept of first mover, that is, the firm that takes the initiative of establishing a new model that will be followed by other organizations.

Table 1 – Organizational Entrepreneurship – (Llewellyn and Jones; 2003)

Variable	Type of service or product
Creation of a new organization	1) entirely new
	2) new for the sector
	3) new for the region
Service innovation in an existing organization	4) entirely new
	5) new for the sector
	6) new for the region
	7) new for the organization
Innovation in the provision of an existing service	8) entirely new
	9) new for the sector
	10) new for the region
	11) new for the organization

Other approaches concentrate on the entrepreneurial process instead of on the characteristics of the entrepreneur or the consequences of his actions. For Bernier and Hafsi (2007), in situations in which the environment is very heterogeneous and turbulent, entrepreneurship becomes institutionalized and takes on a systemic form, thus affecting a great number of people, instead of being limited to one or a few specific entrepreneurs. The public organization adopts a systemic entrepreneurship process. For this to occur a leadership action must emanate from the top of the organization, incubating the principles of entrepreneurial behavior. This behavior is based on cooperation between various specialized actors in the organizational system: top management, the actors who perform organizational functions with the capacity to detect opportunities for innovation and, conciliating these two groups, a middle management group that is able to encourage the innovation process and align it with the organization's strategic directives.

Bernier and Hafsi (2007) discuss situations that favor the two kinds of entrepreneurship: the individual entrepreneur and systemic entrepreneurship. The individual entrepreneur tends to appear when there is a strong government, when the environment is favorable or when the activity or organization is new. Systemic entrepreneurship tends to occur when governments are weak, in crisis situations or in already established complex organizations. Thus publicly-owned firms follow a life-cycle in which individual entrepreneurship occurs when they are created. This is followed by a phase during which its employees try to make it function like a machine. In the third phase, a situation favorable to systemic entrepreneurship arises due to the inefficiencies engendered during the second one.

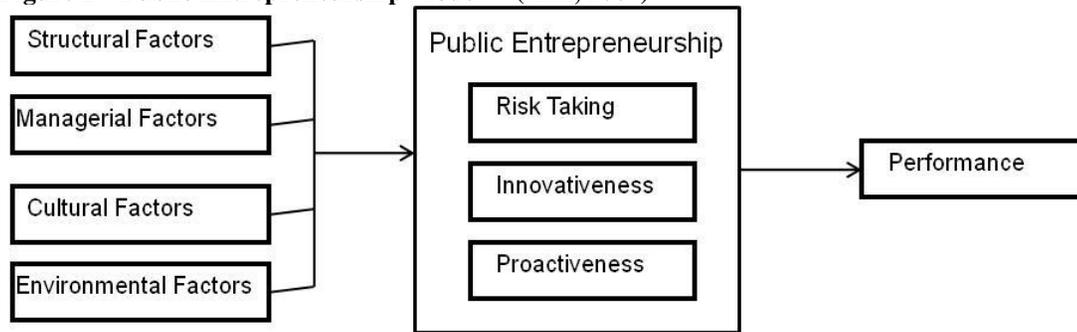
Based on the definition of public entrepreneurship as any attempt to exploit new opportunities and the resulting improvement in public services, involving risk-taking, innovations and a proactive stance, Kim (2007) proposes a model that relates determining factors in public entrepreneurship and the latter's relation with organizational performance. This model stipulates that public entrepreneurship is composed of three dimensions, with each of them affecting the organization's degree of entrepreneurship independently: acceptance of risks, innovatory approach, and a proactive stance.

The acceptance of risks is related to the organization's readiness to adopt risky options for change with a certain tolerance for failure. It is emphasized that the government environment is less tolerant of failure than the private sector. The innovatory approach is necessary to deal with the turbulent ever-changing environment, and refers to the organization's readiness to create or adopt new ideas or managerial practices. In the public sector, it is more a question of reshaping existing services than creating entirely new services. A proactive stance refers to the public organization's willingness to make efforts to promote change.

Each of these dimensions of Kim's (2007) model is influenced by fifteen determining factors, which were grouped into four categories: structural, managerial cultural and environmental factors. These factors influence each of these dimensions in a different fashion, and may even work against each other. Figure 1 presents these factors.

The structural factors are: formalization, hierarchy, flexibility, number of employees and budget. The managerial factors are: participative decision-making process, performance-based rewards and autonomy. The cultural factors are: performance objectives, accountability and multiplicity and ambiguity of objectives. Finally, the environmental factors are: political influence, media coverage, perception of external competition and legal liability. As we shall explain further on, in the draft of our analytical framework we drew heavily upon these factors.

Figure 1 – Public Entrepreneurship Model – (Kim, 2007)



RESEARCH METHODS

The review of the literature was performed with the help of the three-stage method for bibliographical research developed by Villas, Macedo-Soares and Russo (2008). In keeping with the latter method, multiple rankings were used to identify the state of the art in the specific management topics investigated and thus select the most pertinent works for developing the first draft of the analytical framework at issue in this article. This first draft involved a synthesis of elements drawn from Macedo-Soares' SNA tools, namely the constructs and methodology for a relational strategic analysis with elements of models presented by authors who studied private and public entrepreneurship. This is explained in more detail in the next part of this article.

Note that after consolidating the framework, we intend to validate it first in Brazilian public sector ICT companies in the scope of a multiple case study, using the case study method (Yin, 2003). By way of this validation process we expect to find some new elements that could help refine the framework. The ongoing literature review should also contribute to its refinement.

RESULTS

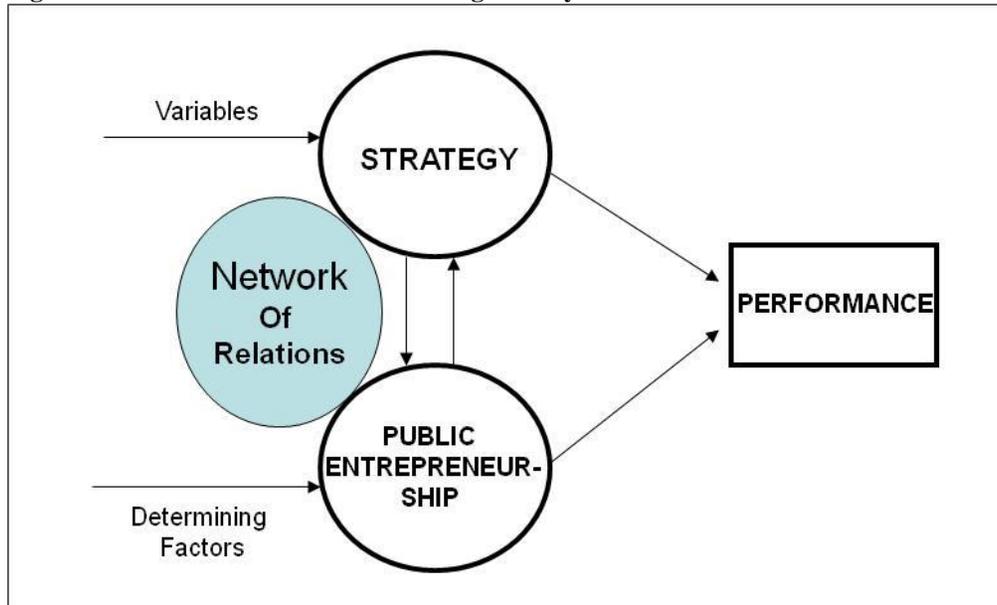
The elaboration of the analytical framework at issue here takes as its starting point Stevenson and Jarillo's (1990) proposition that firms that encourage the formation of internal or external networks are able to obtain a greater degree of entrepreneurial behavior and, consequently, a better performance. In their words: "Organizations which facilitate the emergence of informal internal and external networks, and allow the gradual allocation and sharing of resources, will exhibit a higher degree of entrepreneurial behavior" (p. 25).

In our research, however, it is assumed that strategic management that understands the importance of public entrepreneurship for an organization's results can lead to the adoption of actions that facilitate entrepreneurial practices. It is also assumed that the entrepreneurial action itself can influence strategy, by driving, for example, the creation of strategic networks / alliances that enable the organization to acquire knowledge that can be applied in the development of new products and services. It should be noted, however, that entrepreneurial practices may be independent from organizational strategy, with various factors affecting their dimensions. For this reason, in the draft of our analytical framework (Figure 2), we propose that strategies in public sector ICT firms be developed by drawing on practices that are pertinent to public entrepreneurship.

Because of the emphasis given to strategic networks for promoting entrepreneurship, in the case of ICT public sector firms, we drew upon the methodology of the SNA tools explained earlier for carrying out strategic analyses from a network (relational) perspective. This methodology includes the following steps: 1) characterization of the focal firm's current strategy; 2) identification of the strategically relevant macro-environmental factors as well as main strategic actors/roles (except as partner) and assessment of their strategic implications; 3) identification and assessment of the strategic implications of the firm's organizational factors (resources/competencies and conditions to manage and acquire these); 4) identification and classification of the firm's strategic alliances; 5) identification of the characteristics of the firm's network of relationships and assessment of their strategic implications at firm and industry levels; 6) assessment of firm performance; 7) in the light of the latter, evaluation of the fit between the strategy and all the strategically important factors (organizational, environmental and relational) given their strategic implications at firm and industry levels,

respectively in terms of constituting strengths/weaknesses and opportunities/threats; 8) identification of sources of inconsistencies between the strategy and these factors; 9) assessment of the need for changes in strategic orientation or in the organizational and/or relational factors, in case of incongruence between the strategy and these factors.

Figure 2 - Draft of Framework for Strategic Analyses in Public Sector ICT firms



In order to assess the adequateness of the environment for public entrepreneurship, we proposed yet another step based on the variables of Kim 's (2007) model with its three dimensions and 15 determining factors. This 10th step is: assessment of the determining factors for creating an environment of public entrepreneurship.

In Table 3, the PR, I and PA columns correspond to the risk propensity, innovation and proactive stance dimensions. The letters P and N indicate the positive or negative influence of the factors on these dimensions, with P referring to a positive influence of entrepreneurship and N, a negative one.

Although entrepreneurship is seen as an essentially organizational phenomenon, the importance of organizations' leadership characteristics is also acknowledged. Finally, the theory underlying our analytical framework uses a typology of top managers of public sector firms proposed by Zerbinati and Souitaris (2005) with the five categories mentioned above. The aim is to characterize their managers' expectations, considering that they can condition organizational strategy.

FINAL CONSIDERATIONS

As mentioned in the introduction, this article aimed at presenting elements for developing an analytical framework to help carry out strategic analyses in the case of public sector ICT firms, based on the literature on strategy, especially, strategic networks and alliances, and entrepreneurship. It also attempted to present a preliminary sketch of the analytical framework at issue.

Further research is obviously required to transform this preliminary sketch into a robust framework. As observed earlier, once consolidated, we intend to validate it in the scope of case studies of public sector ICT firms. These are being chosen with a view to allowing the identification of patterns that are not limited to any particular firm, that is, firms that constitute cases of literal replication according to Yin (2003). It has been decided that the first firms where the framework will be used to carry out strategic analyses will be the two main federal ICT organizations, SERPRO and DATAPREV, in Brazil. Next the framework will be applied in public sector ICT firms linked to state and municipal governments in Brazil, and after that also in other countries.

It is believed that, once validated, the framework can contribute to a more effective strategic management of public sector ICT firms in the current context of increasing competition and change, by taking into account the conjunction of strategically significant factors at play, especially the necessary entrepreneurial

attributes at organizational level for ensuring a dynamic strategic fit and the alliances and networks established by these firms. Although originally intended for public sector ICT firms, with some adaptations based on further research, such a framework could eventually also be helpful in the case of other types of public sector firms.

Table 3 – Determining factors for public entrepreneurship

	PR	I	PA
Structural Factors			
Hierarchy	N	N	N
Formalization	N	N	N
Flexibility	P	P	P
Size of the organization	P	P	P
Managerial Factors			
Performance-based rewards	N	P	P
Participative decision-making process	P	P	P
Autonomy	P	P	P
Specialization	P	P	P
Environmental Factors			
Political influences	N	N	P
Media coverage	N	P	P
Legal liability	N	N	N
Perceived external competition	P	P	P
Cultural Factors			
Accountability	P	P	P
Performance objectives	P	P	P
Multiple and ambiguous objectives	P	P	N

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GIS AND CREDIT SCORING OF AGRICULTURAL LOANS

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ABSTRACT

The objective of this study is to investigate whether the default prediction model of agricultural loans can be improved by using the GIS data. Using the samples of 2,318 rice and cassava loan applications in 2006 from the Bank of Agriculture and Cooperatives (BAAC) in Thailand we examine the performance of the default prediction models using only economic variables and those with GIS variables such as soil suitability, risk of drought, and average rain volume. We apply two approaches for the investigation, the logistic regression and data mining technique. Under the logistic regression, it is found that the ability to pay measured by income to expenses ratio and savings are negatively associated with default. The results also suggest that the risk aversion of loan applicants as measured by their insurance behavior has the negative association with default. Moreover, loans with collateral or personal guarantee which suggest the low creditworthiness of the borrowers have higher default probability. Incorporating the GIS variables into the model, the logistic regression analysis indicates statistical significance on some GIS variables. In contrast to our expectation, the model with the GIS variables shows only marginal improvement on prediction power. Under the data mining approach, the results are mixed. The improvement of the prediction models is dependent on the mining techniques and crop types. However, the improvement is also marginal. Finally the results should be interpreted with caution since there may be some measurement error in determining the GIS coordinates of the loan applicants.

INTRODUCTION

Credit scoring has been widely applied in assessing loan applications by financial institutions. Credit scoring has been broadly applied in consumer lending, especially in credit cards and it is becoming more commonly used in mortgage lending. The underlying idea of the scoring is that borrowers' socioeconomic information can be used to predict whether borrowers will default or not. The dependent variables used to predict probability of default in credit scoring models for retail customers usually includes economic variables such as incomes, expenses, marriage status, age, and so on; see for example Jacobson and Roszbach, (2003), Dietsch and Petey, (2002), and Schmit (2004) for leasing industry.

For agricultural loan, previous studies such as Limsombunchai, Gan, and Lee (2005) and Bandyopadhyay (2007) the scoring is also based only on economic variables. However, there is major difference between the agricultural loans and other retail consumer loans. For the agricultural loans the ability to pay of obligors depends largely on yields of their crops which in turn depend on weather condition and quality of soil. The information is currently available using the geographic information system (GIS) data. Due to the improvement of technology the GIS data have become more accessible in the recent years, there are vast applications of GIS data in business decisions such as marketing and logistic. Yet the application of GIS data in default prediction of agricultural loans has not been utilized in the literature even though there is potential improvement of the model by incorporating them with the traditional economic variables.

The objective of this study is to investigate whether the default prediction model of agricultural loans can be improved by using the GIS data. Our samples are from 2,318 rice and cassava loan applications in 2006 from the Bank of Agriculture and Cooperatives (BAAC) in Thailand. These data consist of 1,109 default and 1,209 non-default loans. We develop the model based on two approaches, the logistic regression and the data mining technique. We then compare the performance of the default model using economic variables and those incorporated with the GIS variables such as soil suitability, risk of drought, and average rain volume. Under the logistic regression, it is found that the ability to pay measured by income to expenses ratio and savings are negatively associated with default. The risk averse behavior of applicants also has the negative association with the probability of default. Moreover, it is shown that there is positive association between loans with collateral and default probability. Rather unsatisfactory, our results show that by incorporating the GIS variables the prediction model show only marginal improvement in performance. Under the data mining techniques, we find that the performance of the model is mixed depending on types of crops and the mining techniques. Also the results suggest marginal improvement of the prediction performance of the models incorporating GIS data.

The study proceeds as follows. Section 2 briefly discusses the related studies in credit scoring. The loan data and GIS data as well as methodology are presented in Section 3. The results are reported in Section 4 while Section 5 concludes and discusses the main findings.

RELATED STUDIES

In general to assess the credit risk of loans, banks use credit scoring models to estimate default risk on a single obligor basis. Several prediction models have been extensively used both for modeling bankruptcy or default risk. The early models typically include the accounting data as covariates and they are static in nature. The more recent models incorporate time-varying and market variable covariates. Moreover, other non-statistical techniques such as data mining or DEA are applied in modeling.

The early accounting based models are pioneered by the work of Altman (1968) and Beaver (1966, 1968) which are based on the Multiple Discriminant Analysis (MDA). These studies find that past financial indicators can discriminate between matched samples of defaulted and nondefaulted firms. In particular, the variables used in the famous Altman's Z score are the ratios of working capital, retained earnings, EBIT, sales to total assets and the leverage ratio. Because of its simplicity and accuracy, the basic Z-score type model has endured to this day, and has also been extended to private firms (Z'-score), nonmanufacturing firms (Z''-score), and emerging market firms. Zmijewski (1984) discusses the methodological issues in estimation of these financial distress prediction models. Caouette et al. (2008) provide detail discussion of these type of models. Later generation of prediction models has been dominated by qualitative-response models of the logit or probit type. For example the O-score by Ohlson (1980) is the logit model which consists of nine accounting-based variables that predict one year-ahead default probability. A review of empirical performances can be found in Johnsen and Melicher (1994) and in Sobehart and Keenan (2001). Finally, it should be noted that a model of this type is static in nature since it only take into account the information for fixed certain period before firms default.

In recent years, the prediction models are dominated by duration analysis or the hazard models. As pointed out by Beck et al. (1998) and Shumway (2001) there are several reasons to prefer hazard models for bankruptcy prediction. First the hazard models allow us to adjust for period at risk that firms may enter in before default. In other words the model allows us to incorporate time-varying covariates. By observing only the preceding year (or fixed certain period) prior to default, we ignore important information at different point in time. It can also generate some trivial results and an "excessive" list of significant explanatory variables. Second the hazard models overcome the inherit selection bias in static model. Third, they generate more efficient out-of-sample forecasts by utilizing much more data than static models. In particular, Shumway (2001) estimates that the hazard models with the accounting variables used previously by Altman (1968) and Zmijewski (1984) and the results reveal that half of the variable are statistically unrelated to bankruptcy probability. He also develops a new bankruptcy model that uses three market-driven variables which outperforms alternative models in out-of-sample forecasts.

Using more comprehensive data set, Chava and Jarrow (2004) confirm the superior performance of the hazard model. They also emphasize the importance including industry effects in the prediction model. Moreover they

show that accounting variables add little predictive power when market variables are already included in the default model. In more recent study, Campbell et al. (2008) consider a wide range of explanatory variables, including both accounting and equity market variables, and by explicitly considering how the optimal specification varies with the horizon of the forecast. Their modifications include scaling net income and leverage by the market value of assets rather than the book value and adding further lags of stock returns and net income and adding variables such as corporate cash holdings, the market-to-book ratio, and a firm's price per share. They show that these can improve the explanatory power of the model. Moreover, they explore the information provided by the distance to default of the Moody's KMV which based on the Merton (1974). They find that this measure does not add material explanatory power to their best modified model.

Further development of the recent credit scoring includes a variety of methods such as the recursive partitioning algorithm, neural networks (NN), multi-criteria decision making (MCDM), and data envelopment analysis (DEA). For example, application of neural networks in credit scoring (NN) has investigated by Desai, Crook, and Overstreet, 1996; Malhotra and Malhotra, 2002; and West, 2000. However, the performance of the neural networks technique in general does not significantly outperform the traditional models such as logistic regression analysis. West (2000) also examines the accuracy of quantitative models commonly used in the credit models. The results show that NN does not improve the credit scoring accuracy. The result of the logistic regression is as good as that of NN. Moreover, the linear discriminant analysis, k-nearest neighbor (k-NN), and CART (classification and regression tree) do not produce encouraging results. The NN is commonly considered as a black-box technique without logic or economic rationale. Hence, it is difficult to explain the underlying principle for the decision to rejected applications.

More recently, Min and Lee (2007) presents a new method of credit scoring using DEA. As opposed to other traditional models DEA requires only ex post information to calculate credit scores. The discriminatory power of this method was also tested by comparing its results against those obtained by regression analysis and discriminant analysis, and by using actual bankruptcy cases. They claim that their empirical results support this new approach as an alternative for augmenting and/or replacing current credit scoring models. Philosophov et al. (2008) applies multi-alternative decision rules of statistical decision theory to credit scoring. They argue that these rules noticeably enhance bankruptcy prediction (compared with the familiar one-period Z-score rules of Altman) for bankruptcy within the first year up to three years.

For agricultural loans, Katchova and Barry (2005) developed models for quantifying credit risk in agricultural lending. They calculated probabilities of default, loss given default, portfolio risk, and correlations using data from farm businesses in the United States. Their models are based on CreditMetrics and Moody's KMV. Limsombunchai, Gan, and Lee (2005) estimate a credit scoring model for the agricultural loans in Thailand. Using the data of agricultural loans during the period of 2001 to 2003, the logistic regression shows that total assets value, capital turnover ratio (efficiency) and the duration of bank-borrower relationship are important factors in determining the creditworthiness of the borrowers. Moreover, the overall prediction accuracy of the logistic credit scoring models is higher than that of the Artificial Neural Networks model on out-of-sample forecast. Using agricultural loans from a French bank, Jouault and Featherstone (2006) show that leverage, profitability, loan duration, and liquidity at loan origination are good indicators of the probability of default. Arindam (2007) develops a credit scoring model for agricultural loan portfolio of a large Public Sector Bank in India and suggest how such model would help the Bank to mitigate risk in Agricultural lending. The determinants of creditworthiness are based on broad borrower characteristics such as quality of borrower, cost of living, financial factors, and collateral position. However, none of these studies incorporate the GIS into their prediction models.

DATA AND METHODOLOGY

The sample consists of 2,926 loan applications randomly sampling from BAAC's rice and cassava loans in 2006. After excluding loans with incomplete data, the resulting sample consists of 2,318 loans applications, 1783 of rice loans and 535 of cassava loans. The credit status (or the outcome of the loans, past due) is determined in March 2007. In particular, the credit status is equal to 1 if the loan is past due and 0, otherwise. The credit scoring models are constructed and then compared using both economic and GIS variables. The descriptions of these variables are summarized in **Table 1**.

Economic data

The information of obligors available from BAAC includes 26 variables such as gender, age, years of being BAAC customer, marital status, education, family size, labors in family, revenue from agricultural activity, other revenue, family expense, expense in agricultural activity, other expense, paying interest, loan value, land ownership, land size, deposit, cattle value, real estate value, machinery value, saving behavior, insurance behavior, short term debt with BAAC, long term debt with BAAC, other debt, and collateral. Using economic reasoning and by statistical variable selection procedure, we have transformed, combined and reduced the set of 26 variables into 4 main variables which are used in the current economic model: saving class, income/expense ratio, collateral, and insurance behavior.

Table 1: Economic and GIS variables

Variables:	Source	Description
<u>Economic variables:</u>		
Saving class	Bank of Agriculture and Cooperatives	Customer savings classified into 5 classes (baths). 1 = less than 1000, 2 =1001-5000 3 = 5000-10,000, 4 =10,001-20,000 5 = more than 20,000
Type of crops	BAAC, 2007	Indicator variable. 1= rice, 0= cassava
Income and Expense Ratio	Bank of Agriculture and Cooperatives	The ratio between the customer's total incomes and total expenses.
Collateral	Bank of Agriculture and Cooperatives	Type of collateral that the customer pledges in order to get the loan. 1=Saving, treasury bill or government bond, 2=Pledge, 3=Personal guarantee (by 2 persons), 4=Personal guarantee (by 5 persons or more), 5=Personal guarantee and pledge
Insurance Behavior	Bank of Agriculture and Cooperatives	A variable indicating whether the customer holds an insurance policy, either life or non-life. 0 = if a customer holds an insurance policy, 1 = otherwise
<u>GIS variables:</u>		
Average rain volume	Royal Irrigation Department	Annual rain volume in cubic millimeter at the customer's land coordinates observed at 2006.
Drought risk	Land Development Department	Drought risk at the customer's land coordinates observed in 2002. 1=high risk, 2=medium risk, 3=low risk, 4=no risk, 5=water area
Soil suitability	Land Development Department,	Soil suitability for rice farming at the customer's land coordinates observed in 2006. 0=no soil suitability data, 1=not suitable for rice farming, 2=suitable for rice farming, 3=highly suitable for rice farming.

GIS data

Ideally we should get the exact coordinates of the farmers' land use. This is easily done using the right equipment. However, due to the unavailability of the GIS coordinates in the current loan application, we proxy the coordinates based on the village address of an applicant. Then from this coordinates, the data of soil suitability, rain volume, and risk of drought are mapped.

RESULTS

Logistic regression

Two logistic regression models are fitted to the data. The first model consists only of the economic data, referred to as the economic model. The second model consists of both the economic data and the GIS data, referred to as the economic plus GIS model. **Table 2** reports the results of the logistic regressions. For the economic model, Panel A shows that most economic variables are statistically significant as expected. For example, the higher the saving and income to expense ratio the lower the default probability (loan past due). In addition, if the applicants have some form of insurance they are less likely to default. On the other hand, if loans are required collateral they are likely to default. The AIC (Akaike's Information Criterion) is equal to 2598.8. Panel B reports the results of the logistic regression when we add the GIS variables into the model. It can be seen that the economic variables are significant as previously are. However, among the three GIS variables, only rain volume is statistically significant. The AIC for the economic plus GIS model is 2583.1. The AIC has imposed some penalty over the number parameters of the fitted model to avoid the *overfitting* problem, where the model with lower AIC is considered better fitted. The result suggests that the economic plus GIS model fits the data better.

Table 2: The logistic regressions

Panel A: Economic variables (AIC = 2598.8)

Coefficients	Estimate	Standard error	z-value	p-value
(Intercept)	1.9852	0.1762	11.265	<2.00E-16
Crop type 1	-0.2184	0.114	-1.917	0.05529
Saving class 2	-0.6025	0.1058	-5.697	1.22E-08
Saving class 3	-1.2822	0.2022	-6.34	2.30E-10
Saving class 4	-1.4743	0.2455	-6.006	1.91E-09
Saving class 5	-1.712	0.2188	-7.826	5.04E-15
Income-expense ratio	-1.4678	0.1174	-12.497	<2.00E-16
Collateral 3	2.0654	0.252	8.194	2.52E-16
Collateral 4	0.2779	0.1382	2.011	0.04432
Collateral 5	-0.5336	0.1112	-4.797	1.61E-06
Insurance behavior	-0.6548	0.2365	-2.769	0.00563

Panel B: Economic with GIS model (AIC = 2583.1)

Coefficients	Estimate	Standard error	z-value	p-value
(Intercept)	2.191175	0.314809	6.96	3.39E-12
Crop type 1	-0.34518	0.1229	-2.809	0.004975
Saving class 2	-0.58271	0.106612	-5.466	4.61E-08
Saving class 3	-1.27591	0.204212	-6.248	4.16E-10
Saving class 4	-1.47545	0.247695	-5.957	2.57E-09
Saving class 5	-1.68389	0.22109	-7.616	2.61E-14
Income-expense ratio	-1.45155	0.117934	-12.308	<2.00E-16
Collateral 3	2.068674	0.253885	8.148	3.70E-16
Collateral 4	0.301705	0.139489	2.163	0.030546
Collateral 5	-0.52207	0.112461	-4.642	3.45E-06
Insurance behavior	-0.65273	0.236963	-2.755	0.005877
Rain volume	-0.00049	0.000138	-3.561	0.000369
Drought risk 2	0.407313	0.232784	1.75	0.080163
Drought risk 3	0.421405	0.235021	1.793	0.072964
Drought risk 4	0.247165	0.357867	0.691	0.489778
Soil suit 2	0.322543	0.138289	2.332	0.01968
Soil suit 3	-0.00022	0.125581	-0.002	0.998576

We also examine the misclassification rates of both models. The economic model has minimum misclassification of 0.2826 at cut-off score 0.49. The economic plus GIS model has minimum misclassification of 0.2821 at cut-

off score 0.51. The misclassification between the two models is almost indistinguishable, although the model with GIS has a slightly smaller misclassification value. Next the prediction performances of the two models are examined based on the ROC (Receiver Operating Characteristic) over a ten-fold cross validation. In the ten-fold cross validation procedure, the whole data set of 2318 samples are partitioned into 10 blocks, each of size 231 samples except the last block, which contains 289 samples. For each model, the prediction of a specific sample is done by the model fitted to the data that are not in the same block as the sample. This technique of leaving the prediction block out of the fitting blocks prevents the *overfitting* problem with the prediction. It also allows an efficient use of the whole data set in prediction evaluation. The following graphs show the ROC evaluation results. The areas under the ROC curves of the economic model and the economic model with GIS are 0.7845 and 0.7877, respectively. It appears that the model with GIS data slightly outperforms the model without GIS.

Data mining techniques

The experiments on each data set were conducted using three different algorithms which are k-nearest neighbor, neural networks, and decision tree. Each algorithm was run on two sets of data which are a data set that contains economic variables (NON GIS) and the data set that consists both economic and GIS variables. In total, twelve experiments were conducted on 10-fold cross validation data sets.

Neural networks and decision tree are chosen as base algorithms because neural networks is known to often provide lowest misclassification rate and decision tree is one of the most widely used algorithm. K-nearest neighbor is chosen because it works on basis of distance between points in space of interest, which seems to fit well to the nature of GIS data.

Table 3: Means of misclassification rate (%)

		Rice		Cassava	
		Mean	SD.	Mean	SD.
K-nearest neighbor algorithm					
With GIS	Train	26.3735	0.4129	23.8633	1.7628
	Test	29.9439	2.9473	31.038	5.3555
Economic	Train	27.0733	0.5362	26.6756	1.1147
	Test	30.8869	4.2463	32.8497	3.9802
Neural networks algorithm					
With GIS	Train	26.6736	0.521	21.6797	1.2060
	Test	28.8181	3.533	32.2825	4.8116
Economic	Train	28.0225	0.5212	25.6398	0.7931
	Test	29.4471	3.6761	28.225	5.2477
Decision tree algorithm					
With GIS	Train	26.9384	0.3568	24.4734	0.5113
	Test	31.8787	4.8211	29.0623	5.9783
Economic	Train	28.2273	0.5096	26.5264	0.6842
	Test	30.1654	4.0777	28.5105	5.8184

The summary results of the twelve experiments are reported in **Table 3** for rice and cassava loans. It can be concluded that k-nearest neighbor gives lower misclassification rates for the model with GIS than that of economic data in both rice and cassava loans. Decision tree is shown to provide opposite results. That is, it gives higher misclassification rates on the model with GIS data for both rice and cassava loans. Neural networks give the mixed results. For rice loans, it gives a lower misclassification rate for the model with GIS data, but a higher misclassification rate for the model with GIS data in cassava loans.

One of the explanations for the inconsistent results obtained from neural networks is that the size of the cassava data set is relatively small compared to number of variables used in the model. Neural network is an algorithm that fits quite well to training data especially when the data set is small. That is not surprising that neural networks yield a higher misclassification rate for the model with GIS data because while the number of record remains the same, three more variables are added to the GIS data. For decision tree, again, it is known that decision tree divides a space of interest into subareas that are parallel to variable axes. Such division perhaps is

too coarse for economic data which are quite complex. K-nearest neighbor is shown to be promising compared to the other two algorithms because the core concept of the algorithm seems to align to the nature of GIS data. To statistically confirm the experimental results, we conduct a pairwise t-test on the misclassification rate of the three techniques on GIS and NON-GIS data and conclude that they are not statistically different at 0.05 significant level.

CONCLUSION

The objective of this study is to investigate whether the credit scoring can be improved by incorporating the GIS data. Using the sample of 2,318 loan applications from BAAC's rice farming and cassava loans in 2006, we construct the credit scoring based on the logistic regressions and three data mining techniques (K-nearest neighbor, Neural Net, and Decision Tree). Then we compare the performance of the models using only economic variables with those using economic and GIS variables such as soil suitability, risk of drought, and average rain volume. For the logistic regression models, it is found that the ability to pay measured by income to expenses ratio and savings are negatively associated with default. The results also suggest that the risk aversion of loan applicants as measured by their insurance behavior has the negative association with default. Moreover, loans with collateral or personal guarantee which suggest the low creditworthiness of the borrowers have higher default probability. For the models using data mining techniques, we find that the performance of the models is mixed depending on types of crops and the mining techniques. In contrast to our expectation, incorporating the GIS variables to the prediction models shows only marginal improvement. The results, however, should be interpreted with caution since there may be some measurement error in determining the GIS coordinates of the loan applicants. For further improvement BAAC should record the coordinates of the clients in their loan applications.

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BUSINESS TRAINING DEVELOPMENT: NEEDS OF FOREIGN COMPANIES IN TRANSITIONAL ECONOMY

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ABSTRACT

Most of the surveyed Finnish companies don't offer training related to doing business in Russia to their Finnish personnel working with Russia-issues. Companies either hire people who are already familiar with Russian business environment or make them learn from their own mistakes. The personnel are offered training mainly concerning the functions of the company. Some of the companies do have their own in-house training. However, there is a clear need for the training of the Finnish personnel going to work in Russian market.

INTRODUCTION

This paper focuses on starting phase of developing of business training based on the needs of foreign companies operating or going to operate in transitional economies (TEs), particularly in Russia. The expatriates of newly internationalizing companies often need training on the issues related to living and working in a host country. Appropriate pre-expatriation training can reduce the rate of failure of expatriates and free their resources from survival in host country to more productive work. However, the persons in charge of the firm's personnel management are not always aware of exact training needs which the internationalization could demand. The situation is even more problematic if the majority of the HR-personnel do not have experience of working abroad. The experience of expatriates in companies already established in host country is often unavailable to the expatriate candidates of companies aspiring to internationalize. Often the learning is done unsystematically expatriate by expatriate through trial and error which is slow and costly way.

There is a solid body of literature in the field of international human resource management (IHRM). The micro-level of IHRM is related to expatriate management and includes expatriate training. The strategic HRM is linking HRM activities with policies and practices to the organizational strategy of multinational companies, and is related to internationalization of a company. The expatriate pre-assignment training and its effect on the performance of the companies is widely researched. In contrast, the literature on the training needs of foreign companies in transitional economies is not so numeral. That is where this research is going to contribute.

Our research shows that in different phases of the internationalization the training needs of companies are quite similar. Especially the importance of training related to business knowhow and business culture are emphasized. The newly internationalizing companies need training especially on the phases of establishment and on the features of the target market. Companies with established business in Russia emphasize the role of networking skills and knowing of legislation. SME's are usually operating in Russia with the help of middlemen. SME's need training especially related to language skills and to business knowhow in Russia. Large companies are usually physically present in Russia. In Russian subsidiaries they use top management expatriates for the couple of first years of activity. After that, the top management is localized. Managing of local workers is quite challenging task for expatriates. Usually, for expatriate assignment companies recruit employees which have already an experience of working and living in Russia. To some extent this reduces their training needs before

assignment. The training concerning managing local staff could be useful for the expatriates. Some respondents see Russian personnel as quite skilled and with excellent know-how. However, most respondents experience the difficulties in finding skilled enough personnel for other locations than Moscow or Saint-Petersburg. The high salary demands of professionals make Finnish companies to hire students with small working experience but medium salary demand. This underlines the training needs of Russian personnel for basic business issues. Also the Russian corporate culture creates training needs for the expatriates. The corporate structure of foreign partner creates training needs also for a local middle management in order to manage business and lead personnel effectively.

THE LITERATURE REVIEW

There is a notable amount of research done in the field of human resource management (HRM) in different countries. The studies with cross-country comparisons of HRM practices are focused either on few MNCs and their HRM practices in different countries (Björkman et al., 2007; Fey et al., 2004), or on HRM activities of unrelated companies in different countries (Vanhala et al., 2006). According to Björkman and Stahl (2006), recent empirical research supports the existence of positive relationship between investment in HRM practices and organizational performance. However, in their study Fey et al. (2009) find the motivation and ability as important mediating factors in relationship between HRM and performance of MNE's subsidiary. The existence of universal HRM practices and convergence of HRM practices are questioned in an empirical study by Fey et al. (2004). On the contrary, the convergence of HRM practices in different countries is partly supported in a study comparing HRM in Finland and Estonia by Vanhala et al. (2006). In researches comparing Russian HRM practices with Finnish ones, Fey et al. (2004) and Björkman et al. (2007) found clear differences in training practices.

The international human resource management (IHRM) has its roots in the work of Perlmutter in 1969, which focuses on leading expatriate managers of multinational companies (MNCs) from the headquarters in the home country (Björkman and Stahl, 2006). According to Welch et al. (2008), the international human resource management (IHRM) research can be divided into micro- and macro-level. The predominant micro-level research includes issues of expatriate management, e.g. pre-departure training (Welch et al., 2008). The macro-level research is focused on finding relationships between staffing decisions, HRM practices and organizational issues (Welch et al., 2008). Other macro-level research themes are, e.g. the motives for using expatriates in different stages of internationalization, taking into account national and global context (Welch et al., 2008). The macro-level IHRM research is also called Strategic international HRM, which is linking HRM policies and practices to the organizational strategy of multinational companies (Björkman and Stahl, 2006). IHRM research has some influences from resource-based view of the firm (Barney, 1991), human capital theory (Becker, 1964), and institutional theory (Scott, 1987; Karhunen, 2008).

According to Welch and Welch (1997), the empirical research on the HRM's role in the development of international involvement is quite scarce. Welch and Welch (1997) found that usually it's unlikely that a company, with little or no own international activities, has prepared their human resources for internationalization. Welch and Welch (1997) mention that in general, companies are poorly prepared for the early internationalization phase, during which the involvement of HR department is often minimal. This is despite the fact that the literature emphasizes the impact of HRM strategies on firm's export performance (Welch and Welch, 1997). However, Monks et al. (1999) found that some Irish companies do use proactive and formal HRM practices already before starting international activities. The number of personnel matters when considering the standardization of HRM practices (Rowley and Warner, 2007). According to Welch and Welch (1997) the lack of resources could limit the variety of IHRM practices available to SMEs.

Monks et al. (2001) mention that also the type of activity (e.g. service vs. manufacturing) has an effect on IHRM practices used. Service companies often need to establish foreign units in earlier stages of internationalization than manufacturing firms, due to difficulties in supplying some services from a distance (Welch and Welch, 1997). In such situations, service companies do not have much time for training expatriates for their international assignment (Welch and Welch, 1997).

According to Welch et al. (2008) the topic of HR in international project operations is quite under-researched. Welch et al. (2008) found that firms with international project operations don't usually provide much

training; neither cross-cultural nor technical. In several companies with international project operations, leaving expatriates alone during the process of adjustment to international conditions was more a rule than an exception (Welch et al., 2008). Welch et al., (2008) found that, although, some companies are gradually changing attitudes towards cross-cultural training, others are not so convinced of its effectiveness. The on-site training possibilities are also constrained by tight project budgets, and are dependent on the length of the project (Welch et al., 2008). The shorter the project is – the more intensive it is; which leaves no time for training personnel (Welch et al., 2008). According to Welch et al., (2008), also in cases of companies involved in international projects, the firm's size matters – larger companies are able to provide more structured training than smaller ones.

In accordance with Welch and Welch (1997) and Monks et al. (2001), companies are eager to use expatriates in their foreign operations especially at the early stages of internationalization. Monks et al. (2001) explain it by quite ethnocentric staffing policies at the beginning of internationalization. Welch and Welch (1997) mention that the amount of expatriates may decrease as foreign subsidiaries mature. Monks et al. (2001) observed that Irish expatriates don't usually stay in senior management position of foreign subsidiary after the early phases of internationalization. Also the functions of expatriates change as the foreign subsidiary becomes well established (Monks et al., 2001). The role of expatriates in different stages of development of a foreign subsidiary possibly has an impact on their training needs before and during assignment. There are diverse groups of possible international human resources available to companies, ranging from contract expatriates to employees resident in their home country and dealing with foreign shareholders on regular basis (Rowley and Warner, 2007). The training needs of those different groups could be diverging. The expatriate failure is seen as a significant problem for many international companies (Monks et al., 2001). Evidence suggests that poor HRM is on the background of some expatriate failures (Monks et al., 2001).

One important dimension of HRM is staff training, which is one of the most researched HRM practices (Fey et al. 2009). It is related to human capital theory, which focuses on the employees' skills and competences in organization (McKelvey, 1983). Staff training also has its place in resource-based view, where the recruitment, development and motivation of employees are seen important for creating non-substitutable human resources for the company (Björkman et al., 2007). An ongoing staff training and development is crucial for improving business performance and meeting the goals of organization. Despite of the rich literature on the IHRM and staff training there are few publications on the training needs of foreign companies in transitional economies, e.g. in Russia.

According to Caligiuri and Tarique (2006), international training activities (ITA) “focus on the competences needed to perform more effectively in one's current job”. International development activities (IDA) concentrate on developing competences needed in some future job (Caligiuri and Tarique, 2006). Some activities could be used for both purposes (ITA and IDA). Caligiuri and Tarique (2006) list the following international training and development activities: cross-cultural training (ITA, IDA), pre-departure cross-cultural orientation (ITA), diversity training (ITA, IDA), language training (ITA, IDA), traditional education in international management (ITA), cross-national coaching or mentoring (IDA, ITA), immersion cultural experiences (IDA), cross-border global teams (ITA, IDA), and international assignments (ITA, IDA). Caligiuri and Tarique (2006) encourage research on various ITAs and IDAs, taking into account their specific goals. According to Caligiuri and Tarique (2006), cross-cultural training is the most frequently researched and used training and development activity. Caligiuri and Tarique (2006) divide the designing of cross-cultural training into five phases: 1) identify the type of global assignment, 2) determine training needs from the level of organization, assignment and individual, 3) establish goals and measures, 4) develop and deliver the program, and 5) evaluate the effectiveness of training program.

RESEARCH QUESTIONS

Our research aims to find an answer to a main question: “What kinds of training needs do foreign companies have in a transitional economy?” The related sub-questions include: 1) what kinds of training needs do foreign companies have in different phases of internationalization; 2) how foreign companies with different size (small vs. large) differ in training needs; 3) how foreign companies with different ownership-share (100%, JV) differ in training needs; 4) how the business obstacles in Russia affect training needs; 5) how the impact of

Russian culture on business of a company affects perceived training needs; 6) which are the common features of training needed by internationalizing companies in TEs.

METHODOLOGY AND DATA COLLECTION

Interviews were used as main data sources. Open-ended questions of structured interviews were partly based on the previous academic and applying research with emphasis on training needs and international business of companies in general. Questionnaire was pre-tested in Finland.

Research data were collected mainly during October 2008 by interviewing top management of fifteen Finnish companies in Finland and Russia. The access to the companies was gained with the help of a partner in a steering group of a training development project, and with snowballing techniques that utilized contacts of contacts. There were four small and medium-sized enterprises and eleven large companies in the survey. Selected companies were planning to internationalize (one) or had already internationalized (thirteen) to Russian market or withdrew (one) from Russian market.

Fifteen interviews were conducted. Each interview lasted approximately 60 minutes. Interviews were recorded, transcribed and later content analyzed. Using content analysis the hypotheses related to our research questions were created for the use in further research.

RESULTS

The objective of the survey was to determine the needs of the Finnish firms in the transitional economy and especially in the Russian market. The main research question was “What kinds of training needs do foreign companies have in a transitional economy?”

The most common point made was that firms’ need to familiarize themselves with the business culture of the country where they are going to operate. They have also training needs in legislation and in leadership. Almost every respondent accentuated importance of the business know-how. There are always challenges to operate in a different business culture. Generally speaking, training programs should cover most functional areas such as organizing, business strategy and human resource management. The management should lead the foreign employees, which demand knowledge of how to manage with the new personnel in the different culture. According to the respondents, companies have training needs also in taxation and customs regulations. Respondents accentuated the knowledge of the language of the target country.

We wanted to clarify training needs in the Finnish companies in different phases of internationalization and establish what kind of influence does the different size companies have. The related sub-questions are:

- 1) What kinds of training needs do foreign companies have in different phases of internationalization?

Principal rule was that the companies have almost the same kind of training needs in different phases of the internationalization. All the companies, planning to internationalize, had already internationalized to Russian market and withdrew from Russian market, emphasized the meaning of the business know-how and the business culture. Companies planning to internationalize need to know how to establish to the Russian market, what the phases of the establishment are, and what kinds of instructions and responsibilities establishment brings along. They also need the information about their own business area in the foreign country.

Companies operating in Russia underlined the importance of the creation of the network with partners and clients. They also emphasized the value of knowledge of the legislation and taxation. Management need to know how to run with the Russian authorities with the permission issues. Information about functionality of the Internal Market is also needed. One respondent encapsulated that they have training needs in “*the whole process of the external trade*”.

- 2 & 3) How foreign companies with different size (small vs. large) and with different ownership-share (100%, JV) differ in training needs?

When comparing the small and large enterprises there is a distinct difference between them: usually large companies have a subsidiary in Russia while small enterprises are operating from Finland. Of course, there are exceptions. But usually, SME's are not present in Russia physically, but through the middlemen from Finland. In that case, the training needs are related to studying the language of the target country (at least the alphabet) and increasing the business know-how. In some cases the small enterprises are doing everything themselves, and the training needs are *"everything related to the export"* as one respondent expressed the need of the SME's.

Large companies operate physically in the Russian market, and very often there is an expatriate leading the business. In some cases, expatriate works there couple of years and after that the management changes to the Russians. Generally, top management is Finnish, if only for a chief executive officer and an accountant are Russians. All the functions of a company are managed practically in Russia. The outcomes of the company are reported to the Finnish top management. The whole personnel of the large companies are frequently Russian. That offers the Finnish expatriate challenges.

When a company has made an acquisition, the staff is usually Russian who have worked in that previous company. For this reason the personnel doesn't need to be guided to the Russian business area. The Russian workers have to be guided to operate in a Western company and in the morals and responsibility matters. Persons of a management level are often Finns. Even in a Western company the workers have to be initiated into Russian business and culture in addition to the ways of the company. Very often, for the top management positions the companies employ persons who have already earlier experience of Russian business and persons who have studied or have lived in Russia.

4) How the business obstacles in Russia affect training needs?

One challenge for the company is personnel turnover. In most cases the respondents did have problems with commitment of the personnel. Respondents mentioned that the most important expedient of the commitment is salary. Some of the respondents felt the wage trend being wild especially in Moscow. This means that the company has to recruit the ones which had just graduated, and that means they don't have a long work experience but the salary wishes are not too high.

A few interviewees emphasized the extremely high level of knowhow of Russian staff. However, the largest part stated that there is a shortage of skilled persons on the labor market. Respondents mentioned that the problem was concrete, when recruiting a staff particularly for other regions than the areas of St. Petersburg and Moscow. The staff for small cities must be recruited from bigger cities mainly because the potential labor has been often transferred to the economic zones of big towns and the skilled persons are not available in small cities. In that case, the finding of the apartment from near the job or commuting could become a problem.

5) How the impact of Russian culture on business of a company affects perceived training needs?

Most of the respondents thought that the business culture in Russia is more hierarchic than in Western countries. The personnel assume that the top management takes automatically responsibility for the all functions of the company, and they don't have to do that. In the interviews, initiating expatriates and local middle managers into the management practices and into the way of operating with the workers were emphasized. Among others, more teamwork is emphasized in Russia, but the correspondingly self-directing teams do not operate. The interviewees also emphasized the significance of the legislation and initiating into it. In Russia, the corporative culture was considered become corrupt as a rule and bureaucratic.

Most of the respondents emphasized the importance of the personal relationship in the Russian business culture. Among the partners and clients must be operated in the personal level. So called "footwork" applies concretely in Russia. Meetings and negotiations are often arranged face to face . It's important to know the business culture before entering to the Russian market.

6) Which are the common features of training needed by internationalizing companies in TEs?

In the light of training needs of Finnish companies is business knowhow the most important issue. Surplus value is reached, when the business knowhow for the particular country and particular industry is seen as an important outcome of the training. The companies are able to operate in new culture without forgetting the ways of action of the company.

Business culture, ways of national custom, permissions and customs regulations are needed to include to the training. Also marketing analysis, especially clarification of the size and growth rate of the markets, productivity and potential of the business and also risk management are worthwhile. Knowing of the legislation and the taxation is the important part of the training.

DISCUSSION AND CONCLUSION

One of the main conclusions of this research is that the most of the surveyed Finnish companies don't offer training related to doing business in Russia to their Finnish personnel working with Russia-issues. Companies either hire people who are already familiar with Russian business environment or make them learn from their own mistakes. The personnel are offered training mainly concerning the functions of the company. Some of the companies do have their own in-house training. However, there is a clear need for the training of the Finnish personnel going to work in Russian market.

With the help of experience of established companies, the research widens our understanding of training needs of foreign companies which are going to internationalize especially to Russian market. Finding out the educational needs of companies will help to respond to the challenges of the quickly developed Russian markets by creating adequate training programs.

Findings could support top management in making decisions on investment into development of personnel's know-how, especially of foreign managers who are responsible for Russian business of company. Companies which don't have their own resources for extensive training of personnel could be motivated to use needed training services available at universities and training companies. Earlier findings show that during the downturn of economy its worth of training personnel in order to create new competitive advantage for the use during the next economic rise. The results will help to create a base for development of business training programs for foreign companies targeting Russian market.

Further research implications

Future research would be need to show what kinds of educational needs do middle manager have. Firms could use training programs as the expedient of the commitment with the Russian employees working in Finnish companies in Russia. Furthermore, there is a need for more research concerning the training needs of the Finnish companies and foreign companies in transitional economies.

There is also a need for the research which concentrates to the particular branch. Couple of the interviewees emphasized the importance of the training in their own branch. Since that we could compare easily the different kinds of training needs in the special area. The training program could be forging for certain companies in particular branch. That could bring surplus value to the companies, although demand of the companies which are going to apply that kind of education is large.

Training development implications

Based on the results of the research the more detailed survey for training needs will be developed and distributed to Finnish companies operating in Russian market. The survey have to be more focused on companies with particular size, stage of internationalization, branch, in order to better possibility of creating training program for the needs of several companies. Based on the results of the future survey the training programs concentrated on the issues raised could be developed.

The future training programs will support the ongoing staff training and HR development strategies of international companies. Research could help the management to see the possibilities in enhancing human resource management through upgrading the personnel's skills critical for the business. Companies also could be given training concerning HRM practices in different international locations, in order to minimize IHRM-related problems (e.g. recruitment, leadership) in TEs, particularly in Russia.

Managerial implications

Trade between Finland and Russia has become important and will continue to be so for the foreseeable future. There will be more and more Finnish companies working in the Russian market. Training development programs help the management to understand how to work in Russian market and with Russian employees. The information on the training needs of international companies is quite scattered.

The management could operate effectively in the Russian market, if there would be a special training program, which could offer assistance to avoid the most general stumbling blocks. The training program prepares the management to work in Russian market with the Russian personnel.

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“TYPE CHANGE”: THE PERCEIVED STRUCTURE OF ORGANIZATIONAL CHANGE EVENTS

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ABSTRACT

Sustainable development and global prosperity hinge substantially on healthy, progressive organizations. The liability of change, which manifests in the dismal success rates of large scale organizational change initiatives, however threatens the advancement of this agenda. While the reasons for this are complex, a starting point for reversing this trend is a greater understanding of the phenomenon of organizational change, which is reified and enacted at the level of the individual employee. The current study empirically explored the under researched area of ‘types of change’, which influences employee perceptions and responses and which ultimately holds the key to organizational adaptation. Several structural dimensions were extracted from the 663 respondents’ perceptions of change events, which suggest a more considered but also a potentially more effective approach to dealing with organizational change.

THE LIABILITY OF CHANGE AND ORGANIZATIONAL SUSTAINABILITY

Jones’ (1995) view that societal wellbeing is substantially dependent on the health and wellbeing of the organisations and corporations that operate within societal boundaries, is beyond doubt. The argument, however, is perhaps best demonstrated (and tangibly so) in the current global wave of bankruptcies and corporate failures that are following in the wake of the credit crisis. To an extent this situation is tenable as it is entirely consistent with the natural growth and decline of organizations (and a rapidly declining institutional life expectancy of around 40 years – cf. De Geus, 1997). Corporate failures, however, have a huge impact in general, and in struggling economies in particular (Puplampu, 2005), which merely fuel unemployment, poverty, crime and disease. The pronounced rate at which organisations are liquidated, profit margins reduced, rationalisations occur and unemployment continues, pose a formidable challenge to organizational sustainability and societal wellbeing (Van Tonder, 2006) - a situation that is unlikely to improve soon (cf. Kavanagh & Ashkanasy, 2006). The causes of institutional demise however are multifaceted and complex and as Levinson (1994) has argued, far more psychological than the ostensible reasons advanced by management scholars. At its most fundamental corporate failures and bankruptcies entail an inability to adapt in a timely and effective manner to changing operating environments and conditions. Organizational change initiatives consequently become a critical instrument and strategy for sustaining organizations and hence the societal contexts in which they are embedded. *The effective ‘management’ of change processes is crucial to organizational survival (cf. Luecke, 2003; By, 2005) and unavoidably undergirds every attempt to advance the institutional, societal and global growth and sustainability agenda.*

Organizational change of necessity is an adaptive response, which, if not embraced (e.g. because of inertia), becomes a liability (George & Jones, 2001). These adaptive responses have assumed multiple forms ranging from gradual organic growth, reorganizations, restructurings, new technology adoption, to strategic repositionings, mergers and acquisitions, and related large-scale change initiatives. Essentially these responses

have to secure the organization's alignment with environmental conditions (Armenakis & Bedeian, 1999) and consequently facilitate organizational longevity or sustainability.

However, the *liability of change* and hence the threat to growth and sustainability manifest also in the implicit organizational capability for dealing with or 'managing' change. One of the most consistently reported statistics in the change literature is the exceedingly high failure rate of organizational change initiatives with 65% to 75% of change endeavours failing to achieve their purpose (cf. Armenakis & Harris, 2002; Applebaum & Wohl, 2000; Beer & Nohria, 2000; Devos, Beulens, & Bouckennooghe, 2007; Grint, 1998; Hattingh, 2004; Mourier & Smith, 2001; Smith, 2002, 2003). This occurs with crippling consequences for the organisations and in particular their employees and their dependents. Voluntary turnover during a downsizing or reorganization, for example, incurs significant direct and indirect financial costs, but also social capital costs (Dess & Shaw, 2001; Morrell, Loan-Clark, & Wilkinson, 2004). The financial consequences of stress associated with organizational change, similarly, are extensive and the effects of change-related stress severely compromise morale, quality, relations, public standing, customer satisfaction, retention of staff, and absenteeism (Judge, Thoresen, Pucik & Welbourne, 1999; Kickul, Lester & Finkl, 2002; Schabracq & Cooper, 2000; Taylor-Bianco & Schermerhorn Jr, 2006). The uncertainty, anxiety and depression, and health problems arising from, or intensified by organizational change are substantial and well documented (cf. Kohler, Munz & Grawitch, 2006; Svensen, Neset & Eriksen, 2007) but the broader ramifications of large scale organizational change initiatives are seldom accounted for. This becomes an important consideration if it is acknowledged that in a developmental context approximately 4.7 people are materially affected for every person retrenched (cf. Drake Beam Morin, 1995). From this perspective it would seem that attempts at managing organizational change are eroding rather than contributing to organizational and societal health.

“TYPE CHANGE”

Although the underlying reasons for change management emerging as a liability rather than an “asset” are complex and multifaceted, a starting point for reversing this trend is a greater understanding of the phenomenon of organizational change (cf. By, 2005; Smollan, 2006). In this regard it is noteworthy that the available knowledge on change, generally, has been criticised for its atheoretical nature, contradictory and confusing approaches, unchallenged hypotheses, ignorance of the dynamics and contextual nature of change phenomena, the absence of an adequate process orientation, and generally a lack of empirical evidence (By, 2005; Collins, 1998; Doyle, 2002; Pettigrew, 1988, 1990; Van Tonder, 2004a). Indeed, the extant literature base is perceived to be of limited value to science and managerial practice (Bamford & Forrester, 2003), as the majority of change publications tend to be superficial analyses and personal opinions (Guimaraes & Armstrong, 1998). Calls for expanding the knowledge base on change phenomena, understandably, will continue (Longenecker & Fink, 2001; Plowman, Beck, Kulkarni, Solansky, & Travis, 2007).

Specific and particularly prominent (and interrelated) content areas in which knowledge is substantively lacking are that of measurement e.g. of change and its impact (By, 2005; Burnes, 2003; Hacker & Washington, 2004; Kohler et al, 2006) and knowledge of how change is experienced and responded to at the individual level and how this informs organization-level change (George & Jones, 2001; Judge, Thoresen, Pucik & Welbourne, 1999). While understanding in terms of the latter is deficient, scholars nonetheless concur that any organizational change is reified and enacted at the level of the *individual* employee (cf. Devos et al., 2007; George & Jones, 2001; Van Tonder, 2004a). It is at this micro-level that individual responses to change are formed and where it translates into collective action. The failure of many change efforts can be attributed to the underestimation of the cognitive and affective nature of change at the level of the individual employee (Kavanagh & Ashkanasy, 2006). This relates in particular to the neglected area of change *content* (Devos et al., 2007; Van Tonder, 2008) - one of three critical dimensions of change with change *context* and *process* being the other (Huy, 2001). Rafferty and Griffin (2006) argue that a critical limitation in this area is the inability of research to identify the properties (salient dimensions) of organizational change that lead to negative employee outcomes. Although more focus is now being directed at cognition and affect in response to organizational change, and scholars are beginning to recognize causal links between variation in employee perceptions and responses to different change events (Caldwell et al, 2004; Judge et al, 1999; Kiefer, 2002), the importance of these studies is not yet fully appreciated (Kavanagh & Ashkanasy, 2006). Arguments that focus on and associate type of change e.g. radical change with strong emotional responses such as substantive uncertainty are nonetheless appearing with greater

frequency (Huy, 1999; Judge et al., 1999). In such studies the employee's perception of the change is generally postulated as the commencement point in models attempting to describe the employee's response to change (Kohler et al, 2006; Smollen, 2006; Van Tonder, 2004a). The centrality of perception is implied by Devos' (2007) reference to the "threatening character" of organizational change but it is also acknowledged in more explicit descriptive parameters of change such as the "perceived favourability" and "perceived speed" of the change (Smollan, 2006). While these studies are beginning to address the structural dimensions of organizational change, the authors' conceptualisation of change hinges on known or popular change typologies that attempted to differentiate between qualitatively different forms or types of change. From the mid 1970s to the late 1990s organizational change typologies received a fair amount of scholarly attention. Scholars typically differentiated between two, three and occasionally four qualitatively different types of organizational change, for example evolutionary and revolutionary change (Gersick, 1991; Greiner, 1972; Tushman & Romanelli, 1985); Alpha, Beta and Gamma change (Golembiewski, Billingsley & Yeager, 1976); normal and paradigmatic change (Sheldon, 1980), first- and second order change (Bartunek & Moch, 1987; Watzlawick, Weakland & Fisch, 1974); incremental and transformational change (Dunphy & Stace, 1988); incremental and deep change (Quinn, 1996); and (the non-discrete) Type I and Type II change (Van Tonder, 1999; 2004a). Apart from the narrow and atheoretical conceptualisation of different types of change the majority of these typologies are criticised for not being founded on empiricism. Where empiricism is claimed, this is based on scholar-specific interpretation frames and substantially less robust notions of empiricism. A direct consequence of this is that change is often portrayed as a vague and uni-dimensional phenomenon. A single or at best a few dimensions of organizational change are often identified when characterising organizational change events, for example, the *pace* of change (evolutionary versus revolutionary) or the manifestation of the change (incremental versus transformational). A more plausible account of the fundamental character of organizational change phenomena should attempt to characterise change on several dimensions simultaneously (Van Tonder, 2008). The Type I and Type II typology² (Van Tonder, 1999, 2004ab) is a case in point, for it argues that change and organizational change phenomena are notably multifaceted or multidimensional and that an organizational change event can be characterised simultaneously in terms of (for example) its scope and reach, impact, intensity, extent of intrusion into the employee's work life, pace and duration, perceived predictability and control.

As should be evident from the cited studies, knowledge of different types of change is becoming increasingly important (Golembiewski cited in Van Tonder, 2004a), in particular as a differentiated perception of change implies a differentiated experience and reaction, and would suggest a differentiated approach for dealing more effectively with different change events or processes in organizations. This is contrary to popular change management practices, which reflect the predominance of so-called "N-step programmes" as a preferred method for instituting and or responding to organizational change (cf. Collins, 1998). "N-step programmes" in essence refer to the exceedingly common practice of interpreting and implementing change initiatives as a number ("N") of preset sequential stages or steps. Untenable assumptions of such approaches are that organisations, employees, and employees' perceptions and experiences of change, indeed, also the essential character of the encountered change are *sufficiently similar* to justify the universal application of a generic stepwise formula (Van Tonder, 2004a). If it is acknowledged that 65% to 75% of change initiatives ultimately fail, it follows that a more context-bound and differentiated conceptualisation of change phenomena may offer greater prospects for change success³.

EMPIRICAL STUDY AND FINDINGS

Against the preceding setting, the purpose of the current study is to explore the (perceived) underlying structural dimensions of organizational change events. It is postulated that employees' perceptions of change events will reveal underlying structural dimensions regardless of the form in which the change presents or is positioned ("labelled") by key officials. Secondly, and consistent with Van Tonder's (2004b; 2008) argument of multifaceted and multidimensional change constructs, it is further postulated that employee responses will reveal a differentiated change profile for each organizational change event on multiple structural dimensions.

Design and Methodology

A survey-driven field study was undertaken and a convenience sample comprising 664 respondents from 25 organisations straddling several industries, were engaged in the study. Respondents were identified and accessed

with the assistance of the Human Resources practitioners in the different organisations. Two primary criteria defined eligibility for participation namely that all respondents should have experienced the same change initiative or event, and secondly that employees should, generally, occupy positions within the same broad band i.e. variance is limited to two hierarchical levels. In practice this implied that the sample would comprise workgroups or sections that were reasonably intact, subjected to a specific change, and numbered between 20 and 35 respondents per organization. A developmental questionnaire, consisting of Osgood semantic differentials, was utilised to measure the perceived structural dimensions of change phenomena. Although respondents within each organization were identified on the basis of a commonly experienced change event, they were nonetheless requested to describe the change event in their own words, to enable verification of this criterion. Respondents then had to describe the specific change to which they were subjected in terms of a number of bipolar scales allowing six (6) response categories between the bipolar descriptions e.g. change X: “*Started slowly*_____ *Started quickly (rapidly)*” or “*Changed nothing*_____ *Changed everything*”. Principal Components Analysis and reliability analysis were used to establish underlying structural dimensions and differences in mean scores for different organisations were tested through analysis of variance.

Findings

With regards to the structure of organizational change, the findings surfaced 10 reliable descriptive dimensions on which change events or processes can be characterised (accounting for 60% of cumulative variance). Apart from an “*effectiveness of change management*” factor, the study surfaced the factors of *orderliness, duration, impact, pace, substantiveness, predictability of outcomes* (linearity), *degree of anticipation, perceived control* over the change, and the perceived *source of energy* or *sustainability* (management or the change itself) of the organizational change. The results revealed both convergence and divergence of underlying descriptive profiles of different change “types”. These profiles did not necessarily “fit” or correspond with the labels that employees or officials attached to the change initiatives. Two illustrative examples are provided with the first being a salary system change in both a bank and an engineering firm (i.e. “*same change - different industry*” - refer figure 1). The second example entails the merger of two divisions in two separate banks (i.e. “*same change - same industry*” – refer figure 2). The X-axis lists structural dimensions (factors) while the Y-axis indicates employees’ mean ratings for the specific change events in terms of the rating scale employed in the study.

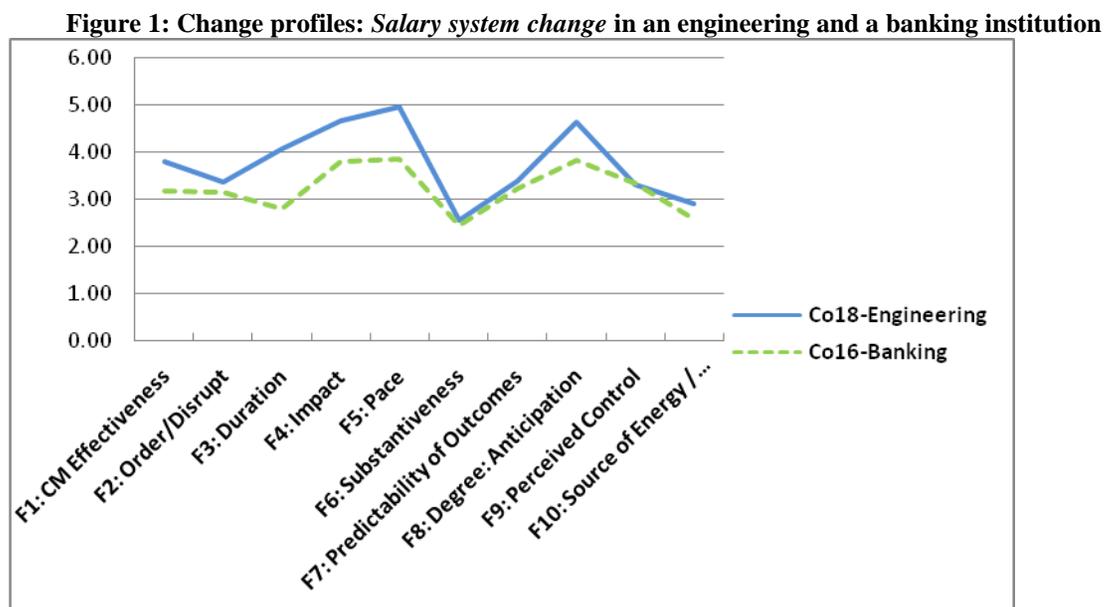
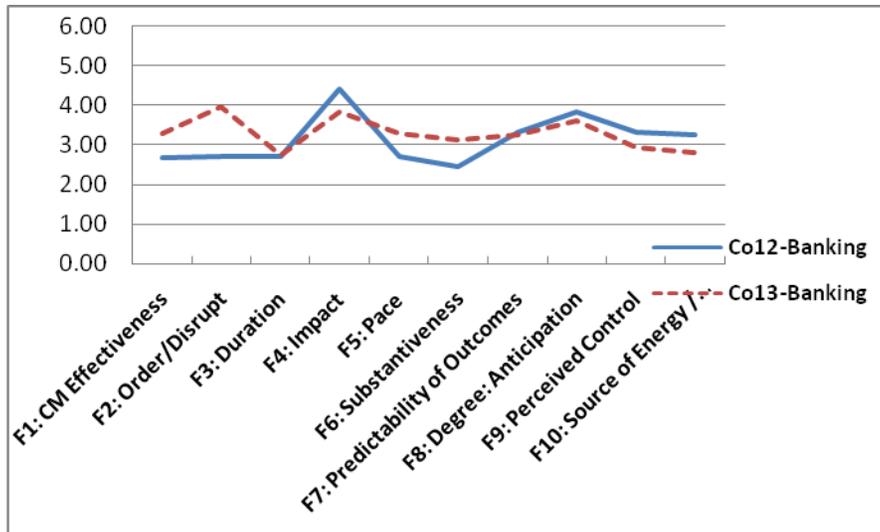


Figure 2: Change profiles: Similar mergers in two Banking organizations



For each of the two illustrative examples significant differences between change descriptions were recorded on five of the 10 descriptive parameters (those dimensions on which the greatest discrepancies between change profiles are observed). The *salary system changes* in both the engineering and banking organisations reveal a pattern that is intuitively plausible. The change is perceived in both cases as relatively orderly, non-substantive, and sustained through managerial effort (energy), but appear to differ in terms of its management, duration, impact, pace and degree to which it could be anticipated. For the engineering firm the change is more intense than is the case for the banking institution. In the former the change profile is closer to the more threatening Type II change³. The mergers undertaken by the two banking institutions reveal similar convergence and divergence in profiles (Co13 for example experienced the merger significantly more *disorderly* than Co12, while the *impact* of the change appears to be more pronounced for the latter). Apart from revealing different descriptive accounts for similar types of organizational changes (figures 1 and 2), the results also revealed that seemingly different changes, using different labels such as a “departmental restructuring” and “acquisition” at a fundamental level were effectively the same type of change.

Research Contribution

Although the obtained structural dimensions of change events should prove reasonably robust because of the number of organisations engaged (which spanned multiple industries), the study remains exploratory. The experimental instrument utilised should be refined and validated with larger and more focused research populations. Notwithstanding these caveats, the results are encouraging for several reasons. In this regard it constitutes much needed empirical progress in the domain of change measurement (cf. By, 2005; Kohler et al, 2006), which now enables further research into more sophisticated measurement approaches but also research in terms of correlates of perceived change, and causality, with the latter (e.g. change orderliness or the pace of change) as independent variable and organizational performance and workforce stress, morale and job satisfaction indices as dependent variables. Cost-benefit analyses of change initiatives, an improbability in this domain (cf. Svensen et al, 2007) become a material possibility. The results, however, also begin to address the void pertaining to knowledge of change content and more specifically, the characteristics of change (Devos et al., 2007; Rafferty & Griffin, 2006; Van Tonder, 2008), and do so from an empirical base. Several avenues for advancing knowledge in this area are now suggested. The current study, however, also specifically tested and found initial support for the theorised dimensions of the *non-discrete* Type I and Type II change typology (cf. Van Tonder, 1999; 2004ab) and confirms, at least from an employee cognition perspective, that organizational change events are indeed multifaceted, and to a greater extent than has been suggested to date. It also suggests that the utility value of change typologies that reduce change phenomena to a limited number of (seemingly) discrete change types (the vast majority) is limited. Finally, the research posits an avenue for more specific and meaningful investigation of the relationship between the employee’s perception and affective experience of the organizational change, as well as individual and collective (workforce) reactions to the change. Such research, premised on the perceived structural dimensions of change events, will illuminate the micro dynamics and

intricacies of, among other, resistance to change and related attitudes to change in a manner quite distinct from the approaches pursued to date.

IMPLICATIONS FOR MANAGEMENT

Once again, and subject to confirmation of the scientific fundamentals surfaced in the current study, the results hold several potentially significant implications for institutional management. An important observation is that the common “labels” with which change initiatives are designated, in reality offer a poor guideline as to the underlying dynamics and hence the probable employee experience of a specific change initiative. The workforce’s collective perception of an organizational change initiative is substantively tainted by their internalised understanding of the organization’s culture and its identity, its leadership and management styles, technology and a gamut of other organizational attributes which serve to typify organisations as distinctive. The observed variation in change profiles consequently argues strongly against the “one-size-fits-all” N-step approaches that have become characteristic of organizational change practices and suggest a need for differentiated and organization-specific approaches to facilitating change initiatives. The “disorderly merger” of Co13, for example, requires careful consideration and greater involvement (and investment of resources) by decision makers if the change objective is to be achieved and adverse consequences are to be avoided. The implicit risk of change initiatives and the generally unsatisfactory results recorded for major change initiatives pursued through N-step programmes may be minimised if the presence of tacit change dimensions and non-discrete “types” are acknowledged and incorporated in managerial practices. A potentially worthwhile initiative and an intermediate step towards the establishment of a normative framework that would allow meaningful comparison of change initiatives across organizational and industry boundaries would be to establish organization-specific change perception baselines. This would entail repeated assessment of different intra-organizational change initiatives over a period of time and should enable comparative analysis of different change events on the basis of the fundamental or underlying change types rather than change labels. The diagnostic, anticipatory and predictive value of such initiatives for purposes of organizational management is obvious.

The findings in particular suggest that consideration be given to the manner in which organizational change is conceptualised on the one hand, and how it is bound to be perceived by employees on the other – drawing on knowledge of the perceived structural dimensions of the change. Much of the anguish and trauma of organizational change may be circumvented if the conceptualisation and execution of change initiatives (or responses to environmentally-induced change), take account of the structural dimensions of perceived change. To the extent that the unfolding change allows moderation by management (i.e. “change management”), the enactment of the change initiative or change response could be contained on dimensions likely to evoke more intense reactions (e.g. reducing the *pace*, imposing greater *order*, and facilitating clarity on expected *outcomes* i.e. *predictability*). The results consequently suggest specific foci (dimensions) where some influence and control over the perception of the change (and therefore the likely reaction to it), may be possible.

CONCLUDING PERSPECTIVES

This paper commenced with a brief outline of the importance of effective change management as one of the most basic prerequisites and key managerial competences needed to sustain institutional health and well-being. Novel approaches proffered by the global business community will not achieve sustainable development and prosperity if the vehicles used in pursuit of these objectives, i.e. global institutions, are found to be incapable of enduring. This implies that organisations need to successfully transcend contemporary adaptive challenges imposed by a continuously changing operating context. Prevailing evidence however overwhelmingly suggests that institutional management is less than qualified to achieve this. The current recessionary climate and the demise of several longstanding corporate behemoths attest to the fragility of institutional strength and sustainability. Macro considerations of this nature invariably revolve around effective attendance to micro issues. In this regard the current study argued that an improved understanding of the *tacit structure of change events*, as perceived at the level of the employee and the workforce at large is required for the effective engagement of any and all forms of change and hence organizational adaptation. This constitutes an important element of organizational change management – a highly required management skill (Senior, 2002) and considered in some scholarly quarters as

the primary task of management (Graetz, 2000). The contribution of the current study resides in the initial measurement and empirical validation (albeit preliminary) of the theorised dimensional structure of perceived change events and episodes. Continued research in this domain should eventually reveal the micro-dynamics and causal spirals that give rise to collective action by the workforce and management and which contribute to change failure or success.

Any business strategy aimed at facilitating sustainable development and prosperity, in the first instance has to be premised on healthy and effective organisations that have the capability to deliver these strategies. This implies converting the liability of change into an implicit change capability, to which the recognition of change type and the individual employee's response is a key consideration.

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ENDNOTES

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2. A **Type I** change is defined as "A steady-state, incremental or step-by-step sequential change which generally evolves over an extended period of time, does not have a disruptive influence on the system and is generally perceived to be within the control of the system". A **Type II** change is "A major, disruptive, unpredictable, paradigm-altering and system-wide change which has a very sudden onset and escalates rapidly to a point where it is perceived as being beyond the control of the system" (Van Tonder, 2004a:110-111).

3. Change is conceptualized as "*a non-discrete yet context bound process of energy movement that is reflected in an empirical difference in the state and or condition of the system over time*" (Van Tonder, 2008:2), whereas *change success* is viewed as the achievement of change objectives, in a sustainable manner and with minimized disruption of, and impact on organizational functioning and employee morale.

ORGANIZATION IDENTITY AS MANAGERIAL CONCERN

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ABSTRACT

A largely sterile debate characterized the discourse on Organization Identity for the past two decades. Scholarly contributions however mushroomed during the last five years but empirical research remains limited. The current paper set out to briefly report on five empirical studies pursued from within the framework provided by Organization Identity Theory (OIT). The findings of these studies suggest that Organization Identity (OI) performs a powerful role in organizational functioning. It is postulated that the emerging construct of Organization Identity will in future become a crucial consideration for organizational sustainability. The implications for management are briefly discussed.

FROM IDENTITY TO ORGANIZATION IDENTITY

The increasingly interconnected nature of global society, premised substantially on rapid advances in information and communications technology, have transformed the very nature of business and, in an increasingly open, accessible global operating context, redefined notions of competitiveness and institutional success. Against this setting it is unsurprising that organization identity would emerge as a significant construct in the contemporary management discourse, but it is as yet a largely unknown phenomenon. This paper considers the significance of organization identity from an emergent empirical perspective.

Identity as Platform for Considering Organization Identity

In the behavioral and social sciences the notion of identity is well known and a well-established individual level construct. Within the disciplines of organizational theory and organizational management, however, it is a fairly recent addition to the theoretical frames with which scholars view and interpret organizational functioning and behavior. In these settings it is construed as an organization-level phenomenon i.e. an attribute of the system-as-whole (Wells, 1980). This paper considers the relevance of this construct for contemporary management practices on grounds of several empirical studies recently concluded. To be able to evaluate the contribution of these studies it is necessary to briefly consider the meaning parameters of the identity construct and its application in institutional settings.

The term *identity* is generally taken to be a derivative of the Latin word “idem” meaning “the same” (Abend, 1974), while contemporary Oxford dictionaries of English, in addition, describe it as *the fact of being who or what a person or thing is*. The concept’s first known occurrence in colloquial language dates back to approximately 1570 AD when it was used as an expression to convey the *quality or condition of being the same, being absolutely or essentially similar and to embody a sense of unity* (Van Tonder, 1987). The notion of identity or personal identity became a household term through Erikson’s (1956, 1959, 1968) enduring work on identity development during childhood and adolescence. He described identity as the person’s *inner sense of sameness and continuity of character* (Erikson, 1959). Although the application of the identity construct in institutional settings as *corporate identity* and *organization identity*, in terms of meaning, is substantially removed from this individual-level concept, it constitutes an important point of departure as it tacitly informed the general meaning frame associated with the term and legitimized the very general and often cited view of identity as being the

response to the question “who am I?” (Schley & Wagenfield, 1979). It is however important to note that at the individual level, identity is more often used to articulate a person’s uniqueness, solidarity (i.e. his/her sense of unity), autonomy, continuity over time, and discreteness (Van Tonder, 1987). Moreover, apart from viewing the identity construct as a dynamic, self-referential cognitive schema or meaning frame¹ referred to as the “fact of identity” (FoI), a second and intertwined identity construct, “sense of identity” (SoI), is distinguished (Abend, 1974; Van Tonder, 1987; 1999). The latter in turn refers to a person’s *sense of having or possessing an identity* i.e. his / her identity awareness. The *fact* of identity is more descriptive, for example, Mary’s identity as perceived from an outsider-looking-on i.e. interpersonal perspective, whereas the *sense* of identity relates to the person’s subjective awareness of possessing an identity or otherwise e.g. Mary’s identity as sensed by her from a reflective i.e. intrapersonal perspective. These identity constructs constituted the basic point of departure for the theory of small group identity (Van Tonder, 1987) and Organization Identity Theory (OIT – Van Tonder, 1999). Empirical progress with regard to key postulates of the OIT is the central focus of the paper and the impetus for viewing organization identity as an important and significant managerial concern.

Identity in Institutional Settings: Corporate and Organization Identity

Applications of the identity concept within organizational settings deviate substantially from individual-level identity and although elements of an individual psychological theory of identity may be surfacing in the theoretical accounts of corporate and organizational identity and on occasion may have informed these accounts, it is not generally acknowledged by scholars in the marketing and management sciences.

The first identity construct to emerge in a corporate environment was the notion of *corporate identity*, a phrase presumably coined by Martineau (circa 1958, cf. Balmer & Greyser, 2003:67) and a construct largely utilized in the corporate environment by the communications and marketing disciplines. Different meanings for the construct abound but it is generally viewed as those features of the organization that are purposefully employed to project and portray the organization in a specific (desired) manner to various stakeholders, predominantly through planned and persuasive visual means.

The introduction of the *organization identity* construct is less clear and more recent. Its introduction into the scholarly management discourse is attributed to Albert and Whetten (1985:265), who conceptualized it as those *features of the organization that are distinctive, core, and enduring*. Since Albert and Whetten’s (1985) initial work organization identity has rapidly ascended to a position of prominence in the discourse on organisational theory and functioning. This is evidenced, in part, in prominent management journals such as the *Academy of Management Review*, *The European Journal of Marketing* and the *British Journal of Management* that have devoted dedicated (special) issues to the subject of corporate and organization identity. Yet, despite this rise to prominence, organization identity remains a complex and ambiguous construct, relevant theory appears problematic, and empirical research is rare (cf. Albert, Ashforth & Dutton, 2000; Gioia, Shultz & Corley, 2000; Hogg & Terry, 2000; Pratt & Foreman, 2000; Van Tonder & Lessing, 2003).

Moreover, the rapidly mushrooming literature base on organisation identity, viewed in some quarters as largely anecdotal and quasi-theoretical (Balmer & Gray, 2000; Melewar, Saunders & Balmer, 2001), reveal distinct intellectual traditions which add to an already nebulous situation. It is consequently unsurprising that organisation identity has very different meanings for different scholars (Corley, Harquail, Pratt, Glynn, Fiol & Hatch, 2006; Cornelissen, 2006; Hsu & Hannan, 2005; Illia & Lurati, 2006; Nag, Corley & Gioia, 2007; Pólos, Hannan & Carroll, 2002). Not only does this situation underscore the need to shift focus from conceptual to empirical research, but it also suggests that scholars pursue such research from within clearly demarcated definitional and theoretical parameters (Corley et al., 2006; Sugreen, 2009).

Research Focus

Against this setting, this paper aims to report a series of empirical studies conducted from within the theoretical framework offered by Organization Identity Theory (OIT) (Van Tonder, 1999, 2004abc), and to reflect on the potential significance of research findings for institutional management. The OIT is strongly premised on an Eriksonian view of identity and would fit the conceptual domain demarcated as “classical approaches” to organization identity (Van Tonder, 2006ab). It is not to be confounded with the increasingly prominent identity

derivative referred to as “social identity” which was originally interpreted for organizational settings by Ashforth and Mael (1989) and more recently brought into sharper focus by Haslam (2001) and Haslam, Van Knippenberg, Platow, & Ellemers (2003).

EMPIRICAL CONTRIBUTIONS

Between 2000 and 2008 five empirical studies premised on the OIT and using qualitative and/or quantitative research approaches were completed. The studies explored the existential nature of the organization identity phenomenon, explored and tested different operational definitions, and examined the construct’s relatedness to other organisational variables. Organization Identity’s relatedness to organizational performance was a particularly important focus as this illuminates the relevance of the construct at an applied level. In all instances convenience samples (willing, participating organizations) were utilised. Participating organisations hailed from different industries and comprised profit and not-for-profit institutions. Apart from different operational definitions of the organization identity construct, organizational performance was also operationalized as managerial self-reports of performance, “hard” financial data and standardized performance assessment questionnaires. The findings of these studies converged substantially and provided encouraging support for several tenets of Organisation Identity Theory². The most prominent observations derived from the various studies are briefly summarised in Table 1.

Table 1: Empirical studies of Organization Identity (OI)

Study, design and findings in brief

Study 1: Van Tonder (1999)

Design: Mixed Methods. **Sample:** Ten (10) listed companies, 153 executives. **Measurement:** structured interviews, Questionnaires, TST^a

Results: 1) Identity operationalized, *inter alia*, as Sense of Identity (SoI) and Fact of Identity (FoI), affirmed across ten organizations; 2) Both SoI and FoI differentiate between companies; 3) SoI reveals different identity statuses (e.g. crises) for different organizations; 4) FoI and SoI correlate with executive assessments of performance, published financial results; and performance rankings based on published financial results for a four-year period; 5) OI and organizational life-cycle stage related.

Study 2: Van Tonder (2006b)

Design: Quantitative. **Sample:** four (4) companies, 499 respondents. **Measurement:** experimental Organization Behavior questionnaire (incorporating OI)

Results: 1) SoI a significant differentiator among companies; 2) Two (2) identity factors (SoI and Uniqueness) form part of nine core organizational attributes; 3) SoI, Organization Uniqueness, and Organization Culture the strongest predictors of respondent ratings of organizational performance.

Study 3: Carstens (2008)

Design: Qualitative. **Sample:** single school, 57 respondents. **Measurement:** Structured interviews, TST, metaphor analysis

Results: 1) Identity revealed when different operational definitions applied; 2) Evidence of both malleability and stability of identity over time.

Study 4: Van Tonder (2008)^d

Design: Quantitative. **Sample:** 27 companies, 674 respondents. **Measurement:** Sense of Identity questionnaire

Results: SoI structure reveals four (4) factors i.e. sense of unity, identity strength and clarity, uniqueness, and identity development status.

Study 5: Sugreen & Van Tonder (2008)

Design: Quantitative. **Sample:** Three (3) companies, 274 respondents. **Measurement:** Elaborated Identity questionnaire (SoI, FoI) and standardized organizational performance questionnaire (PI^c).

Results: 1) Similar SoI structure to Van Tonder (2008); 2) Both SoI and FoI predict performance when measured by the PI.

Note. OI, SoI and FoI refer to Organization Identity, Sense of Identity and Fact of Identity respectively.

^aTwenty Statements Test. ^bPrincipal components analysis (varimax rotation). ^cPerformance Index (standardized instrument). ^dUnpublished research

Regardless of variations in research design, nuances in operational definitions utilised, or the type of organization or industry engaged, organization identity approached from within the OIT framework revealed a consistent empirical character. This is important as the organization identity discourse for the greatest part during the past two to three decades have remained ensnared in conceptual debates, which were informed largely by assumptions. Key organisation identity (OI) constructs i.e. the organisation's sense of identity (SoI) and the fact of the organisation's identity (FoI) are revealed as distinct empirical constructs that relate to key organisational variables. The structure of the organisational sense of identity, though still the subject of ongoing research, revealed a consistent factor structure comprising, as a minimum, the strength and clarity of the organisation's perceived identity, organizational unity or solidarity, organisational uniqueness, and organisational endurance (enduring features). Organisational performance was consistently predicted by the SoI and the FoI regardless of the definition of performance (e.g. published financial results, performance rankings, executive assessments of performance, or standardised organizational performance instruments (such as the Performance Index). Empirical results also revealed that the Sense of identity (SoI) statuses cluster into three primary categories i.e. a healthy or positive identity status, an inadequate or deficient identity status (embracing identity crises) and an intermediate or diffused identity status. Of these, problematic identity issues ("negative" identity statuses) were substantially more salient. A consistent relationship was observed between a strong and clear, i.e. a healthy organisational identity, and high performance. Poor or unsatisfactory performance aligned with a troublesome or deficient identity. Organisations with a clear and strong sense of identity presented with greater clarity of purpose and focus, were likely to be in or entering a growth stage in their life cycle, and performed substantially better on a variety of performance indices compared to their counterparts who experienced diffused identities or identity crises.

Organization Identity Theory (OIT) postulates that a strong and clear organization identity informs and enhances organizational focus, which in turn enhances performance and facilitates long-term organizational sustainability, whereas the converse is true for organizations with weak or diffuse identities. This position was implied by Labich's (1994, p. 22 - 23) conclusion that most companies fail because they lose their mental map of the business i.e. their sense of identity. The results of De Geus' (1997) Royal Dutch Shell study of long-living organizations revealed that very few organizations endure for 200 to 300 and indicated that those companies that do (approximately 27 of the studied population) revealed a *strong sense of identity* as one of four prominent, long-term survival factors. Both Labich and De Geus' observations align with the *identity-focus-performance-survival postulate of OIT*. The studies reported in this paper provide confirm this OIT postulate more directly and clearly, and demonstrate the consistency of the identity-performance relationship. These findings suggest that organization identity is a significant concern for institutional management.

IMPLICATIONS FOR MANAGEMENT

The cited studies draw attention to organization identity (OI) as an influential variable and because of its relatedness to organizational performance, one that cannot be ignored.

Although the dynamics associated with organization identity are still largely unknown, the first more obvious implications are that a clear and strong OI will relate (and facilitate / contribute) to desirable levels of organizational performance and vice versa. The results suggest that regular measurement of OI status has diagnostic value, with an unhealthy or diffuse organization identity status pointing to inadequate institutional focus at the level of measurement (e.g. among the workforce at large). Unless attended to, an unhealthy identity status will translate into a decline in performance levels.

It appears that OI imbues employees with a frame of reference for thinking about the organization and subtly directing behaviour and decision making in accordance with this framework. It makes imminent sense to focus on, surface and review the organization's identity consciously rather than ignoring it, as the latter will imply that the organization is directed in a powerful manner by an "unknown" quantity, but from a "below-the-surface" or preconscious level. The promising perspective is that effort invested in clarifying, refining or intensifying OI will translate, among other, in improved organizational performance (for an outline of OI interventions designed to strengthen the organization, see Van Tonder, 2004b).

However, a clear and appropriate OI will also translate into several other “benefits”. One such aspect is its likely impact on the stakeholder community. A strong, appropriate OI will demarcate and convey the essential character of the institution more clearly and crisply for current and future stakeholders (including employees, executives, shareholders, trading partners). In turbulent and fiercely contested markets OI becomes an instrument to attract, secure and retain stakeholders, in particular new generation clients and employees, who otherwise do not subscribe to notions of “loyalty”, and experience a sense of fragmentation as a result of the surreal and hyper real settings in which they live and work (cf. Berner & Van Tonder, 2003). Identification with the organization (i.e. with the organization’s identity) will inform decisions to engage the organization and cultivate a longer term association while simultaneously acting as a tacit selection measure and process (selecting / deselecting appropriate and inappropriate stakeholders and ventures). Particularly relevant to the current competitive challenges is the contribution that a strong and clearly discernable identity would make to crystallizing the organization’s niche and its strategic positioning. Organizational distinctiveness, a core component of OI, differentiates the institution from competitors on innate attributes in a manner that cannot be emulated, which strengthens employee (stakeholder) identification and “fit” with the organization. With organizational culture a more difficult construct to alter, organization identity should become a preferred target for intervention, whether an organization’s identity is known or otherwise³, with substantially improved prospects for succeeding and sustaining desired organizational changes. *Who we are* (the identity question) unavoidably directs *how we do things around here* (the layman’s definition of culture) (Van Tonder, 2004b) and as a consequence culture will adjust with commensurate strengthening of the organization’s identity. A crucial component of OI is the sense of unity / solidarity (sense of belonging) that a clear and strong identity cultivates and which accounts for improved focus and performance in the identity-performance relationship. Organizational unity generally facilitates the nature and magnitude of the organization’s output (unity rather than discord drives success), but is particularly desirable during large scale organisational change, which has become the most salient feature of the contemporary institutional landscape. The findings of the reported studies imply that the traditional role of leadership i.e. cultivating a sense of unity among followers is significantly aided when OI is accentuated. The stabilising role of organization identity (the “enduring” dimension of OI) during periods of upheaval and change was demonstrated by several of the studies. This implies that an intensified focus on OI in preparation for engaging any form of change, are likely to buffer the organization (the workforce) against the typical adverse consequences recorded in respect of change initiatives.

In closing, OI is a recent artefact in the scholarly discourse on organizational management and empirical research has been rare. The current paper set out to briefly report on some of the first empirical studies pursued from within the framework provided by Organization Identity Theory (OIT). The findings of these studies provide support for several tenets of OIT and suggest that the emerging construct of Organization Identity may prove to be a crucial consideration for organizational sustainability in a turbulent global operating context.

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ENDNOTES

1. Compare Bartunek and Moch, 1987; Dixon, 1999; and Van Tonder, 2004d.
2. See Van Tonder (1999) for a detailed account of Organization Identity Theory (OIT) and Van Tonder (2004bc) for a brief overview of OIT.
3. See Van Tonder (2004b) for a consideration of identity as target of intervention.

EDUCATING THE NEXT GENERATION OF YOUNG ENTREPRENEURS

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ABSTRACT

A variety of factors have aligned that make it possible for recent graduates to start their own high-tech enterprises, provided that their education equips them with the proper skills and motivation. This paper illustrates the opportunities first by reviewing seminal businesses started by young entrepreneurs, then by reviewing the skills and a potential course of education known as Virtual Enterprise, and finally by touching upon the emerging opportunities afforded by progress in fields such as gadget-app development and biotech.

INTRODUCTION

There is currently an increased emphasis on stimulating innovation and supporting future entrepreneurs in the United States, especially in areas of emerging technologies. The American Recovery and Reinvestment Act of 2009 provides incentives such as tax-breaks for small businesses and increased funding for research and science. Recognizing the critical need for technological innovation and advances, U.S. corporations are also investing in Science, Technology, Engineering, and Math (STEM) education. It is necessary to provide the proper foundation for the next generation of entrepreneurs to enable them to transition their innovative ideas into successful products and business ventures. This requires a renewed focus on education in the STEM areas, as well as promoting multidiscipline cooperation and embedding business and entrepreneurial skills into curricula. The U.S. Bureau of Labor Statistics projects that five of the fifteen fastest-growing occupations in 2006–2016 are computer or IT related, which indicates that these skills will be of increasing importance (U.S. Dept. of Labor, 2007). Students who are able to apply their computer or engineering knowledge to other fields will have a competitive advantage.

Emerging technologies present opportunities for entrepreneurs to contribute to the solutions for many existing problems and to the fulfillment of unmet needs. Many future firms will require innovation that comes from emerging or converging technologies. Large existing firms can also utilize entrepreneurial activities for advancement in various technologies, such as use of technology to monitor and conserve energy use. Entrepreneurial skills are also of value to students who may work in a large corporation. Entrepreneurial ventures within an established corporate framework have been successful in companies such as 3-M, IBM, Hewlett-Packard, and General Electric (Kuratko, 1993). Intrapreneurship is the creation of new products within a large organization using existing employees (Chang 2000).

Currently, some of the most innovative companies include those in the biotechnology, pharmatech, alternative energy, and green technology industries (Fast Company, 2009). There have been several promising advances in the field of bioinformatics such as high-throughput sequencing for genetic analysis and personal genomics. The field of health information technology is also growing in response to the need for electronic medical records and personal health records. Many IT startups will face the challenge of implementing new ideas which involve collaboration with other industries.

Today's entrepreneurs do not necessarily need to develop or manufacture a product. Many entrepreneurial ventures of the past two decades involve computers, the Internet, and an exploitation of opportunities afforded by technological advances – we note that today's entrepreneurs must have a strong technological background. Inventions may present a new methodology of finding, organizing, conveying, or transferring information, or bringing a product to market. Such techniques can have a huge impact on how commerce/business, education, society, medicine, and life in general are conducted. Household names that are representative examples are Amazon, eBay and Google – each impressive, novel, pervasive, with a proven track record of success, and dominant in its own domain.

FROM CLASSROOM TO VENTURE: SEMINAL IT AND BIOTECH ENTERPRISES

Some of the most successful social networking sites originated as student start-ups. Sites such as Facebook and Twitter have revolutionized the way individuals and organizations inter-communicate. Mark Zuckerberg began Facebook while a college student at Harvard University (McGirt 2007). Though it began as a social networking site for college students, Facebook is now utilized by a broad base of users including government agency employees and Fortune 500 companies. Twitter is a social networking and micro-blogging service that allows users to post and track other users' short text updates. Jack Dorsey, then college student as well, created Twitter by taking advantage of improvements in mobile computing to provide a novel way of communicating and conveying a person's updates and activities to one another (Lynch 2009).

There have been numerous successful Internet companies have emerged out of research by graduate students. A primary example is that of Google and founders Sergey Brin and Larry Page. Rarely has a graduate student research project been such a viable tool, with broad impact on society and the economy. Brin and Page, as Ph.D. students at Stanford University, produced a seminal paper exploiting their joint interest in data-mining entitled "The anatomy of a large-scale hypertextual Web search engine" in 1998 (Brin and Page 1998). By then search engines were already capable of gathering vast amounts of information, but the challenge was to rank the web pages that search engines found in a more meaningful way. The main difference between Brin and Page's search engine and the others of that time was that their large scale search engine would rank web pages based on how well they were linked (cited) by others. Google dominates web searches as well as the market for advertising on websites. The company continues to be one of the most innovative and successful ventures of the world wide web.

Many biotech companies have also been incubated from research conducted at universities around the world. Advancements in the thriving area of biotechnology are inspiring to entrepreneurs, producing companies such as OrthoMimetics, which was started by graduate student Andrew Lynn (Waltz 2005). Lynn, along with other students and faculty at the University of Cambridge and the Massachusetts Institute of Technology, worked to develop a material that can be incorporated into devices for cartilage, meniscus, ligament and tendon repair. This material, called chondromimetic, is a porous, resorbable implant, which promotes regenerative repair of damaged joint surfaces and bony defects caused by degenerative diseases. Orthomimetics is a company that exemplifies a successful merging between two technologies - in this case bone and soft tissue repair. The company currently designs, develops and manufactures cutting-edge treatments for the repair of damaged joints following sports injuries and other orthopedic trauma.

ENTREPRENEURIAL EDUCATION AND SKILLS

Virtual Enterprise (VE) is active-learning pedagogy that can exist as a *free-standing* course or be *embedded* within a content course of any discipline – not merely business courses. The premise is that students

form and run a simulated business in the classroom, through which they put their acquired interdisciplinary knowledge and skills into practical use. VE engages and motivates students because they are able to clearly understand the connection between what they've learned and how the "real world" makes use of it. It also obliges students to actively participate in their own learning through projects, group work, and discussion (Schulman 2004).

In a *free-standing* course, VE students spend an entire semester running all aspects of the business. Student teams are tasked with the conceptualization and administration of a realistic project within the confines of a classroom. Students interact locally as divisions of one enterprise facilitated by a trained instructor and support materials. Each classroom can connect with an international community of simulated firms (the IVE Partner Network) through a virtual economy (the IVE MarketMaker), an articulated series of events, and web-based community tools (IVE 2009).

An exemplar of a VE engagement *embedded* within a larger course is its use in an introductory college skills course at CUNY's Kingsborough Community College. When learning about proper resume writing and interview techniques, students live through the process instead of being told about it. The class forms a job-recruitment firm which drafts virtual employment ads and solicits their colleagues to apply for these positions. Students interview their peers and make hiring decisions. This allows all students to reflect on the successes and mistakes made.

The embedded version of VE can be used in a multitude of content courses. It works best with topics that are directly applicable to the career world, and especially when the learning involves group work, interaction, and hands-on tasks. In an English literature and composition course, for example, the students could be employees of a literary magazine. As a company, they would have to read and report on a genre of works, keeping in mind that their audience expects high-quality, peer-edited, and original reporting. The semester would culminate with a group assembling all the writing into a deliverable magazine to be presented to the course's instructor and even the College community.

Recent funding from the National Science Foundation¹ has allowed for extending the Virtual Enterprise program to the information technology (IT) and biotechnology (BT) fields to address the soft- and entrepreneurial-skills needs of technicians (Schulman 2009). The project is actively developing three courses:

- (1) *ve^{it}-Careers* is for entry-level IT students. The primary goal is to motivate students to pursue an IT career, and to give them an idea of the breadth of jobs in the industry and the underlying education and skills needed to achieve their desired position. In the engagement, the students form the staff of an IT department within an existing firm. The hierarchy of positions would be predetermined; the students would research those positions, apply for one and solve basic predetermined problems within that capacity.
- (2) *ve^{it}-Capstone* is meant for the graduating IT student. The primary goal is to put into practice their IT skills, while developing an entrepreneurial mindset. Here, the students would create an IT consultancy centered around a product or service that is IT related. While evolving the technical aspects of the product/service, they would also handle the marketing, accounting and other facets of the business. Business structure would revolve around different departments (marketing, R&D, etc.) and would not be preset for the students. The instructor could predetermine the product or IT-subfield, if desired, to move the class in a particular direction; it's also possible to structure the business as a "new product team" within an existing enterprise.
- (3) *ve^{bt}-Capstone* is the Bio-Technology Virtual Enterprise. Its goals are similar to that of *ve^{it}-Capstone*.

EMERGING OPPORTUNITIES FOR YOUNG ENTREPRENEURS

Biotech and gadget-app development (the development of small software applications that plug into handheld devices and existing websites) present the two best opportunities for new entrepreneurs. In the fields of IT and biotech, governments, universities and large corporations have already developed the infrastructure to provide the foundation and support for the realization of a new concept or product. Thus one does not need to be

entrenched in corporate infrastructure in order to found a successful enterprise. Current undergraduate or graduate students with an idea can pursue it without access to vast sums of capital. The infrastructure comes in the form of hardware and websites that are open to third-party developers and biotech incubators:

- 1) IT: Application Programming Interfaces (APIs) have cropped up for Google's website and phone, Apple's iPhone, and Facebook. These allow third-party developers to implement an application that supplements an already popular product. It also provides a distribute channel that skips the expense of a factory to burn to disk and package the software.
- 2) BioTech: Municipalities and universities have put significant resources toward incubators that support start-ups and early stage biotech companies. In the downstate New York area alone, SUNY's Downstate Biotech Park, Long Island High Technology Incubator at SUNY Stony Brook, and Columbia's Audubon Business & Technology Center provide the equipment and facilities for start-ups in biotechnology, especially those that improve health care or manufacture biomedical products.

In the early days of computing, plenty of enthusiasts released their own simple games and applications. As processor power and task complexity increased, applications gravitated to being released by large corporate entities. Microsoft has been associated with providing office productivity software, Symantec with solutions to malware, Electronic Arts with games; and while other companies do exist, these companies have significant market share. The high cost of entry to developing large-scale applications, including salaries to develop large amounts of code, then packaging and distributing software has kept smaller players out. With gadget-apps, those small-scale applications designed for integration into existing hardware and websites, there's been a clear break from the entrenched dominance of corporations and a return to what is reminiscent of the time of enthusiasts. The applications are smaller, filling specific niches, and are distributed entirely electronically.

The prevalence of gadget-apps is in social networks and on cellular telephones. Social networking website Facebook boasts 200 million active users (30 million of whom use the site from a mobile device) with 52,000 independently authored applications (Facebook 2009). Apple's iPhone™ store recently delivered its one billionth application from its library of over 33,000. Google's G1 phone runs network-enabled applications on Google's Android™ platform. HTC's Touch Pro is one of many phones that run applications on Microsoft's Windows Mobile platform. Application Programming Interfaces (API) are provided by each of the companies to allow for small, third-party developers to get into the market; in fact, many in the industry welcome developers with open arms, as it helps drive customers toward their core product (website or phone). Many institutions have embraced this by offering gadget-app programming courses; for example National University of Singapore offers Facebook programming in CS3216 (Leong 2009), and Stanford offers iPhone application programming in CS193P (Doll 2009).

Umesh et al evaluate the opportunities for entrepreneurial ventures in emerging technology fields such as ubiquitous computing and information security which are expected to have high growth rates (Umesh 2005). Entrepreneurs with limited resources should focus on services in growing fields rather than development of new technological tools to increase the likelihood of quick revenue. Gadget-app development for ubiquitous computing will continue to be in demand due to the proliferation of wireless devices. Information security is another area of growth which concerns the privacy of data, integrity of software, and secure transmission of data over networks (cyber security). Since businesses rely heavily on the cyber infrastructure for their operations, it is necessary to ensure the security of their data and transactions. Information security will be of increasing importance to the medical and health informatics fields as more information is being stored and transmitted between organizations. In any computing or IT venture, entrepreneurs must design products that are compatible with existing and popular hardware and software - for example those related to security and networking (Umesh 2007).

CONCLUSION

Incorporation of Virtual Enterprise (Information Technology, Bio-Technology, and Computer Engineering) into STEM areas will cultivate an entrepreneurial environment where students gain exposure to and hands on experience with the business skills and components required to set up an IT or other type of technology firm. VE also facilitates collaboration between students of multiple disciplines, such as computer engineering and biology. VE aims to enhance students' preparation to work in an IT and/or emerging technology environment and to equip the next generation of entrepreneurs with the skills necessary to turn their innovations

into practice. Given the necessary skill set and knowledge of existing infrastructures, opportunities for IT entrepreneurs in fields such as gadget-app development and biotechnology are abundant.

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CUSTOMER FORGIVENESS IN SITUATIONS OF SERVICE FAILURE

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ABSTRACT

This study aims to investigate one most overlooked coping strategy in the service failure context, which is 'customer forgiveness'. Through the employment of two experiments, this study investigated the effect of service failure severity, apology and compensation on consumer emotional and decisional forgiveness as a response to service failure. The two major findings are (1) in situation where apology is offered under high severity condition; customers tend to experience decisional forgiveness and (2) in situation where apology is offered with compensation; customers are less inclined to experience emotional forgiveness. Overall findings unlock implicit nature of customer forgiveness to service failure and provide service firms with new insights in consumer behaviour towards transgressors.

INTRODUCTION

How do customers cope with negative service incident? Do nothing? Lodge complaints? Switch to other service provider? There are considerably a great number of studies which have investigated customer coping strategies when dealing with service failures, for example Duhachek (2005) Bhandari, Tsarenko and Polonsky (2007) and Moschis (2007) however, customer forgiveness as a coping strategy has been largely overlooked in the business settings. The concept of forgiveness is indeed very complex since it is not always apparent why and how people forgive. Nevertheless, it is widely acknowledged that forgiveness encompasses healing power that can not only change personal outcomes, such as appraisal or rumination, but it can also affect the relationship between parties. For example, studies conducted by Worthington and Scherer (2004), McCullough, Worthington and Rachal (1997) revealed that forgiveness as a coping strategy helps to reduce stressful reactions to a transgression, increases motivations to pursue relationship-constructive actions toward an offending partner, however, forgiveness does not imply a reconciliation between parties. On the other hand, studies conducted in consumer research field made passing remarks to forgiveness but never investigated this concept in detail (Mattila 2001, Mattila 2004). Consequently, customer forgiveness is an important element to be investigated in the service settings, particularly in the current economic situation whereby retaining customers are imperative to ensure the continuity of their service. Thus, the underlying motivation of the current study is to find out the type of forgiveness customers express in situation whereby: service providers offer (or not offer) apology in low (or high) severity of service failures (Study 1) and service providers offer (or not offer) apology with (or without) compensation in the case of service failures (Study 2).

This study provides preliminary theoretical and empirical grounds for understanding of the underlying causes of consumer forgiveness; nevertheless it makes the following contributions to the consumer research field. First, it introduces the concept of consumer forgiveness as an intrinsic customer characteristic that may implicitly facilitate obtained service outcomes. Second, this study provides empirical insights on two dimensions of forgiveness (i.e., emotional and decisional forgiveness) as drivers of service outcomes. The findings also shed light on what level of importance researchers need to place on the inherent value of apology and compensation as service recovery strategies.

THEORETICAL BACKGROUND

Forgiveness

In recent times, the concept of forgiveness has found expression in the fields of moral development (Enright 1994), philosophy (Papastephanou 2003, Derrida 1999, Newberry 2001), psychotherapy (Rowe and Halling 1998, Denton and Martin 1998, Hope 1987) and in developmental psychology (McCullough et al. 2000, Enright 1994). Deriving from these perspectives, forgiveness is associated with a process directed toward relinquishing the moral right to punish, to cling to resentment or to hold a grudge (Epstein 1999).

The most influential research concerning the interpersonal nature of forgiveness is found in Enright, Gassin and Wu (1992), Enright and North (1998), Richards (1988), McCullough et al. (2000), North (1987), Enright and Cole (1998) and Worthington (2006). The view of Enright et al. (1992) is that

“one who is deeply hurt by another often fights against the other (even if only in feelings and thoughts toward the other); as the injured party ceases fighting against the other and gives him or her the unconditional gift of acceptance as a human being, the former is said to be forgiving” (Enright et al. 1992, p.101).

It is proposed here that the world of commerce could benefit from the concept, especially when it concerns in dealings with customers as an increasing research attention has been devoted to identifying factors contributing to customer satisfaction and loyalty (Liao 2007). In the commercial arena, the potential value of forgiveness has not received adequate attention. With increasing competition for customers and the global mobilization of consumer interest groups facilitated by communications technology, direct retaliation, negative word of mouth and the risk of enduring resentment and hostility can become increasingly magnified and their effects ever more destructive.

Worthington and Scherer (2004) identify two types of forgiveness pertinent for investigation in business context: emotional and decisional forgiveness. The former encompasses the state of emotions as inputs that motivate people to forgive. This emotional forgiveness is described as a gap or difference between the way one would prefer a transgression should be resolved and the status quo of the current situation. The wider the gap the more likely people experience unforgiveness which is a delayed response to a perceived transgression (Worthington and Scherer 2004). In contrast, decisional forgiveness “is a behavioral intention statement that one will seek to behave toward transgressor like one did prior to a transgression” (Worthington and Scherer 2004, p. 386). Forgiveness is not a simple event; it constitutes an outcome of negotiated reparation. The forgiving party may not necessarily interact with or receive acknowledgement from the offending party. However, in some cases the offender may seek forgiveness and endeavor to help the other party work through difficult emotions in the attempt to understand the circumstances that gave rise to the incident.

Apology

In the business world, the notion of apology is closely linked to the idea of forgiveness. This is clearly indicated by Patel and Reinsch (2003) who identify forgiveness as one of the positive effects of apology. Furthermore, Tavuchis (1991) states that the strength of apology resides in its capacity to evoke “the unpredictable faculty of forgiveness” (Tavuchis 1991, p.viii). The possible array of positive outcomes from forgiveness and apology are multiple. The party that offers apology and seeks forgiveness tries to eliminate animosity and restore the relationship. On the other hand, Patel and Reinsch (2003) also state that “legal issues prohibit or generally discourage corporate apologies” (p. 24) due to the possible ramifications that might occur. This controversial nature of organizational apology is concluded in potential avenues to open a plaintiff.

On a micro level when service provider deals with a specific incident and particular customer, studies that focused on apology as a part of recovery process also reveal mixed results. The most common idea is that apology as a recovery strategy has a strong and positive effect on customer satisfaction (Smith et al. 1999), however, some studies found that apology has very little or no effect on customer satisfaction (Davidow 2003). While satisfaction may be not a direct outcome of apology, customer forgiveness may be granted and, if it is, the

residual effect of broken relationships can be removed. If forgiveness is not granted there remains the potential for no further harm for either party as, when the apologizing party relinquishes its defensive position, this opens opportunities for future communication.

Thus apology does not always lead to forgiveness. However, in light of differentiation of two types of forgiveness, it can be expected that customers who receive apology might be inclined to release or relinquish their negative emotions toward transgressor as a general perspective is that apology reduces negative thoughts, feelings and provide both explicit and implicit information about transgressor (Eaton et al. 2007). More recent studies have examined the nature of transgression and found that when offenses were unintentional, forgiveness was more likely following an apology (Struthers et al. 2008). This effect was based on participants' impression of the transgressor.

Consumer Emotional Intelligence and Service Failures

When relationships run smoothly and parties meet each other expectations, there is no room for emotional imbalance. However, once mishap occurs the relational landscape is open for eliciting of both negative thoughts and emotional states of various degrees. This assessment of severity describes the customer's appraisal of the stressful climate in order to determine the degree of potential harm or benefit (Folkman et al. 1986). Customers' appraisal of negative incidents can be assessed as a cognitive or emotional appraisal. Furthermore, as Stephens and Gwinner (1998) note cognitive theory of emotions posits that emotive reactions are often an outcome of cognitive appraisal efforts. In this study we undertook a novel approach to measure customers' perception of service failure, in that, we employed a personality variable that combines both emotions and thoughts: the concept of Emotional Intelligence (EI). McClure (2007) suggests that, in nearly all aspects of human behavior there is a seamless integration of emotional and cognitive processes. The essence of emotions is that they are automatic responses to external changes in relationships between the individual and environment (or internal perception of changes) that impact behaviors. Cognition is more flexible than emotions (Mayer et al. 2000a) in that cognitive processes are more deliberative by their nature and support a wider range of behaviors (McClure et al. 2007). The intersection of emotional and cognitive processes implies that people possess "the ability to perceive accurately, appraise and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth" (Mayer and Salovey 1997, p. 35). Thus, we expect that customers' EI reflect their appraisal of service failure. More specifically, we anticipate that when severity of service failure is high it results in activation of higher score in customer EI. In this sense, the manner in which customers appraise the nature of the service failure will have an influence on both their emotional and decisional aspects of forgiveness as their coping response. It is expected that customers tend more easily to forgive when service failure is less severe.

We thus hypothesize:

H1: When apology is offered in high degree of service failure severity, consumers tend to experience greater emotional forgiveness

H2: When apology is offered in high degree of service failure severity, consumers tend to experience greater decisional forgiveness

The following study was designed to test these hypotheses directly.

STUDY 1

Design. We employed a 2 (Apology: Present and Absent) X 2 (EI: High and Low) between subject design to test customer forgiveness both emotional and decisional. A scenario analysis was done wherein subjects were exposed to a service failure in the context of subscribing broadband online. The subjects were randomly assigned to one of the four experimental conditions.

Participants and Procedure. A sample of 83 undergraduate students from Faculty of Business participated in this study. The use of students was deemed to be appropriate for this particular scenario as many of them are familiar with the need to set up internet connection at their homes and thus concomitant arrangements such as purchasing a broadband modem. They received the paper based survey as part of their learning exercise. The students were asked to read the scenario and then answer a few questions. The whole task involved was 10 minutes and since this was part of their learning exercise the students were fairly involved.

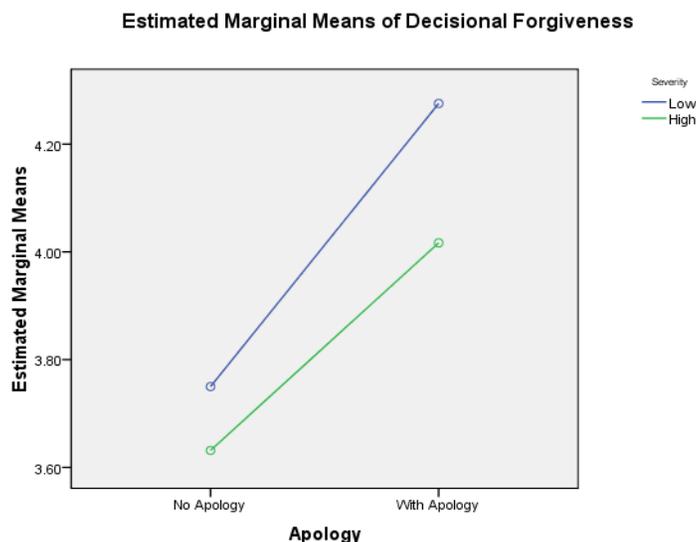
Dependent Variables. To measure our dependent variables: emotional and decisional forgiveness, we adapted scales from Wade (1989) and McCullough et al. (1997). Based on the examination of face validity, we used three items to capture decisional forgiveness and five for emotional. The participants reported their attitude on a seven-item likert-type scale.

Manipulation check. As we activated EI by using two different service failure scenarios, it was necessary to conduct a manipulation check to validate our assumptions. Manipulation check was verified using the adapted Consumer Emotional Intelligence Scale (CEIS) scale (Mok et al. 2008).

Results. First we checked to see if our manipulation for severity resulted in different scores of EI. As we hypothesized the score of EI indicated significant difference across episodes of service failures, in particular, when service failure was lower, customers score of activated EI was also lower ($t=-1.94, p<0.1$). Therefore our manipulation worked.

On analysing the two-way ANOVA, there is a significant main effect ($F(1, 82) = 3.21, p < 0.1$) for Apology in case of decisional forgiveness only. This provides support for H2 as shown in Figure 1 but there is no support for H1. Further, on examining the marginal estimated mean for decisional forgiveness, we found that in case of apology is offered in high severity condition, consumers experience greater decisional forgiveness than when no apology is offered (Figure 1). This directionality well supports H2. However, there is no main effect for severity (as measured by EI) and no interaction effect with apology. As we indicated, prior studies showed that apology is not always enough in healing interpersonal relationships (Struthers et al. 2008). Furthermore, previous research (Smith et al. 1999, Weun et al. 2004, Wirtz and Mattila 2004) used multiple service providers' recovery strategies, such as compensation, speed of recovery, empathy, as responses to service failures. Thus, in the following study we examine the role of compensation and apology on customers' propensity to forgive.

Figure 1
Study 1: Apology and severity on decisional forgiveness



Compensation

The straightforward nature of compensation especially in the business context made this organizational response a very popular and acceptable practice where failure was legitimate and this response therefore can rectify the problem. Majority of studies demonstrated the positive relationships between compensation and intention to continue patronage (Davidow 2003). Despite this sounded finding, Davidow further noted that the relationship between compensation and post-complaint customer behavior are less clear than ever. As response to this statement Wirtz and Matilla (2004) found that compensation does not enhance satisfaction when the recovery process is well execute. More specifically they suggest that there are some recovery situations in which

recovery that combines apology and compensations does not increase customer satisfaction. “Compensation might be perceived as an admission of guilt and hence enhance the perception that the service provider had control over service failure” (p. 161). The complexity of this phenomenon can be unpacked through customer forgiveness. While satisfaction is linked to more emotional state, we can expect that offering apology should have a positive impact upon customers’ emotional and behavioral forgiveness as it is perceived as an organizational attempt to rectify an unfavorable service encounter while presence of compensation can reduce customers’ propensity for emotional forgiveness and at the same time increase their predisposition for behavioral forgiveness. Thus we hypothesize:

H1: When an apology is offered with compensation, customers tend to experience greater emotional forgiveness than when offered without compensation

H2: When an apology is offered with compensation, customers tend to experience greater decisional forgiveness than when offered without compensation

The following study was designed to test these hypotheses directly.

STUDY 2

Design. We employed a 2(Apology: Present and Absent) X 2(Compensation: Present and Absent) between subject design to test customer forgiveness both emotional and decisional. As in Study1, we used a scenario analysis wherein subjects were exposed to a service failure with high degree of severity in the context of subscribing broadband online. The subjects were randomly assigned to one of the four experimental conditions.

Participants and Procedure. A sample of 82 undergraduate students from Faculty of Business participated in this study. The use of students was deemed to be appropriate for this particular scenario as many of them are familiar with the need to set up internet connection at their homes and thus concomitant arrangements such as purchasing a broadband modem. They received the paper based survey as part of their learning exercise. The students were asked to read the scenario and then answer a few questions. The whole task involved was 10 minutes and since this was part of their learning exercise the students were fairly involved.

Dependent Variables. As in Experiment 1, to measure our dependent variables: emotional and decisional forgiveness.

Results. We first ran a two way ANOVA for both Emotional and Decisional components of forgiveness. For emotional component, the main effect for compensation was significant ($F(1,82)=2.84, p<0.1$). Further, on examining the marginal estimated mean for emotional forgiveness, we found that in case of when apology is offered with compensation consumers experience lower level of emotional forgiveness than when no compensation is offered (Figure 2). This directionality is a reversal of H1 which expected greater emotional forgiveness would be experienced. In case of decisional forgiveness, the main effect of apology is significant ($F(1,82)=3.51, p<0.1$). Further, on examining the marginal estimated mean for decisional forgiveness, we found that in case when apology is offered with compensation consumers experience greater level of decisional forgiveness than when no compensation is offered (Figure 3). This directionality supports H2; however it is not significant at 0.1 level. Nevertheless, when we examined the effect size, the partial eta square is 0.03 indicating that a larger sample size might make this result significant.

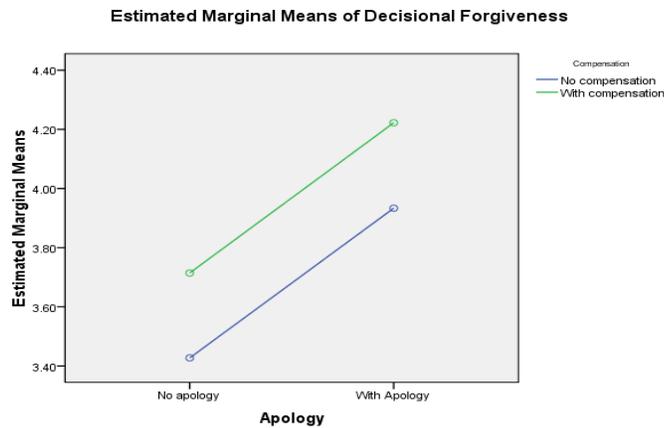
DISCUSSIONS AND CONCLUSIONS

The motivation of this research was to advance the theory of forgiveness to consumer research domain. Exploring various aspects of consumer forgiveness allows gain not only richer insight in consumer behaviours and decisions but also search for alternative ways of resolving problems. Forgiveness as a coping strategy of consumer is portrayed as both intra-psychic mechanism that instigate emotional forgiveness and as a social act toward transgressor which is presented as decisional forgiveness.

As Mattila (2001) noted, customers are becoming more excessively demanding when experiencing service failures. This issue is getting more complicated as intrinsic consumer characteristics that drive their motivations and behaviours are still a grey area of research. While many research studies aiming to advance the domain of service failure and recovery have provided a broad range of perspectives, consumer forgiveness has been significantly overlooked. However, this type of coping strategy might explain some equivocal results in many studies. Previous studies have focused on emanation of extrinsic cues that form the range of tools of service

recovery programs. However, in order to make service recovery strategies more viable and sound, intrinsic state of customers in situations of service failure should be better understood and this area requires further empirical examination. It becomes an imperative to learn more about customer psychological state in negative service encounters. As suggested by psychology research, forgiveness is employed by individuals as one of the forms of coping strategy and how customers engage with this process may explain their overall satisfaction and specific perception of various forms of justice.

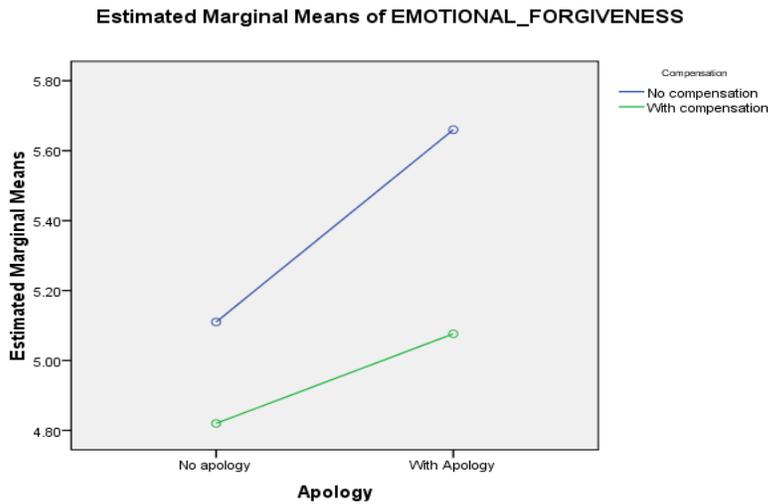
Figure 2
Study 2: Apology and compensation on decisional forgiveness



In Study 1, we investigated the role of apology under different conditions of service failure severity. In this study, we also introduce the concept of customer EI as a proxy for customer evaluation of the degree of service failure. Our rationale to use EI was based on the fact that it integrates emotion and thought and in doing so overcomes the long term conflict between emotion and reason (Mayer et al. 2000b). While we acknowledge that there is variation between people in their EI score in general, in our study we use relatively homogeneous sample assuming that various degree of severity of service failure should activate different degree of customer EI. As result indicated our manipulation was successful. While the degree of severity was not significant in our study we found that customer receiving apology tend to only experience decisional forgiveness. This can be explained by the theory of forgiveness which postulates that in some instances individuals first engage in decisional forgiveness as they are guided by their cognitions and only later may experience emotional one (Worthington 2006). Furthermore, this result can be interpreted in a way that apology as a service recovery strategy instigates customer forgiveness and in circumstances when service failure severity is low decisional forgiveness is greater in comparison to situations when the degree of severity is high.

In Study 2, to better understand customers' internal psychological state, we examined effects of compensation and apology (Smith et al. 1999, Tax et al. 1998, Mattila and Cranage 2005) on customers decisional and emotional forgiveness. Our most interesting finding which also is a counterintuitive shed light on how consumers interpret combination of apology and compensation as a service recovery strategy. Contrary to expectations that customer should be delighted with a well-executed recovery customers were less emotionally forgiving when they receive both compensation and apology. Implicitly it is related to their judgment of responsibility and attribution toward transgressor. In other words while it might be expected that they continue patronage of the service provider, receiving both apology and compensation confirmed and convinced them that service provider should be held responsible for the problem.

Figure 3.
Study 2: Apology and compensation emotional forgiveness



The key findings also revealed a reverse effect when compensation was introduced. Specifically, in the condition whereby compensation is offered, it served as a negative catalyst that aggravated customer negative emotions and feelings. Our empirical results showed a significant reverse effect on emotional forgiveness. The existence of this reverse effect may be attributed to the type and the size of compensation. In our scenario compensation resulted in one month free broadband subscription. Customers could perceive such level of compensation as not adequate recovery while not offering compensation results that consumer expectations are not triggered and only receiving an apology would result in higher level of their emotional forgiveness. Overall findings from this study highlight the importance of integrating customer forgiveness into service recovery planning strategies. Service providers should now be aware of the meaning of customer forgiveness that is attributed to their service recovery strategies and be clear on factors that facilitate customer forgiveness and its limitations.

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MODEL TO DETERMINE AMHS CAPACITY FOR WAFER FABRICATION

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ABSTRACT

Automatic Material Handling System (AMHS) is getting more important in 300mm wafer fabrication factory (Fab). An effective and efficient design and control of AMHS became more critical in 300mm fab. Capacity planning is one of the major factors of AMHS design. Generally, surplus capacity can not increase throughput but reduce ROI (Return On Investment). On the other hand, if the AMHS capacity is insufficient, the throughput will be impacted seriously. Therefore, how to determine an adequate capacity level is a key point for 300mm fab.

The major concept of AMHS capacity determination model is to maintain the original designed production performance. In order to maintain fab's performance, the WIP portfolio of constraint machines should be kept. Based on this concept, a GI/G/m queuing model is applied to represent the AMHS and to determine the required numbers of vehicles. It assumed that products should be transported to next processing equipment by finishing the processing part of next equipment, thus the WIP in front of this constraint machine can be kept the same. Under this condition, the probability that transportation time exceeds part processing time under a certain transportation capacity level can be calculated by proposed model. Hence, we can get the required capacity of AMHS which can achieve the probability target set in advance.

Due to the capacity of AMHS will be set according to the acceptable probability of non-exceeding processing time of constraint machines, the level of WIP in front of constraint machines can be kept. It also can be ensured that AMHS will not affect the production performance as well as keep on a reasonable investment level.

INTRODUCTION

Semiconductor manufacturing is a capital, labor and technology intensive high-tech industry with complex processes, consisting of thousands of process steps, re-entrant flows and batch processing. The technology and efficiency of manufacturing have to be improved continuously to increase profitability (Tu and Liou, 2006; Driessel and Mönch, 2007; Tu, 2008). Generally, 300 mm manufacturing is a common and necessary technique in recent wafer fabrication. In order to achieve high cost-effective production and avoid the possible injury of employees due to carrying the heavy weight of 300 mm wafers, a highly automated material transfer system should be established in 300 mm semiconductor fabs (Liao and Fu, 2004). Accordingly, Automatic Material Handling System (AMHS) plays an important and significant role for 300 mm wafer fabrication fab. The AMHS acts as a connector among workstations to assist to deliver the products to the right place, at the right time. Hence, an effective and efficient design and control of AMHS became more critical factor in 300 mm fab. Capacity planning is one of the major factors of AMHS design. Generally, surplus capacity can not increase throughput but reduce ROI. On the other hand, if the AMHS capacity is insufficient, the throughput will be impacted seriously. Therefore, how to determine an adequate capacity level is a key point for 300mm fab.

Abundant researches with methods to design the quantity of AMHS. The primary method is based on minimizing some functions of acquisition costs (Egbelu, 1993; Herrmann, et al., 1999; Kuo, 2002; Steele, 2002; Liao and Fu, 2004). However, the acquirement of cost data is difficult and some performance data is hard to transfer to cost index. Furthermore, from the literature, it shows that simulation and queuing theory are usually applied in the determination of AMHS capacity (Bozer and Park, 2001; Benjaafar, 2002; Nazzal and Bodner, 2003; Raman, et al., 2008). Simulation approach is just an evaluation model. It can only provide the result under

certain conditions. Moreover, it is usually expensive and time-consuming. Regarding to the queuing approach, although the inherent stochastic nature of the manufacturing system has been considered into the performance factors, very few method of the researches is optimizing the quantity of MHE with respect to production performance factors, like production throughput time and cycle time of products. The objectives of these researches focused on the performance of AMHS, such as the minimum the response time, empty traveling time, maximum utilization of AMHS and throughput of AMHS in different dispatching rule. However, it is not sure that the optimal performance of AMHS results in a better performance of overall production system. The AMHS is only an auxiliary system for the production system. The operations of AMHS can not create any additional value for products. Nevertheless, surplus or insufficient AMHS capacity all indeed hurts production performance. Hence, an adequate capacity level is crucial to 300 mm fab. Moreover, the objectives of AMHS design should be linked to the performance of production system directly. Otherwise, the optimization is out of value.

In this study, a GI/G/m queuing model is applied to represent the AMHS and to determine the required numbers of vehicles. The major concept of AMHS capacity determination model is to maintain the original designed production performance of fab. In order to maintain fab's performance, the WIP portfolio of constraint machines should be kept. Based on this concept, it assumed that products should be transported to the next processing equipment by finishing the processing part of next equipment, thus the WIP in front of this constraint machine can be kept the same. Under this condition, the probability that transportation time exceeds part processing time under a certain transportation capacity level can be calculated by proposed model. Hence, we can get the required capacity of AMHS which can achieve the probability target set in advance.

This paper was structured as follows. In section 2, a process of solution for AMHS capacity was proposed. Next section, an illustrative example was presented. The conclusion and future researches were included in the final section.

CAPACITY DETERMINATION MODEL FOR AMHS

In this section, the capacity determination model for AMHS in wafer fab will be described. The capacity determination model proposed by this work utilized the GI/G/m queuing model to represent the AMHS and to determine the required numbers of vehicles. The objective of this model is to establish a minimum necessary capacity level that enables managers to ensure the production performance will not be impact by AMHS. In other words, we hope the fab can perform as well as without consideration of the transportation when the AMHS is included. The procedure of capacity determination is as follows.

Step 1 Define the constraint machine

The initial step of this procedure would be defining the constraint machines for whole system. This kind of machines is usually expensive and hard to augment capacity in wafer fabrication. In other words, managers will not allow the controllable factor, like the capacity of AMHS, which leads to the capacity loss of constraint machine. This work assumes that the all products move between workstations by material handing system. Therefore, our notion will prevent the constraint machines from idling, that is the material handing system always serving at the right moment.

From pervious studies indicated that the concept of X-factor contribution can be used to determine the performance of each machine for the contribution of overall system. Hence, when engineers try to define the constraint machines for whole system, it can use the X-factor contribution of machines (Delp, et al., 2005; Delp and Fowler, 2006; Tu and Lu, 2008).

Based on the description as above, the adjusted X-factor contribution (AXFC) measurement is applied to this paper. This measurement is developed for wafer fabrication, which considers batching process, un-batching process and machine failure. The detail information can refer to Tu and Lu (2008). The equations of measurement are given below:

$$(1) \quad AXFC_B = \frac{\left(\tau_i(Q) \times \left(1 + \left(\frac{C_w^2(Q) + C_s^2(Q)}{2m_i(1-\rho_i)} \times \rho_i^{\sqrt{2m_i+1}-1} \right) \right) \right) + \left(\sum_{k=1}^J \left(\frac{\lambda_k}{\lambda} \times \frac{b-1}{2\lambda_k} \right) \right)}{\sum_{n=1}^M RPT_n \times b}$$

$$(2) \quad AXFC_U = \frac{\left(\frac{C_{a_j}^2 + C_{s_b}^2}{2}\right) \times \left(\tau_b' \times \frac{\rho_b}{1 - \rho_b}\right) + \frac{\tau_b'}{2} + \tau_j'}{\sum_{n=1}^M RPT_n}$$

Where

$AXFC_B$	The AXFC of batch workstation
$AXFC_U$	The AXFC of un-batch workstation
M	The number of machine groups
$\sum_{n=1}^M RPT_n$	Sum of the total raw process time of workstation n , $n = 1, 2, \dots, M$
$C_{si}^2(Q)$	Squared coefficient of variation of the process time for per batch including machine downtime
$\tau_i(Q)$	Service time of per batch including machine downtime

Step 2 Compute the minimum permissible arrival time of product

In our research experiment, the products have to move to the next workstations by MHS. The workstation will be idle, if products can not arrive in the right time by MHS. Besides, we assume there is a good WIP management rule to define the WIP level in front of constraint machines. Consequently, we will set a threshold value for the cycle time of MHS transportation that can keep the same WIP level and avoid constraint machines in an idle situation. The value was obtained from the following equation:

$$(3) \quad Q = \frac{\sum_{i=1}^N w_i \frac{pt_i}{b_i}}{\sum_{i=1}^N w_i = 1}$$

Where

Q	the minimum permissible arrival time of product
w_i	the weight of workstation i
pt_i	processing time of step i
b_i	Batch size of workstation i

Step 3 Calculate the parameters of the material handling system

In this step, the mean service time ($E(S_i)$) and service time variation ($Var(S_i)$) of material handling system are calculated. Form pervious research, there are two kinds of traveling time in the transportation service. One is the material-handling device travels empty from the workstation location of its last delivery to the workstation location of the current request. The other is material-handling device travels full to the workstation location of goal. The detailed process can refer to Benjaafar (2002). The equations of parameters are represented as follows.

$$(4) \quad E(S_i) = \sum_{r=1}^N \sum_{i=1}^N \sum_{j=1}^N p_{rij} t_{rij} = \tau_i$$

$$P_{rij} = \sum_{k=1}^n P_{kr} P_{ij}$$

$$t_{rij} = \sum_{r=1}^N \sum_{i=1}^N \sum_{j=1}^N (d_{ri} + d_{ij}) / v$$

$$(5) \quad E(S_i^2) = \sum_{r=1}^N \sum_{i=1}^N \sum_{j=1}^N p_{rij} (t_{rij})^2$$

$$(6) \quad Var(S_i) = E(S_i^2) - E(S_i)^2$$

p_{rij} is the probability distribution which an empty trip from r to i followed by a full trip from i to j . The p_{ij} is the probability of a full trip from department i to department j . d_{ij} is the distance between locations i and j . v is the speed of the MHS. t_{rij} is the travel time among of any three workstations r to i and i to j .

Step 4 Determine the initial capacity

In this section, the minimum capacity that can meet system’s basic requirement was determined, which was defined as “initial capacity”. From the definition of Queuing Theory, the traffic intensity (ρ) must be smaller than one to keep the steady-state of the system. Therefore, the initial capacity would be the smallest integer m that greater than arrival rate divided by service rate, it can be presented as follows:

$$(7) \quad \rho = \frac{\lambda\tau}{m} < 1$$

$$m = \lfloor \lambda\tau \rfloor + 1$$

Step 5 Compute the variation of inter-arrival time and service time of the transportation request

In GI/G/m model, two kinds of important parameters are applied. First, the parameters of service time are calculated in setp3. In addition, the variation of the service time and inter-arrival time can be obtained from the following equations. They refer the method proposed by Whitt’s (1993) and Benjaafar (2002).

$$(8) \quad C_{at}^2 = \frac{(\sum_{i=1}^N \pi_i \rho_i^2 C_{si}^2 + \sum_{i=1}^N \pi_i (1 - \rho_i^2)(1 - \pi_i) + \sum_{i=1}^N \pi_i^2 (1 - \rho_i^2) \rho_i^2 C_{st}^2 + \pi_0 (1 - \rho_0^2) C_{a0}^2)}{(1 - \sum_{i=1}^N \pi_i^2 (1 - \rho_i^2)(1 - \rho_i^2))}$$

$$\pi_i = \lambda_i / \lambda_t, \quad C_{st}^2 = Var(S_i) / (E(S_i))^2$$

Where

- λ_t the workload for MHS
- λ_i the workload for workstation i
- ρ_t Traffic intensity at MHS
- ρ_i Traffic intensity at workstation i
- N the numbers of workstations
- C_{at}^2 the SCV of arrival rate of transfer request for MHS
- C_{si}^2 the SCV of service time of workstation i
- C_{st}^2 the SCV of service time of MHS

Step 6 Calculate the mean waiting time of product waiting for the service of MHS

In this study, we assume that MHS is an independent workstation. WIP will be put in a virtual buffer to wait for the transportation to next process equipment when they finished the current process. In addition, the dispatching of MHS selects first come first serve (FCFS). Based on this concept, the expected waiting time was referred to the revision queuing model which was modified from $EW(M/M/m)$ approximation formula to $GI/G/m$ model by Whitt (1993).The equations are showed as follows.

$$(9) \quad Q_{te} = \phi(\lambda_t, C_{at}^2, C_{st}^2, \tau_t, m_t) \times \frac{C_{at}^2 + C_{st}^2}{2} \times \frac{\tau_t (\rho_t \sqrt{2m_t + 1} - 1)}{m_t (1 - \rho_t)}$$

$$\lambda_t = \sum_{i=1}^N \sum_{j=1}^N \lambda_{ij}$$

Where

- Q_{te} the mean waiting time of product waiting for MHS service
- λ_t the workload for MHS
- τ_t mean service time of product k at workstation j ,

- ρ_t traffic intensity at MHS
- m_t Vehicle numbers at MHS
- C_{at}^2 the SCV of arrival rate of transfer request for MHS
- λ_{ij} the product flow rate for workstation I to workstation j
- C_{st}^2 the SCV of service time of MHS

Step 7 Obtain the probability function

From step 1 to step 5, the maximum time, X, that a product waits for MHS can be derived. Therefore, the probability that the waiting time of products is less than X can be calculated. It can be obtained as follows:

$$\begin{aligned}
 P(Q_{Te} \leq X) &\approx 1 - \alpha e^{-\eta X} \\
 X &= Q - E(S_T) \\
 \alpha &\approx \eta \times Q_{Te} \\
 \eta &= 2m_t \times (1 - \rho_t) / (C_{at}^2 + C_{st}^2)
 \end{aligned}$$

Where

- X the maximum time that a product waits for MHS
- Q_{te} the mean waiting time of product waiting for MHS service
- m_t Vehicle numbers at MHS
- C_{at}^2 the SCV of arrival rate of transfer request for MHS
- C_{st}^2 the SCV of service time of MHS

Step 8 Determine the required capacity for MHS

In this step manager should set a target probability which MHS can deliver the WIP to the constraint machins in the right time. Due to the probability function is complicated, the determination of MHS quantity can only use the trial and error. The minimum of MHS quantity which can meet the target probability will be the best quantity of MHS.

NUMERICAL EXAMPLE

In this section, a numerical illustration is presented to demonstrate the procedures of our proposed approach. There were five workstations associated with three product families with reentry production flows in this example. The products include 24 and 34 process steps and the demands of products per month were 900 and 300 lots respectively. The arrival rate of system is equal to demand rate and set up with an exponential distribution arrival. The other assumption and experimental parameters of example are shown as follow:

1. Each workstation has two infinite buffer which are loading and unloading ports.
2. Each vehicle moves one load at one time operating under the dispatching rule of first-come-first-served (FCFS).
3. Vehicle's travel times is given by $t_{ij} = d_{ij}/v$; where d_{ij} is the distance between any two workstation i and j and "v" is the MHS's speed.
4. The system in this example is indexed from $W_i = 0$ to 7, where $i = 0$ and 7 denotes the release and shipping workstations, respectively.
5. Load/unload of the vehicle is determination.

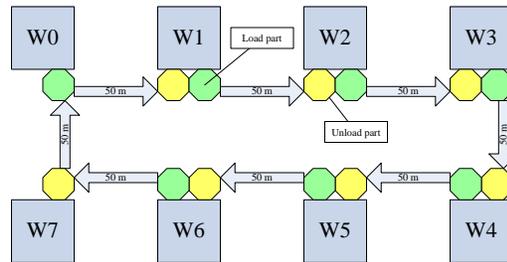
Table 1: Information of product

product	Process routing
P1	W1-W2-W3-W4-W5-W6- W1-W2-W3-W4-W5-W6- W1 -W2-W3-W4-W5-W6- W1-W2-W3-W4-W5-W6
P2	W1-W2-W3-W4-W5-W6-W1-W2-W3-W4-W5-W6-W1-W2-W3-W4- W1-W2-W3-W4-W5-W6- W1-W2-W3-W4-W5-W6- W1-W2-W3-W4-W5-W6

Table 2: Information of workstation

Workstation	Numbers of machine	availability	MTTR	Batch size	Avg. process time for P1	Avg. process time for P2
W1	3	0.96	2	1	0.25	0.189
W2	9	0.97	3	6	5.75	5.611
W3	6	0.91	3	1	0.738	0.608
W4	2	0.96	2	1	0.175	0.172
W5	5	0.92	2	1	0.554	0.547
W6	2	0.94	3	1	0.15	0.143

Figure 1: Information of layout



Step 1 Define the constraint machine

AXFC concept is applied to define the constraint machine in this step. The result of AXFC is shown in table 3.

Table 3: The result of AXFC value for each workstation

	W1	W2	W3	W4	W5	W6
AXFC	0.043	0.158	0.313	0.048	0.129	0.045

Step 2 Compute the minimum permissible arrival time of product

From the result of step 1, it shows that W3 is the constraint machine. Hence, the minimum permissible arrival time of product can be calculated for this constraint machine. The approximation is calculated as follows.

$$Q = \sum_{i=1}^N w_i p t_i = 0.75 \times 0.738 + 0.25 \times 0.608 = 0.706$$

Step 3 Calculate the parameters of the material handling system

The material flow rate is estimated from product demand and routing. Table 4 shows the material flow rate “ λ_{ij} ” between the workstation. The probability of vehicle availability (P_{kr}) at workstations 1–7 are 0.164, 0.164, 0.164, 0.164, 0.155, 0.155, 0.036, separately. Accordingly, this stage the mean service time ($E(S_t)$) and service time variation ($Var(S_t)$) of material handling system could be calculated as follows.

$$E(S_t) = \sum_{r=1}^N \sum_{i=1}^N \sum_{j=1}^N p_{rij} t_{rij} = \tau_t = 0.503$$

$$E(S_t^2) = \sum_{r=1}^N \sum_{i=1}^N \sum_{j=1}^N p_{rij} (t_{rij})^2 = 0.3$$

$$Var(S_t) = E(S_t^2) - E(S_t)^2 = 0.3 - (0.503)^2 = 0.21$$

Table 4: Material flow rate between workstations (λ_{ij})

λ_{ij}	W ₀	W ₁	W ₂	W ₃	W ₄	W ₅	W ₆	W ₇
W ₀	-	-	-	-	-	-	-	-
W ₁	1.667	-	-	-	0.417	-	5.417	-
W ₂	-	7.5	-	-	-	-	-	-
W ₃	-	-	7.5	-	-	-	-	-
W ₄	-	-	-	7.5	-	-	-	-
W ₅	-	-	-	-	7.083	-	-	-
W ₆	-	-	-	-	-	7.083	-	-
W ₇	-	-	-	-	-	-	1.667	-

Step 4 Determine the initial capacity

$$m = \lfloor \lambda \tau \rfloor + 1 = \lfloor 45.833 \times 0.503 \rfloor + 1 = 24$$

Step 5 Compute the variation of inter-arrival time and service time of the transportation request

The two important parameters of queuing system, the SCV of inter-arrival time and SCV of service time, are calculated as follows.

$$\lambda_t = \sum_{i=1}^N \sum_{j=1}^N \lambda_{ij} = 45.833, C_{a0}^2 = 0$$

$$\rho_t = \lambda_t \tau_t / m = 45.833 \times 0.503 / 24 = 0.96$$

$$C_{st}^2 = \text{Var}(S_t) / (E(S_t))^2 = 0.21 / (0.503^2) = 0.832$$

$$(\pi_0, \pi_1, \pi_2, \pi_3, \pi_4, \pi_5, \pi_6) = (0.036, 0.164, 0.164, 0.164, 0.164, 0.155, 0.155)$$

$$(\rho_0, \rho_1, \rho_2, \rho_3, \rho_4, \rho_5, \rho_6) = (0, 0.597, 0.816, 0.949, 0.679, 0.847, 0.556)$$

$$(C_{s0}^2, C_{s1}^2, C_{s2}^2, C_{s3}^2, C_{s4}^2, C_{s5}^2, C_{s6}^2) = (0, 0.081, 0.002, 0.046, 0.006, 0.006, 0.065)$$

$$C_{at}^2 = \frac{(\sum_{i=0}^N \pi_i \rho_i^2 C_{si}^2 + \sum_{i=1}^N \pi_i (1 - \rho_i^2)(1 - \pi_i) \sum_{i=1}^N \pi_i^2 (1 - \rho_i^2) \rho_i^2 C_{st}^2 + \pi_0 (1 - \rho_0^2) C_{a0}^2)}{(1 - \sum_{i=1}^N \pi_i^2 (1 - \rho_i^2)(1 - \rho_i^2))} = 0.417$$

Step 6 Calculate the mean waiting time of product waiting for the service of MHS

In this step, we will use Gi/G/m queuing theory to calculate the mean waiting time of product waiting for the service of MHS. The other modification of parameters can refer step1-4. The result is shown as follow:

$$Q_{Te} = \phi(\lambda_t, C_{at}^2, C_{st}^2, \tau_t, m_t) \times \frac{C_{at}^2 + C_{st}^2}{2} \times \frac{\tau_t (\rho_t^{\sqrt{2m_t+1}})}{m_t (1 - \rho_t)} = 0.168$$

Step 7 Obtain the probability function

Finally, the probability of capacity achieve of constraint machine can be obtained.

$$X = Q - E(S_T) = 0.706 - 0.503 = 0.203$$

$$P(Q_{Te} \leq 0.203) \approx 1 - \alpha e^{-\eta X}$$

Step 8 Determine the required capacity for MHS

Assume the target probability set by manager is 1. The number of HMS and the probability that waiting time of WIP for HMS within 0.203 hour are as Table 5. Based on the result of Table 5, the best quantity of vehicles is 31 sets.

Table 5: Probability checking table

Number of vehicle	24	25	26	27	28	29	30	31
probability	0.810	0.933	0.969	0.984	0.991	0.995	0.997	0.999

CONCLUSION

In this work, a capacity determination model for AMHS based on GI/G/m queuing model was proposed. The major concept of this model is linking the AMHS capacity determination to production performance. Therefore, the best quantity of vehicles would be determined through this model. Under this configuration, the production system can be performed well with lower investment of MHS. Furthermore, the stochastic nature of manufacturing systems and the relationship between the processing facilities and MHS are properly and realistically described.

Regarding to the future work, the failure behavior of HMS can be considered. HMS can be treated as a workstation. In this point of view, failure behavior will increase the required capacity of HMS and should be taken into account. In addition, the congestion of HMS is another important issue in the capacity determination and can be considered in the future work.

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ASSESSING THE IMPACTS OF UNIVERSITY SCIENCE PARKS IN TURKEY WITHIN REGIONAL INNOVATION SYSTEMS

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ABSTRACT

This study is about university science parks in Turkey recently begin to be established and their role in regional development. In the following paper I constructed a theoretical framework especially using regional innovation systems perspective and the Triple Helix Model and outlined criteria to assess performance of Turkish university science parks within these frameworks. The paper discusses features of the Triple Helix model and provides up-to-date data for Turkish university science parks in various criteria, like number of employees and firms in science parks, financial supports from state institutions etc. in order to evaluate suitability of Turkish science parks to the mentioned innovation model.

INTRODUCTION

According to the definition of International Association of Science Parks (IASP) Science Park is “an organization managed by specialized professionals, whose main aim is to increase the wealth of its community by promoting the culture of innovation and the competitiveness of its associated business and knowledge-based institutions.”

A science park: stimulates and manages the flow of knowledge and technology amongst universities, R&D institutions, companies and markets; facilitates the creation and growth of innovation-based companies through incubation and spin-off processes; provides other value-added services together with high quality space and facilities. (IASP 2009)

Linear model of innovation envisages a deterministic model that develops from basic to applied research and then to product development and commercialization of products. According to this so-called neo-classical view the role of the state is to maintain efficient allocation of resources for supporting innovation endeavors of firms. The government is expected to set up the regulatory framework, like protection of intellectual property rights and also it should take apposite measures in order to prevent market failures and should be actively involved in R&D activities through channels like defense industry. (Akçomak 2003)

On the other hand, evolutionary approach emphasizes the importance of interaction between different actors, and gives priority to developing interaction between institutional actors of innovation, like the state, universities, local authorities, research centers and firms. According to Smith (1995) “the overall innovation performance of an economy depends not so much on how specific formal institutions (firms, research institutions, universities, etc.) performance, but on their interplay with social institutions such as values, norms, legal frameworks and so on” (in Kitagawa 2004).

In this sense tools that are going to be used in supporting innovation activities should:

- set the environment for entrepreneurship and innovation
- encourage firms and economic agents to interact
- increase the capability of firms • enable transfer of knowledge through network type organizations (Taymaz 2001).

This evolutionary approach is also consistent with the view that sees production of knowledge as a “valuable regional asset” (Kitagawa 2004) and it goes hand in hand with the discussion on regional innovation systems that originates from national innovation systems theory. According to Lundvall (1992) a national innovation system consists from “the elements and relationships which interact in the production, diffusion and use of new and economically useful, knowledge ... and are either located within or rooted inside the borders of a nation state.”

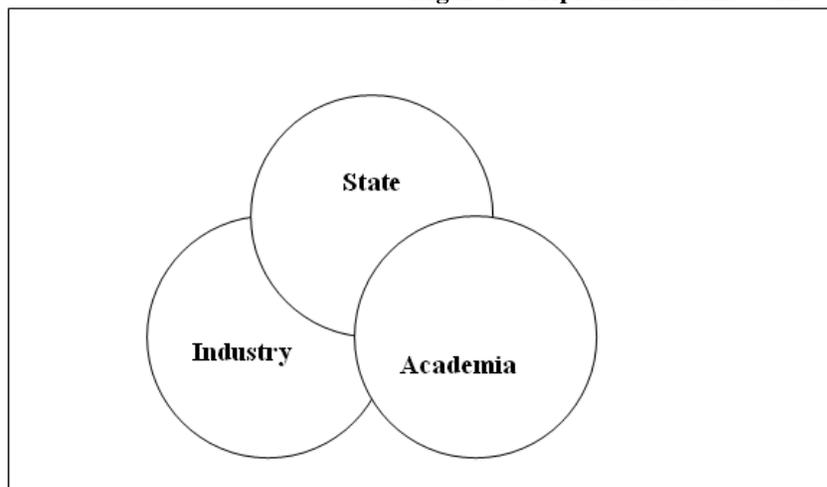
However, we see that specific regions within nation-states managed to create high levels of productivity and innovation and single themselves out from neighboring regions within the same state. Traditional examples of regional development are Italian industrial districts and Californian wineries but with Silicon Valley and Route 128 examples it is proven that this kind of regional development model could be applied to knowledge-based production and innovation (Ylienpaa 2001).

As indicated above, an outlook that values interaction between actors and sees networks as an important source of knowledge transfer emphasizes importance of regions and regional systems where actors are in geographic similarity, competences are concentrated and interaction is more than large national systems with dispersed actors and limited interaction.

TRIPLE HELIX MODEL

Triple Helix model developed by Etzkowitz and Leydesdorff (1997) is a popular model in assessing university, industry and state relations in the area of innovation. According to Etzkowitz “bilateral relations between government and university, academia and industry and government and industry have expanded into triadic relationships among spheres, especially at the regional level” (2002, p.2). Again according to Etzkowitz, boundaries between these actors' spheres are blurring and they are overlapping with each other in an environment where universities are founding incubator facilities, industries are supporting educational programs and founding company universities and the government is assuming the role of venture capitalist by supporting innovative small business through various programs. This directs to a new kind of relationship from previous modes in which different actors are assuming separate roles or in which one actor dominates the others but in which different spheres are taking each others' roles when needed in a fashion that increases innovative activities (2002, pp. 2-3).

Figure 1: Triple Helix Framework



Source: Adapted from Etzkowitz 2002

Concomitant with the evolutionary view of innovation, the Triple Helix model envisages a relationship with overlapping institutional roles and functions.

Especially with the successful examples of regional development indicated above, regional outlook at development and innovation became popular after 1990s. This popularity is not limited to industrial countries trying to elevate their economies from industrial to post-industrial knowledge economy but also it found a resonance in developing countries in the throes of adapting to the so called new economy while staggering to complete their industrialization. Turkey is one of these developing economies.

Turning back to the Triple Helix model, Etzkowitz (2002) envisages a three stage conceptual framework for creation of knowledge-based regional economic models. According to this framework a knowledge space, a consensus space and an innovation space should be created in tandem. Knowledge space is defined by a focus on regional R&D development where different actors work on improving local conditions. What is meant by the consensus space is creation of ideas and different strategies within the triple helix in which different institutional actors work with each other. At this stage members from different affiliations come together in order to work out new perspectives for improving knowledge based activities within a given region. Lastly innovation space is created through application of previous theoretical studies and realization of goals by attracting public and/or private venture capital. It is expected that organizational functions will enmesh with each other in this phase so that hybrid organizations “synthesizing elements of theory and practice from different spheres” would occur. (Etzkowitz 2002, p. 7)

UNIVERSITY SCIENCE PARKS IN TURKEY

In this process science parks appear as convenient establishments that can provide university-industry-government interaction in the regions that they are established and foster spirit of innovation through creating a synergy with concentration of various regional competences in terms of regional and material capital. When we talk about knowledge economy importance of high interaction and information sharing becomes more apparent as indicated by the Triple Helix model.

Legal Framework

In Turkey major developments in science and research policy by the government have occurred after 1990s. Before that only mentionable development is the establishment of Scientific and Technological Research Council of Turkey (TUBITAK) in 1963. Turkish Science Policy 1983-2003 has been prepared by Supreme Council of Science and Technology which established in 1983. This document was accepted in 1993 and only after this date institutions like Patent Institute, National Metrology Institute and Technology Development Foundation of Turkey has been established (Akçomak 2003, Taymaz 2001).

This institutional framework is instrumental in establishing a national innovation system. When we look at development of regulations on regional innovation systems Small and Medium Size Industry Development Organization, which established in 1990, appears as the most important institutional actor, whereas Law of the Technology Development Regions (Law No: 4691), came into effect in 2001, is the most important piece of legislation that regulates establishment and working principles of science parks in Turkey. (Lenger, 2006)

This law states how technology development regions i.e., science parks, should be established and operated. It is stipulated in the law that science parks would be founded and operated with cooperation of universities, research institutions, local authorities and trade and industry chambers. According to this members of various institutions first establish an executive board, make their application for the establishment of the science park to the Ministry of Industry and Commerce. If the ministry deems the application appropriate, forwards it to the Council of Ministers and the science park is established with the ratification of the Council of Ministers. (State Audit Board Report on Law of Science Parks, 2009, Ch. 4)

In order for a science park to be established a university with sufficient human and technical capacity in engineering and pure sciences, or a research center should participate in the foundation. An executive company, it is established as a joint stock company, in which university or the research center would be the main partner, is responsible for the operation of the science park and selection of companies to be located within the park. Law also stipulates how firms could be eligible to locate within a science park; they should be companies with a focus

on technology and software production and/or companies should be involved in activities that turn a technological discovery into a marketable product, process or a service.

Various support schemes, tax exemptions and subsidies etc. for the executive firm and for the firms locating in science parks are enumerated in the law. For the executive companies: the Ministry provides financial support for initial fixed costs and expenses; executive companies are exempted from all kinds of stamps, duties, income and corporate taxes. State also gives usage rights of state property for any necessary land needed for science parks. For the firms located within science parks: Firms are exempted from income and corporate taxes for five after their establishment within the park. This period can be extended up to ten years; All R&D personnel working in the science parks are exempted from income tax until 2013. Firms are exempted from Value added tax for goods and services produced within science parks; Firms are allowed to employ researchers who are already working in state institutions and/or universities. (State Audit Board Report on Law of Science Parks, 2009, Ch. 4)

Performance Evaluation Criteria

In this study my main aim is to evaluate establishment principles and current performance of science parks established by universities in Turkey according to the theoretical framework of regional innovation systems and the Triple Helix model outlined above. All data in this section is compiled from State Audit Board Report on Law of Science Parks in Turkey. (2009) This report, published in February 2009, provides most concerted effort and most up-to-date data on the widest range of criteria related with science parks in Turkey.

Currently 31 science parks are established according to this law and some 18 of them are currently active. 16 of these parks are established under leadership of a university, only two of them are related with state research centers. In these science parks there are 813 firms located, and they are currently running 3080 R&D projects. There are 9962 people employed in Science Park firms, of 8055 of them are R&D personnel. (State Audit Board Report 2009, p. 181) Highest number of R&D personnel is employed in ODTU science park, with 29%, followed by BILKENT science park with 19% and ARI science park of ITU with 18%. It is seen that more than 60% of R&D personnel is employed in only 3 science parks.

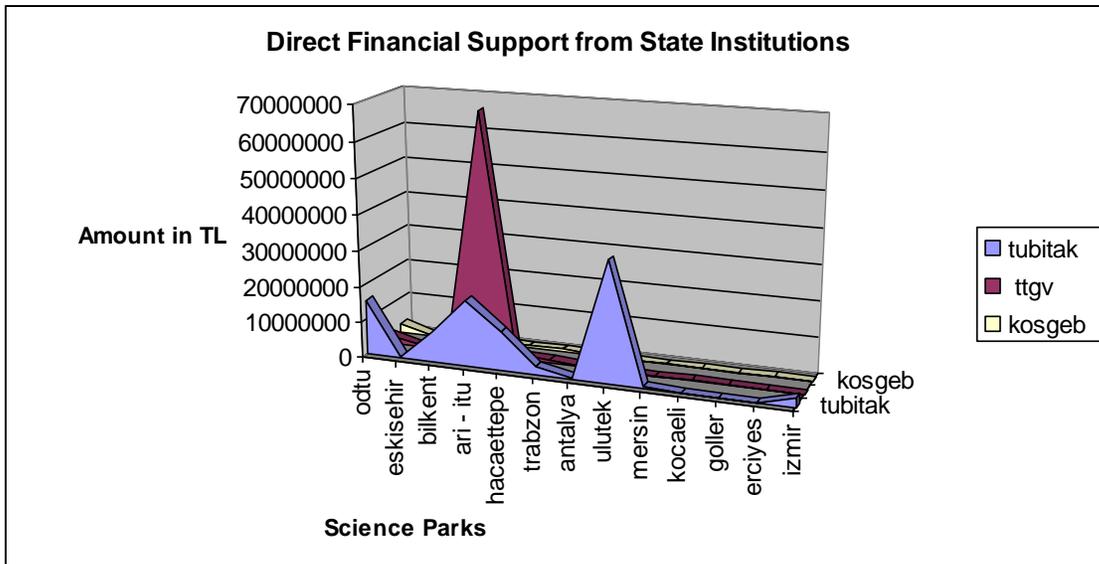
When we look at the character of projects pursued in science parks, they show parallels with world trends; most of the projects, 61%, are IT – software development projects, loosely followed by defense industry with 11% and electronics, 7,2%. Of these projects 41% are conducted with the goal of new product development, whereas 21% aims existing product or process innovation and 18% for quality increase. These projects lead to 1312 intellectual and industrial rights registered by firms from science parks in the five year period from 2004 to 2008. Hacettepe science park by itself registered 430 rights and ARI – İTU registered 354, with all other parks trailing far back. Striking point here is that ODTU science park, with highest number of employees and highest amount of revenues generated among science parks could only register 20 rights in 5 years.

Apart from various supports, tax exemptions and social security premium supports various state institutions provide direct financial support for projects conducted in science parks. Mainly TUBITAK, Small & Medium Industry Development Organization (KOSGEB) and Technology Development Foundation of Turkey (TTGV) give direct support which amounts to 190 million Turkish Liras (nearly \$125 million) in total in 2008. However, when we decompose these supports into it is again seen that a certain number of science parks gain the lions share from these financial supports. As seen from Figure 2, five science parks take nearly $\frac{3}{4}$ of financial support, with ARI - ITU having 86 million TL all by itself. Also ODTU, BILKENT and ULUTEK appear as highest receivers. This is a pattern which we will observe in other criteria as well. A couple of relatively old and well established science parks in already developed areas of Turkey have the highest share in many categories of performance evaluation. For instance, 3 out of 5 parks that use tax exemptions most are ODTU, with 79% and BILKENT and ARI - ITU.

One of the most important reasons for establishment of science parks is to increase technology exports. Exports made by firms located in science parks increased from 31.9 million TL to 208 million TL (approximately \$140 million) from 2004 to 2007. This is promising, but it should be time tested in order to see whether this increase is sustained over time or not. Consequently, total revenues of all science park firms increased from 215 million TL

in 2005 to 1.028 million TL in 2006, only sliding back to 923 million TL in 2007. So, although they seem promising, trends in export rate changes should be watched closely.

Figure 2: Financial Support from State Institutions



Source: State Audit Board Science Parks Report 2009

One of the main developments brought about by the law on science parks is about state employed researchers. In Turkey, state officials cannot work in secondary jobs, university members are banned from taking out-of-university jobs, their involvement in other projects, be it profit or non-profit, is subject to the permit of university board. The law on science parks allowed firms to employ university members or any other state-employed researchers in their projects and also gave the opportunity for university researchers to establish their own firms within science parks. Number of firms owned and/or partnered by university researchers can be an instructive indicator that points to industry-university collaboration. Out of 813 firms in university science parks 130 firms are either owned by an academician or have an academician as a partner. This means that academician involvement in terms of firm ownership is as low as 16%.

Number of employees working in science parks has increased over years. This is both due to increasing number of science parks opened but at the same time existing science parks are increasing their employment from year to year. Total number of employees increased from 4202 in 2004 to 9962 in 2008. BILKENT science park was employing 1300 employees in 2004 and it nearly doubled this number in four years, reaching 2500 in 2008. ARI science park of ITU nearly increased its employees by five fold in four years, from 491 to 2077 in 2008. These figures are in line with the expectations that it takes time for science parks to function more effectively.

Figure indicates spread of educational attainment in firms located in biggest seven science parks. It is expected that as science park firms increase their research activities they employ more researchers with masters and doctoral degrees. This figure is telling when we evaluate it with respect to sizes of science parks. ODTU, ITU, BILKENT and ULUTEK science parks are biggest university science parks in terms of many criteria like number of firms, employees and total financial support from state institutions for research projects. But when it comes to employing highly qualified researchers they trail back. It can be argued that state-industry-academia linkage could not be provided yet in Turkish science parks.

Figure 3: Educational Attainment for Employees

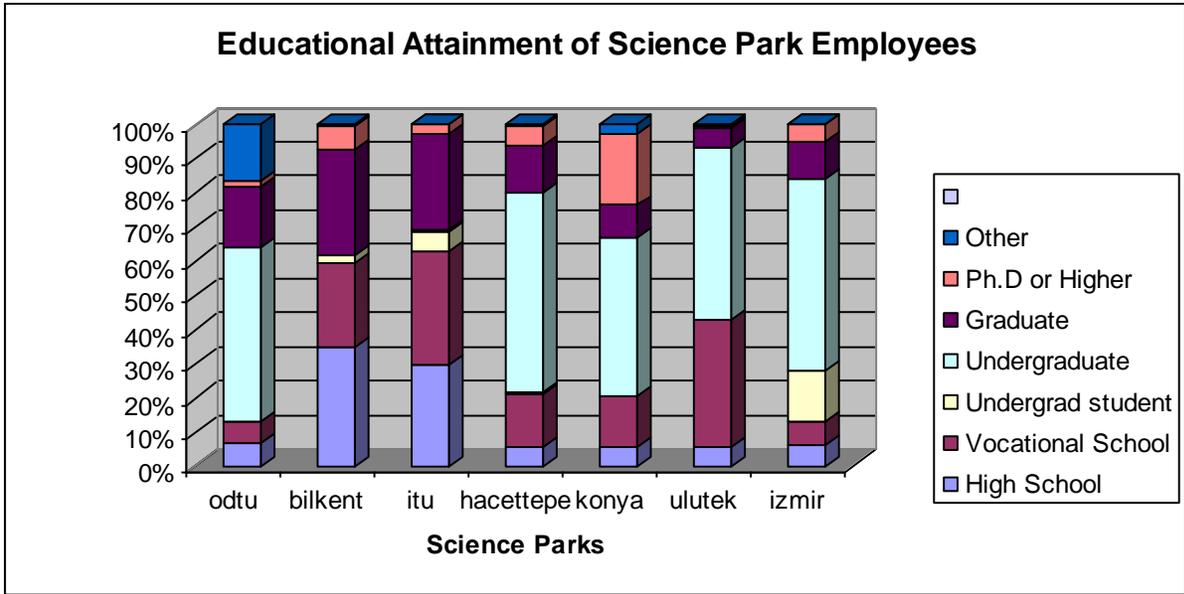
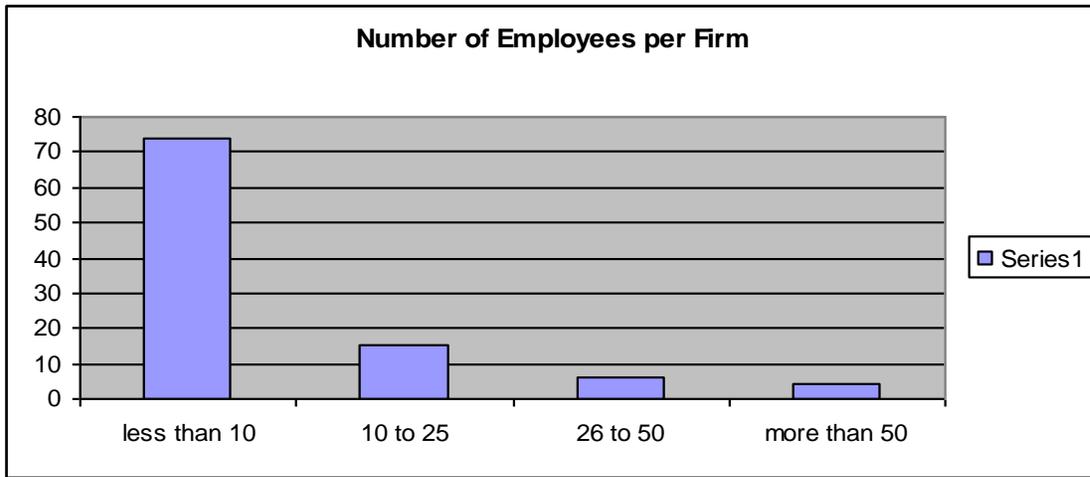


Figure 4: Firm Sizes in Science Parks



It is seen that as high as 74% of firms located in science parks in Turkey are employing less than 10 employees. 15% of the firms employ 10 to 25 people; only 6% of the firms have 26-50 employees and a mere 4% of the firms have more than 50 employees on their roster. This indicates support for science parks is mostly encouraging small firms and start-ups rather than big companies. Güldiken argues in Turkey it is firms with more than 250 employees that involve in technological innovation. (2006, p. 147) Compared with this, science parks can be deemed successful in directing smaller firms in research and R&D activities.

CONCLUSIONARY REMARKS

When we look at the general picture, science parks in Turkey can be regarded to have a mixed record. On the positive points, number of employees, number of researchers, revenues and export potential for science parks are increasing year by year. However, we do not have enough data to compare performance of science park firms with out-of-science park firms. Still, overall performance shows an increasing trend. Also placement of smaller firms and start-up's within science parks more than bigger companies could provide an opportunity for these smaller companies to foster and grow up through innovation. However, looking from the Triple Helix perspective the picture is not so bright.

First, it is seen that the schema is dominated by the state. State funding, subsidies for science parks and various exemptions are the most important factor for most of the firms. Companies are locating in science parks, not for networking, clustering effects of to get benefited from spill-over effects but mainly to get use of subsidies. In his survey of technology incubators Akçomak (2003) reaches similar findings; incubator firms indicate networking activities as least of reasons to give decision of locating in an incubator. However, according to the evolutionary models of innovation actors should exploit benefits of networking and clustering through increased interaction.

Another point is the low number academicians taking part in science parks. Number of firms with academicians as partners is as low as 15%. This is lower in most established and biggest science parks like ODTU, BILKENT and ARI – ITU. Also number of researchers with PhDs or higher degrees are strikingly low in these science parks compared to smaller and newly established ones. This is also a telling point. From the point view of the Triple Helix closer relations between industry and academy should be achieved, so it is expected to see more PhD researchers in the industry and more academicians involved in commercial research. However, this is not the case in Turkey. On the contrary, one could argue that well established science parks are achieving higher revenues not because of generic industry-academia collaboration but they are hosting firms that carry its own research potential and which would perform more or less the same if located elsewhere.

This lack of collaboration and networking becomes more apparent when we look at revenues of executive companies of science parks. For most of the parks rent revenues constitute more than 50% of all revenues. It means that universities or research institutes leading science parks are mainly marketing their lands and acting like property developers rather than utilizing resources by providing consulting or technical services for increased interaction between university and firms and increased efficiency in research activities of firms. Firms located in science parks are also not eager to get use of university facilities. Out of 813 firms located in science parks, only 200 of them are using executive companies consulting services about patents, technology transfer, exporting, EU projects etc.

Last, but not least, science parks that are established well and somehow income generating are located in already developed regions of Turkey like Istanbul and Ankara. ODTU, BILKENT, ARI - ITU are all located in these areas, and although they are generating high revenues they are also exploiting resources spared for supporting technology development. As indicated earlier, despite these facts, these established science parks are faring low in number of patents registered, number of PhDs employed and academicians involved in research. This high subsidy – low research return might hamper development potential of other less developed regions and further limit innovative potential of Turkey.

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MANAGERS' RELIGION AND ETHICS ACROSS CULTURES

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ABSTRACT

This study investigates the moderating effects of religion on the ethical decision-making process of marketing managers in four major religious systems: Protestant, Catholic, Hindu, and Muslim. It also contrasts the effects of religious affiliation and religious values, and compares the moderating effects of religious values with those of non-religious cultural values on the religion-ethics linkage. Results show that ethical decision-making is determined by both deontological and teleological evaluations in Western religions (Protestant and Catholic), whereas it is determined by deontological evaluations alone in Eastern religions (Hindu and Muslim). Religious affiliation is not related to the ethical process, whereas religious values are. However, religious values and non-religious values have an impact in Western religions but not in Eastern religions.

INTRODUCTION

The study of ethical decision-making in international markets has focused on cultural environments more than other environments under the assumption that culture, religion in particular, is, in almost any society, a fundamental source of individual values (Batson, Shoenrade and Ventis, 1993). The linkage between religion and morality has been widely assessed across various disciplines (Hebblethwaite, 1997).

The existence of a religion-morality link in business organizations has been recognized at least since the 1950s (Collier, 1957; Epstein, 2002), but only recently has it been studied empirically. These studies have taken two main approaches: (1) using religious affiliation or self-identification to represent religion and explain ethical conduct (Weaver and Agle, 2002) and (2) investigating various religious practices and beliefs, and their connection to ethical behavior (Hood et al., 1996). These studies have had some success in establishing a religion-morality linkage in business contexts, but they also indicate that religiosity does not necessarily lead to ethical behavior. Thus, religious influences on a manager's business ethics would seem to be complex. Thus, our first research question:

RQ1: How does religion influence ethical behavior in business?

More specifically, is religious self-identification a valid representation of religion? Are religious values a separate and identifiable factor in ethical decision-making, or is religion merely a cultural or social trait that in essence is no different from other cultural or social characteristics that identify the group? This distinction is crucial to understanding how moral principles are developed or adopted, and how the practices of ethical decision-making are shaped across cultures. If religious values have a separate and perhaps different impact on ethical decision making than non-religious cultural values, then religious values may have a moderating role in the development or adoption of moral principles. If they do not, they should be treated as additional context-bound cultural values.

Thus, the following three subsidiary questions:

- RQ1a: What specific elements of the ethical decision-making process are affected by religious values?**
RQ1b: What specific elements of the ethical decision-making process are affected by non-religious cultural values?
RQ1c: How strong is the influence of religious values on people's ethics compared to the influence of non-religious cultural factors?

It is commonly believed that the religion-morality linkage varies across religious systems. For instance, many believe that Islamic religious beliefs are more fatalistic (Choudhury, 1990) than Protestant beliefs. Many also believe that Catholic and Protestant tenets seem to be more rationalized than those of Islam (Nasr, 1975). Although Hindu beliefs are also characterized as being fatalistic (Raju, 1971), these beliefs also include "objective" criteria to judge the rightness or wrongness of an action (Reichenbach, 1990). Thus, our second research question:

- RQ2: How different are the followers of the major religious systems when making ethical decisions in business contexts?**

The purpose of this study is (1) to investigate the moderating effects of religion on the ethical decision-making process of marketing managers, and (2) to examine such effects across four major religious systems: Protestant, Catholic, Hindu, and Muslim. The first objective also seeks to contrast the effects of religious affiliation and religious values, and compare the impact of religious values on the ethical decision-making process with the impact of non-religious cultural values. The role of religious values in ethical decision-making, and questions about whether their effects are the same or different from other cultural values have not been evaluated empirically in previous research.

ETHICAL DECISION MAKING, RELIGION AND CULTURE

This research follows Hunt and Vitell's theory of ethical decision-making in which ethical judgments (the first outcome of the process) are based on two types of evaluations, moral (or deontological) and consequential (or teleological). The first type addresses the moral obligations and their influence on specific actions or behaviors of an individual (Ross, 1930); the second addresses the goodness or badness of the consequences of the actions or behaviors (Harris, 1986). Although both deontological evaluations (hereafter DEs) and teleological evaluations (hereafter TEs) both seem to be generally present in the formation of ethical judgments—and thus legitimize a priori gray-area concepts such as "rule utilitarianism" (Lyons, 1965) and "neutral-omnipartial rule making" (Scarre, 1996)—a test of the Hunt-Vitell theory showed that deontological factors have greater influence on ethical judgments than teleological ones (Hunt and Vasquez-Parraga, 1993). Although both philosophical approaches were generated in the West, they seem to have common elements with Eastern philosophies that also rely on human nature and/or the relative balance of pleasure and pain to evaluate ethical content. Instead of discussing the similarities and differences a priori, however, we compare such approaches (Western and Eastern) empirically.

The Hunt-Vitell theory also posits a second outcome of the process: managers act to encourage ethical conduct or discourage unethical conduct. The nature of all these actions indicates that they are generally determined by both ethical judgments and teleological evaluations. Yet, Hunt and Vasquez-Parraga (1993) conclude that the decision to reward (or punish) a salesperson to encourage (or discourage) ethical (or unethical) behavior is guided more strongly by ethical judgments than by teleological evaluations. Enforcement of the norms is necessary to encourage subordinates' ethical behavior or discourage unethical behavior.

In empirical studies of the religion-morality linkage in business contexts, religion has been represented by (1) religious affiliation or self-identification, and (2) religious practices and beliefs. Studies using religious affiliation or self-identification resulted in weak or non-existent linkages between religion and morality (Wahrman, 1981). In comparison, research that used religious practices and beliefs as factors that impact ethical outcomes found stronger linkages (Sherkat and Ellison, 1999). Stronger linkages were also observed when religious practices and beliefs were used to explain other outcomes such as social policy (Raines and Jung, 1986), cultural survival (Houmanfar, Hayes and Fredericks, 2001), the nature of the markets (Hadorff, 2000), and marketing strategies (Owens, 1996). Thus, the following hypothesis:

H1: Religious practices and beliefs are representations of religion superior to religious affiliation or self-identification when explaining ethical decision-making of managers

Religious values influence the formation and maintenance of ethical values by shaping moral commitment and thus affecting deontological evaluations. First, religion is a systematic framework for human behavior and an embodied ethic, “the investment of a spirit, an ethos, in a physical body” (Leahy, 1986). Second, religion complements the practice of moral discernment. It generates a set of values and beliefs that are related significantly and positively to strong ethical standards (Hegarty and Sims, 1978). People with strong religious ethics, for instance, are well able to resist the temptation to behave unethically, particularly in the workplace where ethical or unethical behavior can be influenced by several other factors (Eisenberger and Shank, 1985). Finally, religion shapes moral commitment comprehensively because the “is” (performed ethical behavior) and the “ought” (ideal ethical behavior) stand in dialectical relation to each other, one being critical of the other (Lynch, 1973). Consequently, we expect religion to be the strongest cultural force underlying deontological evaluations. Thus we have the following hypothesis:

H2: Religious values moderate the impact of deontological evaluations on the ethical decision-making process of managers.

Behavioral research regarding ethics accounts for perceptual differences due to differences in cultures. Some managers, for instance, may value honesty more than profits because of their culture’s proactive religious beliefs, whereas others may value profits more than honesty because of a cultural preference for immediate gratification. Deontological considerations prevail in the first example, whereas teleological ones prevail in the second. The identification and a better understanding of a social group’s cultural values can help explain such differences. The presence of teleological evaluations in the ethical decision-making process compels the researcher to examine the cultural traits that are responsible for such evaluations. Family prestige, social reward, and ethnic pride are some cultural features that are not necessarily driven by moral commitment but which can influence deontological evaluations. Very often, however, such cultural values can be self-serving and thus deterministically consequential (teleological) to the individual or the group. Thus, the following hypothesis:

H3: Cultural values moderate the impact of both deontological and teleological evaluations on the ethical decision-making process of managers.

Four Major Religious Systems

It is commonly believed that the religion-morality linkage varies in many ways across religious systems. Such variation seems to be high when predominantly Western religious systems (such as Protestantism and Catholicism) are contrasted with predominantly Eastern religious systems (such as Hinduism and Islam). A brief review of each major religious system will help formulate the hypotheses that relate to the similarities and differences in the religion-morality linkage across four major religious systems.

Protestantism favors a religion-informed understanding of community to relate individual to corporation, and corporation to society (Magill, 1992) while separating scientific and technical matters from spiritual ones because they are understood as fundamentally different domains of inquiry (Bennett, 1982). Although Protestantism generally encourages people to take control of their material lives, it also specifically mandates making time and space for spiritual practice. The role of religion is somewhat compartmentalized in Protestantism (Weber, 1958), that is, specific life actions—the spiritual ones and those that in any way relate to the spirit—are addressed differently than other life actions, generally known as lay or secular activities. Consequently, Protestantism would be expected to influence individual ethical decision-making in two ways, deontologically and teleologically. Thus, the following hypothesis:

H4: Religious and non-religious values moderate the effects of either deontological or teleological evaluations on the ethical judgment and managerial action of Protestant managers.

The Catholic viewpoint is that business conduct is based on higher moral stands of justice and charity. If morality is to enter business, it must come of its own accord, driven by the inner motives of business people who, perhaps, anticipate rewards but do not need social accolades (Sethi and Steidlmeier, 1993). Consequently, Catholicism would be expected to influence individual ethical decision-making in both ways, deontologically and teleologically. Thus, the following hypothesis:

H5: Religious and non-religious values moderate the effects of either deontological or teleological evaluations on the ethical judgment and managerial action of Catholic managers.

In contrast, the Hindu religious tradition is regarded as essentially fatalistic and holistic, meaning that all events are supernaturally predetermined and that all, or almost all, life expressions revolve around religion. Again, such characterization may not accurately describe all Hindu variations, but it does reflect the essential features of Hinduism as practiced in India. At the center of the Hindu ethic are the notions of Karma, which defines the deontological norms, and Dharma, which focuses on the behavior of individuals who have complied with either deontological norms or other criteria (Zimmer, 1969; Lacy, 1965). The Hindu business ethic seems to be fundamentally deontological, as most people show obedience to divine law and faithful performance of their duties in all aspects of life (Lacy, 1965). Some Hindus, however, may look for benefits other than those derived from obedience to divine law and, thus, follow a teleological route in ethical decision-making. The latter route may seem exceptional in a community where there is a strong pattern of deontological determination. Thus:

H6: Religious values moderate the effects of either deontological or teleological evaluations on the ethical judgment and managerial action of Hindu managers, whereas non-religious values have no impact.

Islamic Law permeates the code of commercial behavior for Muslims. It prescribes what is lawful; what is unlawful for various aspects of commerce; and it defines the nature of allowable trade goods and services, as well as the mores of business conduct (Gambling and Karim, 1991). Islam recognizes and encourages business, but it requires all such activities to be undertaken in accordance with principles enshrined in the Shari'a (Ahmad, 1968). For instance, Islamic Law explicitly forbids transactions involving uncertainties, price manipulations, hoarding, free market interference, exploitation, and fraud (Hamid, Craig, and Clarke, 1993). Consequently, Muslim business ethics appear to be essentially deontological, as typical believers follow the Islamic Law and practices in their business activities. Thus:

H7: Religious values moderate the effects of either deontological or teleological evaluations on the ethical judgment and managerial action of Muslim managers, whereas non-religious values have no impact.

METHOD

Four selling scenarios were developed, one for each treatment group. Each scenario reflects a combination of deontological and teleological evaluation, with every other condition fixed. Questionnaires were assigned randomly to subjects in the four treatment groups in the samples and mailed with instructions for self-administration.

Relatively homogeneous populations of sales and marketing managers were chosen to minimize within-group variation and maximize between-group variation. The four sampling frames consisted of large national bases of sales and marketing executives in the United States, Mexico, Peru, India, and Turkey. The effective response rate was 31% (or 128 usable questionnaires) for the American sample, 35% (or 120 usable questionnaires) for the Mexican-Peruvian sample, 27% (or 82 usable questionnaires) for the Indian sample, and 38% (or 123 usable questionnaires) for the Turkish sample.

The two dependent variables, ethical judgment and managerial action, were measured identically in all samples (American, Mexican, Peruvian, Indian, and Turkish managers). Ethical judgment was measured on a 7-point scale ranging from 1 = very unethical to 4 = neither ethical nor unethical to 7 = very ethical. Managerial

action (punishment to reward) was measured on a 9-point scale ranging from 1 = termination of employment to 5 = no action at all to 9 = pay raise and promotion, and validated by a metric scale from -10 to +10 designed to test for nomological validity of the ordinal scale. Religious affiliation or self-identification was recorded by asking the respondent which religion or religious belief they belong to or profess. The presence and strength of cultural values were measured by 10 scales specifically designed for this research.

RESULTS AND DISCUSSION

Correlation results corroborate H1 which hypothesizes that religious practices and beliefs such as RP are representations of religion superior to religious affiliation and self-identification when explaining the ethical decision-making process of managers. Regression results for ethical judgment as the dependent variable in the combined sample show that deontological evaluations have five times the impact of teleological evaluations on ethical judgments, but both determine the outcome. However, the role of teleological evaluations is ambiguous when examined across the four religious systems: they are significant for Protestants and Catholics ($p < .0001$), barely significant for Muslims ($p = .003$), and non-significant for Hindus ($p = .821$). In explaining ethical judgment, the R^2 coefficient is higher (.71) for Protestant managers and (.83) for Catholic managers, mainly because of the joint presence of DE and TE, whereas it is considerably lower for Hindu and Muslim managers (.40 and .66, respectively), mainly because TE is absent.

Conversely, in addressing managerial actions, the R^2 coefficients are similar in strength (.71, .59, .69, and .70, respectively), mainly because TE is present. These results suggest that, to some extent, Western religious systems differ from Eastern religious systems in the way they influence ethical decision-making. Managers in Western religious systems use both DEs and TEs to form ethical judgments, whereas managers in Eastern religious systems use only DEs. Ethical judgments take into account the consequences of the act—not just the morality of it—in Western religious systems, whereas in Eastern religious systems ethical judgments ignore the consequences of the act and emphasize its morality. Thus, researchers' approach to ethical processes across contexts would have to be adapted to the ways ethical decisions are made in each context, that is, inclusive of TE in Protestant and Catholic environments but exclusive of TE in Hindu and Muslim environments.

In addition, there are several significant interactions in the case of Protestant and Catholic managers, only one significant interaction for Muslim managers, and no significant interaction for Hindu managers. Such findings support H4 and H5, reject H6, and only partially support H7. The discrepancy between Western and Eastern managers can be explained by the compartmentalization of life issues in Western cultures (Weber, 1964), which gives rise to the teleological considerations in ethical decision making and the holistic nature of Eastern cultures, in which ethical issues must be linked to a deontological examination (Ahmad, 1968; Lacy, 1965) before ethical judgments can be formed.

Finally, the data shows that managerial action is determined by both ethical judgment and teleological evaluations for the combined sample and for all groups separately. Regardless of their religion, managers use both evaluations, but, in support of moderate deontologists (Etzioni, 1988), they emphasize ethical judgment over TE when acting managerially. Significant interaction terms with TE and ethical judgments are shown for Protestant and Catholic managers in support of H4 and H5, respectively.

With the exception of an interaction between DE and RP in explaining ethical judgment for Catholic managers, all the other interactions do not follow the orientation provided in H2: religious values have moderating effects on the DE-EJ and EJ-MA relationships. Thus H2 has to be rejected. Conversely, non-religious values significantly interact with TE and DE when explaining ethical judgment of Protestant and Catholic managers, and with TE and EJ when explaining managerial action of same managers. These findings support H3.

CONCLUSIONS

Ethical decision-making is fundamentally similar in all four contexts. Protestants, Catholics, Hindus, and Muslims follow similar deontological routes when forming ethical judgments. However, only Western religious systems (Protestantism and Catholicism) add teleological criteria to make ethical judgments, whereas

Eastern religious systems (Hinduism and Islam) ignore them. All managers use both, DEs and TEs when deciding on managerial actions.

Because teleological evaluations are used in Western religious systems to form ethical judgments and perform managerial actions, these evaluations also become the access channel through which religious and non-religious cultural values moderate DEs and TEs. Conversely, because deontological evaluations alone are used in Eastern religious systems, no moderating effects on the DE-EJ and EJ-MA relationships are observed. In other words, whereas Protestant and Catholic marketing managers rely on both DE and TE, and thus are influenced by both religious and non-religious cultural values when making decisions that relate to ethical issues, Hindu and Muslim managers rely almost exclusively on deontological considerations, and thus they depend more on moral values when making ethical decisions. Yet, in Hinduism or Islam, some religious values may give believers a way to legitimize (in a world of “oppressive” religions) certain consequences in relation to ethical issues, thus providing a means of escape.

In comparing Western and Eastern religious systems, we observe that Western religions include deontological and teleological evaluations in the formation of ethical judgments and, thus, open the door wide to the influence of religious practice, spiritual values, and social values on ethical decision-making. In contrast, Eastern religions include only deontological evaluations and, thus, close the door to the influence of religious practice, spiritual values, and social values on ethical decision-making. Deontological evaluations seem to be all encompassing in Eastern religions.

Thus, to answer the general question of whether managers in Western religions are more ethical than managers in Eastern religions, we first must answer a more specific question about the meaning of ethics. If ethics is fundamentally deontological, as in Hinduism and Islam, those two groups are more ethical than Protestants and Catholics. If ethics is both deontological and teleological, as in Protestantism and Catholicism, neither side, Western or Eastern, is more or less ethical per se and the answer would depend on the loyalty of the followers to the corresponding norm. For instance, Indian and Turkish managers who chose a TE route to arrive at their managerial decisions are certainly less ethical than their American and Mexican-Peruvian counterparts who use TE, because TE in the latter case is part of the ethical decision process and relates positively to both ethical judgment and managerial action, whereas TE in the former cases is not part of the process.

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CHAGUARAMAS REVISITED: THE FUTURE OF ECONOMIC INTEGRATION WITHIN CARICOM

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ABSTRACT

In this paper, we seek to examine the future of economic integration amongst CARICOM member states. In the paper, we examine the history of the Caribbean integration through CARICOM and its predecessor CARIFTA. We also examine both the Original Treaty of Chaguaramas and the Revised Treaty Chaguaramas to determine how CARICOM members have adapted to a globalized and interdependent global economy. In the end, we argue that CARICOM must focus its attention to being a competitive actor within the world economic stage, rather than being a regional entity within the Caribbean basin.

INTRODUCTION

The concept of the political and economic integration of the Caribbean dates to the days leading to the grant of independence to the four largest of the English-speaking Caribbean nations in 1965. The British Colonial Service had wondered how independence might be achieved for what would be relatively very small nations, namely, Barbados, Guyana, Jamaica, and Trinidad and Tobago. While not fitting into the “mini-state” definition applied to the Windward and Leeward islands of the Eastern Caribbean, these were, nonetheless, relatively small with regard to such essentials as territory and population, coupled with limited natural resources, albeit, for example, Guyana and Jamaica had significant bauxite reserves, and Trinidad and Tobago possessed a well-developed oil and petroleum industry. Other industries revolved largely around agriculture and fisheries.

Based upon a report by Carleen O’Loughlin, the Commonwealth Office prepared for such independence with the creation of the Federation of the West Indies, designed to assure larger territory, a greater population, and from both a production and a consumption viewpoint, an economy of scale surpassing what was envisioned possible with individual independence. The Leewards and Windwards were joined with the four noted above, and thus, a federation was created that stretched from the north coast of South America North and then West to the east coast of Central America (including the then British Honduras). The population was estimated at 41/2 million, with some of the islands containing very dense populations, such as Barbados with over 1,300 per square mile, others with far less, though the Windwards and Leewards were said to average about 400 per square mile.

Whatever the pros and cons of the Federation of the West Indies, its future was doomed as a spirit of independence swept the lands of the South during the decade of the 1960s in which virtually all of Africa became independence, as was well-chronicled by Gwendolyn M. Carter in *Independence for Africa*. The Caribbean proved no exception to the rule. In a formula attributed to the famous academic and historian and at the time Premier of Trinidad and Tobago, Dr. Eric Williams (later that nation’s Prime Minister and President), 4-1=0, he withdrew his nation from the Federation, quickly followed by the other three of the larger lands.

The problem was that independence is one issue, economic survival another. The region suffers from many of the economic difficulties endemic to developing areas, and the Caribbean Community Secretariat has noted that those include:

- (a) high rates of unemployment;
- (b) the vulnerability of the high-cost agricultural export sector;
- (c) the near-stagnation and, indeed, slow death of Domestic Agriculture;
- (d) the lack of “forward and backward linkages” in the national economy – around Minerals, Manufacturing and Tourism;
- (e) continuing and growing foreign ownership and control of the economies;
- (f) low national savings, increasing tastes for foreign goods and high consumption levels of imported goods;
- (g) the failure to develop extra-regional exports of manufactures and new non-traditional agricultural exports;
- (h) the existence of few “linkages” between the national economies of the Region – whether measured by the proportion of intra-regional trade to total trade or by “linkages” between the productive sectors of the different national economies.

Thus, “the economies of the Region remain under-developed, fragmented and dependent on external decisions. Economic growth has not yet been generated from *within* the national economies of the Region.....[and].....is therefore not soundly based.” (CRS, 1973, 10).

Initial integration efforts resulted in the signing of the agreement establishing the Caribbean Free Trade Association (CARIFTA) at Dickenson Bay, Antigua, 15 December 1965 by Antigua, Barbados, and British Guiana. As a result of considerable interest in enlargement over the following years, on 1 August 1968 CARIFTA achieved full membership with the addition of Jamaica, Trinidad and Tobago and most of the Leeward and Windward islands by then grouped together in a political/economic entity known as the Associated States. The CARIFTA Preamble states that the organization was created to achieve

.....broadening of domestic markets through the elimination of barriers to trade between these territories, is a prerequisite to accelerated coordinated and sustained economic development; and convinced that such elimination of barriers to trade can best be achieved by the immediate establishment of a free trade area which will contribute to the ultimate creation of a viable economic community of Caribbean Territories.....

CARIFTA goals included efforts:

- (a) to promote the expansion and diversification of trade in the area of Association;
- (b) to secure that trade between Member Territories takes place in conditions of fair competition;
- (c) to encourage the progressive development of the economies of the Area;
- (d) to foster the harmonious development of Caribbean trade and its liberalization by the removal of barriers to it. (CARIFTA Charter, Art. 2).

While CARIFTA met with considerable success, it proved limited by the fact that it was unable to control aspects of economic and social development which could really only be regulated through the creation of a common market and community. These included creation of a unified currency and, perhaps most importantly for this discussion, the development of a uniform policy with regard to tariffs and quotas on good entering CARIFTA markets from without the trade area. (Caribbean Commonwealth Regional Secretariat (CCRS), 1971 52; CCRS: 1972, Chaps. 3, 5, 6).

The Georgetown Accord emerged from the Eighth Heads of Conference held in that South American city in April 1972. In that document, the nations:

.....reaffirmed their common determination to fulfill.....the hopes and aspirations of the people of the Caribbean territories for industrial and agricultural development , full employment and improved living standards. The Heads of Delegations recorded their conviction that these goals could most rapidly be attained through deepening the integration process already established.....They also stressed the vital necessity of enhancing the bargaining power of the Region in relation to third countries, groups of third countries and extra-regional entities providing goods, services, technical assistance funds to the countries of the region. (CCRS, 1973, 1).

The resulting Treaty of Chaguaramas was signed and ratified by all member states and became effective on May 1, 1974.

CARICOM EXAMINED

One of the primary factors in examining CARICOM is to look not only at it as allowing Caribbean nations more regional cooperation, but to examine how CARICOM seeks to integrate its members into the larger global economy. CARICOM's founding document, the 1973 Treaty of Chaguaramas, explicitly states in its Preamble that one of its primary goals is to "consolidate and strengthen the bonds which have historically existed among their peoples" (Original Treaty of Chaguaramas, 1973, Preamble). Specifically, the 1973 treaty refers to "the economic integration of Member States by the establishment of a common market regime" (Original Treaty of Chaguaramas, 1973, Article 4).⁷ Herein lays the primary focus of CARICOM. Simply put CARICOM's primary focus over 30 years later needs to be on fully participating in a globalized world rather than seeking purely political alliances. In this paper, we seek to understand CARICOM's role in the twenty first century. We first examine the Revised Treaty of Chaguaramas, signed in 2001, in order to see how CARICOM and its member nations are preparing for a new globalized economy. Secondly, we explore the Caribbean Single Market and Economy to see how CARICOM has moved from a community promoting economic cooperation to a regional organization seeking economic integration and unity. In examining these factors we will ultimately show how CARICOM is fully preparing to compete in a globalized economy, particularly with the North American Free Trade Agreement and European Union.

The primary goal of CARICOM has been "to promote economic integration of member countries by means of a common market, coordination of a common external policy and functional cooperation in terms of health, education, culture, communication, and industrial relations" (Baumann,2008, 6). "Functional Cooperation is one of the three main pillars of... [the] community, as set out in the treaty of Chaguaramas" (CARICOM Secretariat, 2005, 133). Yet "the recent globalization process poses significant challenges to small developing economies, such as those in the Caribbean, which are already dealing with a number of issues in their pursuit of sustainable development" (UN/ECLAC, "Globalization and Development",2002, Chapter 11). From the signing of the Original Treaty in Chaguaramas to today, the global economy has been through profound political and economic changes. Global economic policy has shifted from a bipolar world of 'American capitalism' versus 'Soviet communism' to that of regional unification and market integration as seen with the NAFTA, the EU and ASEAN to name a few.

The difficulty with maintaining the Original Treaty, as well as a focus on 'cooperation' in CARICOM, was the fact that "their small island states face significant hindrances to development such as modest populations, limited expanses of viable land, and insufficient capital flow" (Khary, 2002, 9)."CARICOM's members are not large nation-states with significant amounts of resources at their disposal. Unlike the EU which one can argue has France and Germany as its 'economic anchors' CARICOM does not have a 'superpower' member to rely on to stabilize it. "Even worse, the global shift toward free trade has hit the Caribbean hard, removing market protections of major industries like bananas" (Khary, 2006, 9).

CARICOM and its members in this regard needed to focus on integration and sustainability in order to compete in the global market. "The importance of regional integration lies therefore, in increased productivity and efficiency more than in a significant expansion of exports" (United Nations/ECLAC, 2005, 108). One of the most important aspects that brought CARICOM's into the modern globalized market was the Revised Treaty of Chaguaramas of 2001. The Revised Treaty, while reinforcing some of the core principles of the 1973 treaty, sought to harmonize and reinforce a new goal for CARICOM; regional integration and competitiveness.

While the original treaty sought to unify its members based on historical bonds as well as allow for “greater measure of independence and effectiveness” (Original Treaty of Chaguaramas, Preamble, Article 4), the Revised Treaty of Chaguaramas fully recognizes that “globalization and liberalisation have important implications for international competitiveness” (Revised Treaty of Chaguaramas (Preamble)). This simple statement is one of the most powerful, distinguishing features of the revised treaty. It fully recognizes that CARICOM can no longer look internally for economic solutions, rather it needs to make itself a competitive force in the international economic arena. Yet what is most important about understanding CARICOM is that it is not simply about studying the differences in the treaties of Chaguaramas, but understanding why the particular changes were made. While the original treaty sought a “customs union with policy and functional cooperation” (Moreira and Mendoza, 2007, 1) the new treaty reflected sentiments from the 1990’s that sought to create a single market and economy (Moreira and Mendoza, 2007, 1).

At a glance, the most obvious difference between the 1973 treaty and the Treaty in 2001 is that the 2001 is much longer and more in depth. The Original Treaty’s 4 Chapters dealt with “Principles (Chapter 1), Organs of the Community (Chapter 2), Coordination and Functional Cooperation (Chapter 3), and General and Final Provisions (Chapter 4) as well as an Annex to the Treaty (Treaty of Chaguaramas, 1973). The Revised Treaty on the other hand has 10 chapters which deal form CARICOM’s principles, to trade policy, transport policy, as well as capital movement to name a few (Revised Treaty of Chaguaramas, 2001). While this may look subtle enough, the Revised Treaty needed expansion in order to cover many of the complexities of the global economy.

One of the most an important and distinguishable factor in the Revised Treaty of Chaguaramas is that it calls for:

“By way of additional protocols- for the inclusion of new issues such as electronic commerce, government procurement, treatment of goods from free zones, circulation of goods and the rights contingent on establishment, provision of services and movement of capital” (CARICOM Secretariat, 2005, 229).

In this regards, the revised treaty sought to be specific, recognizing that the new global economy had strong and inherent structures and complexities built into it. A major aspect in understanding CARICOM in the 21st century is to comprehend the major components to the Revised Treaty of Chaguaramas, and what some of the major differences were with the Original Treaty of 1973, specifically in regards to meeting the economic and financial challenges of the future. In regards to the 1973 treaty, the protocols were a “response to the international economic crisis of the 1970’s” (CARICOM Secretariat, 2005, 63). The 2001 Treaty on the other hand “recognizes a need for a paradigm shift...and advocates a business oriented approach (Atkins, 2005, 4).” Specifically the new developments within the treaty are consistent with the regulations and governance of the World Trade Organization (CARICOM Secretariat, 2005, 228). The idea of conforming to World Trade Organization standards is in some ways, a departure from the original treaty and specifically shows that the revised treaty is an attempt by CARICOM members to integrate into the world economy.

Article 4 of the Original Treaty called for “the achievement of a greater measure of economic independence and effectiveness of its member states in dealing with states...group of states and entities of whatever description” (Original Treaty of Chaguaramas, 1973, Article 4). This is an extremely important sentiment, especially in regards to CARICOM’s call for ‘independence’. The Revised Treaty on the other hand specifically calls CARICOM members to have “the achievement of a greater measure of economic leverage and effectiveness of Member States in dealing with Third States, groups of states, and entities of any description (Revised Treaty). What is important to recognize is that the Revised Treaty leaves out independent and instead replaces it with the word leverage. As stated earlier, the elements of the Revised Treaty conform to the World Trade Organization. The new language of the Revised Treaty seeks “stimulate and facilitate improved competitiveness in regional economies and to heighten power in the different theatres of international economic negotiations” (Norman Girvan, 2005, 1). No longer can CARICOM members seek to be isolated amongst themselves. While the Original Treaty may have called for independence, the main function of the Revised Treaty is to give CARICOM and its members a competitive edge in the international economic arena.

Beginning in the 1990’s, “the Caribbean response was aimed at guaranteeing and protecting regional access to markets in the face of a process of globalization which, in principle, was supposed to provide equal market access for all” (UN/ECLAC, 2008, 332). While independence may still be a goal, many Caribbean

economies are now recognizing that what is important in terms of the global market place is having enough economic power and competitiveness to stay afloat in the global economy. In attempting to reconcile independence with leverage, what did not change was CARICOM's overall goal of not only seeking economic power, but promoting economic effectiveness. Specifically, the Revised Treaty and the Original Treaty wanted to ensure that CARICOM members get together to enjoy economies of scale, which would allow them to increase productivity, diversify their output, and ultimately boost growth" (Moreira and Mendoza, 2007,3).

The Revised Treaty of Chaguaramas as compared to the Original Treaty recognizes the need for economic integration and unification in the Caribbean. Speaking before the Chamber of Commerce, The Bahamas Minister of Foreign Affairs, Fred Mitchell stated:

"This decision was taken against the background of a fast moving world economic situation, where trade liberalization is the order of the day, and where The Bahamas must position itself or get left behind in the global economic gain" (Remarks by Fred Mitchell).

The decision to move ahead with the agenda of the Revised Treaty represents an important reality for CARICOM. The Foreign Minister of The Bahamas clearly states that the decision to move CARICOM forward had to do with the economic reality of the modern world. Understanding the Revised Treaty of Chaguaramas is not simply about comprehending the technical details of the treaty, but to understand its broad implication for member economies. Specifically, understanding the Caribbean Single Market and Economy (CSME), is absolutely vital to understanding the overall nature of the Revised Treaty as well as CARICOM's future.

While the Revised Treaty did not specifically come up with the idea of a CSME, it did set up an important framework for it. In and of itself, the Revised Treaty sought to ensure the CSME would have "the free movement of goods and services, capital and labour, the harmonization of laws and regulations affecting trade...intellectual property, competition policy...subsidies" (UN/ECLAC,2005, 108). The reason CARICOM is moving toward this type of system is due to the fact that:

"While the primary focus of the Common Market was on liberalising trade in goods among the members, the Single Market and economy not only expands this process to include services, but also provides for the free movement of capital(money), skilled Labour, and the freedom to establish business enterprises anywhere in the Community" (CARICOM, 2005, 243).

In order to fully implement the requirements for the CSME, "The Revised Treaty of Chaguaramas...requires harmonisation of policies, laws, and regulations; enhanced monetary cooperation, and common external policies "(Norman Girvan, 2007, 8). What differentiates a 'single' market from the 'common' market is that fact that the CSME, under the framework of the Revised Treaty seeks to ensure that CARICOM members not only work together for a common good, but to ensure that CARICOM works as a distinct and single entity. Hence a single market allows for members to take advantage of each other's resources, due to the fact that they are one distinct unit. Yet, while the Revised Treaty seeks to update and normalize the CSME, the very concept of a single economy goes back much further.

It was the 1989 Grand Anse Declaration and Work Programme for the Advancement of the Integration Movement that first called for a single economy and market (CARICOM:Secretariat,2005, 244). The Grand Anse Declaration called for CARICOM and its members to "work towards the establishment of...of a single market and economy for the Caribbean Community" (Grand Anse Declaration,1989). The Grand Anse Declaration of 1989 recognized that while the Original Treaty of Chaguaramas was a good start; it did not go far enough. Although the question remains as to why it took over thirteen years to revise the Treaty of Chaguaramas and put together the proper framework for a CSME.

The 1990's represented a paramount change in the global economic forum. Beginning in 1994 NAFTA, the WTO and FTAA were all either established or in the preliminary stages of being formed (Remarks by Leonard Archer). "The CSME was a response to [these] changes" (Remarks by Leonard Archer). Hence, "it was decided that for a single market and economy to be properly established, the founding treaty of CARICOM, the 1973 Treaty of Chaguaramas, had to be substantially revised" (Remarks by Leonard Archer). As was discussed earlier, Caribbean economies were no longer looking at economic independence as the sole reason for membership in CARICOM. Given the nature of the economic conditions of the time, CSME is an attempt to unify the Caribbean and make it a competitive actor on the global international economic stage.

In terms of specifics, CSME main goal is to “provide better opportunities to produce and sell...goods and services and attract investments” (CARICOM: CSME). The Revised Treaty of Chaguaramas seeks to accommodate this through several means and declarations. Chapter 4, Article 51 of the Revised Treaty states that CSME and CARICOM seek to create the “promotion of regional economic enterprises capable of achieving scales of production to facilitate successful competition in domestic and extra-regional markets” (Revised Treaty of Chaguaramas, 2001, Chapter 4, Article 51). This reflects important thematic elements concerning CARICOM and more importantly the CSME. Reflecting the overall goal of making itself more competitive, the CSME seeks to create viable economic conditions by connecting member economies to each other for greater economic output. Specifically, the Revised Treaty calls for “linkages among economic sectors and enterprises within and among the Member States of CSME” (Revised Treaty of Chaguaramas, 2001, Chapter 4, Article 51). CSME is therefore not solely about making one economy, but rather CSME seeks to link CARICOM economies to get the ‘better’ of each one. Yet, CARICOM economies and the CSME must also reflect on their actual monetary and economic policies to ensure strong financial harmonization amongst CARICOM economies.

One of the most important areas in the modern global economy is that of financial investment. “Yet the CSME was never designed to be a super state; rather it was designed to coordinate economic policies, enhance trade and competitiveness, and enhance internal markets to create strong, sustainable economic conditions” (Hendy, 8). CARICOM therefore needs strong monetary and investment policies to ensure long-term, sustained growth. Being in a globalized world calls for allowing and ensuring sustainable investments and mechanisms for internal market growth. In this regard, the Revised Treaty calls for the “removal on all restrictions on movement of capital payments” (Revised Treaty of Chaguaramas, 2001, Article 40, Chapter 3). CARICOM also calls for “equity and portfolio investments, and payments relating to investment flows” (Revised Treaty of Chaguaramas, Article 40, Chapter 3). For the Revised Treaty to be effective, and the CSME to actually work, strong investment policies and modules must be established to ensure its overall success. “The establishment of an integrated regional stock market is seen as an integral part of the deepening and widening of the integration process in CARICOM...as [they] move to establish the CARICOM Single Market and Economy” (Robinson, 2006, 31). Creating a regional stock exchange for investment would be a vital element in ensuring global economic leverage.

CONCLUSIONS

Overall, this paper has sought to fully examine CARICOM, the Revised Treaty of Chaguaramas and the CSME, in regards to its place and purpose in a 21st century global economy. First we have demonstrated that CARICOM as a whole is a developmental mechanism, not a stagnant being. With the passage of the Revised Treaty, we believe that CARICOM must take into account the growing fluctuations in the global economy. Our overall argument is that CARICOM’s overall success will depend on whether or not members can act cohesively and systematically to various international demands placed on CARICOM’s and member economies. A major issue facing CARICOM, particularly the CSME “is that economic issues are debated from an exclusively national perspective, with little or no attention paid to the implications of developments elsewhere in the region” (Worrell, 2007, 82). The consistent theme echoed throughout CARICOM’s history, particularly with the CSME and Revised Treaty is that the Caribbean must speak with one, coherent voice. Without one cohesive and unified voice, CARICOM will not be able to be an effective actor in the global economic stage, nor will CARICOM members be able to achieve long-term economic growth and competitiveness. The CSME and CARICOM cannot be about being a regional mega power. Rather, CSME and CARICOM must ultimately link its members together in order to maximize its potential in competing in the international economic arena.

CARICOM and the CSME are “regional frameworks...which require legal, institutional and administrative provisions” (Field Ridley, 3). The Revised Treaty of Chaguaramas allows the CSME to “focus [on] providing for competitive production for both the intra-regional and external markets based on the principle of promoting...operations...and production in an enlarged single economic space” (Ridley, 3). The CSME, reflecting the protocols and provisions in the Revised Treaty, seek to ensure that the CARICOM members are not only unified in cause, but unified in action as well. What the Revised Treaty allows for is the actualization and realization of numerous economic requirements to ensure strong output, which in turn leads to a more competitive Caribbean Market. While the CSME has not fully reached its zenith, its stated goal as found in the

Revised Treaty is to “achieve sustained economic development based on international competitiveness” (Revised Treaty of Chaguaramas, Preamble). It is therefore up to CARICOM members to fully realize that their success or failure is not solely dependent on following the provisions of the Revised Treaty to the letter. Rather, CARICOM’s success will be if they can adapt to the climate of the world economy.

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MANAGING KNOWLEDGE WORKERS – THE CASE OF CROATIA

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ABSTRACT

As it is widely acknowledged that knowledge is a strategic asset, it became essential for contemporary organizations to manage their knowledge workers. In the theoretical part of the paper three areas that are the most fruitful while managing knowledge workers are identified: developing knowledge culture, nurturing knowledge leadership, and adopting knowledge workers' supportive human resource management, while in the empirical part of the paper the practice of managing knowledge workers in Croatia is assessed. Research findings imply that Croatian organizations neglect their knowledge workers as they are found to practice only 5 out of 28 policies/activities regarding managing knowledge workers.

INTRODUCTION

Nowadays it is widely acknowledged that knowledge is a vital strategic resource. Knowledge, as a strategic asset, became the key to competitive viability and growth of contemporary organizations, especially learning organizations (Bollinger & Smith, 2001).ⁱ Furthermore, not only knowledge per se, but the ability to acquire and develop it, share it and apply it, can lead to a sustainable competitive advantage (Sharkie, 2005, 37).

Therefore, as knowledge exists within the individual employee (Bollinger & Smith, 2001, 8), it became essential for organizations to manage their knowledge workersⁱⁱ as the true owners of knowledge and those who perform the most important activities of knowledge management (KM) – creation, transfer and usage of knowledge.ⁱⁱⁱ As Drucker (1999), who actually coined the term knowledge worker, stresses, the ability of organizations to attract and hold the best of the knowledge workers and their 'comparative advantage' in making them more productive is the first and most fundamental precondition to survive in today's business world.

The paper explores policies/activities that are vital for the successful management of knowledge workers. Precisely, in the theoretical part of the paper three areas that are the most fruitful while managing knowledge workers are identified: developing knowledge culture, nurturing knowledge leadership, and adopting knowledge workers' supportive human resource management (HRM). The three areas are elaborated in terms of their significance, most important activities and consequences. For the purpose of the empirical exploration of the topic, the practice of managing knowledge workers in Croatia was assessed.

THE MOST IMPORTANT AREAS WHILE MANAGING KNOWLEDGE WORKERS

In order to manage the most valuable knowledge component which is embodied in knowledge workers – tacit knowledge, three activities or business practices should be pursued: (1) developing knowledge culture – organizational culture that supports knowledge management, (2) nurturing knowledge leadership – pursuing leadership practices which are suitable for leading knowledge workers, and (3) adopting knowledge workers' supportive human resource management – human resource management activities which are oriented towards recruiting, motivating and developing knowledge workers. Knowledge culture and knowledge leadership each

play important roles in overcoming human barriers associated with knowledge creation, transfer and sharing (DeTienne et al., 2004), and human resource management plays a central role in the move toward a knowledge-management system because knowledge management requires profound changes in compensation, training, education, communication, etc. (Greengard, 1998).

Knowledge-oriented culture

The culture of the organization is a critical element in determining the success or failure of any knowledge management program (Bollinger & Smith, 2001, 17), as managers need to build company cultures that are in accordance with what knowledge workers want, or they will leave (Davenport, 2005, 198).^{iv}

Organizational culture is said to be critical to promoting learning and development, and sharing of skills, resources and knowledge, because for employees to feel comfortable sharing what they know, the organizational culture must exude trust, honesty, respect and integrity (Bollinger & Smith, 2001, 15). The basis for promoting tacit knowledge management and externalization and socialization processes related to it is the creation of an organizational culture based on trust and commitment on the part of individuals (Aramburu & Sáenz, 2007, 77).

Knowledge culture is referred to the organizational culture that is oriented towards knowledge and knowledge workers, which means that it celebrates knowledge, those who possess it, their contribution to production, distribution and utilization of knowledge, and knowledge philosophy altogether. Knowledge-oriented culture is characterized by «Five Fs» – fast, flexible, focused, friendly and fun (Davenport, 2005, 198-199), which signifies that such culture takes knowledge seriously but plays with it as well.

Knowledge leadership

There is a general consensus among both practitioners as well as academicians that the leadership plays an important role in the creation as well as management of knowledge in the organization (Singh, 2008, 8), as having a knowledge management leadership in organization results in more employees sharing knowledge with one another and reduced turnover rates, thereby positively affecting revenue and profit (Bontis, 2003 from Nadeem, 2006). Namely, creation, storage, sharing and application of knowledge can only be fully realized if the organization starts preaching as well as practicing leadership style which gives people freedom to think and act on any of the organizationally relevant issues (Singh, 2008, 13).

Effective management is extremely important for getting the best out of knowledge workers, ensuring that they have a productive work environment, and keeping them happy within their organizations (Davenport, 2005, 208-209). Knowledge leaders should provide knowledge vision, develop and promote the sharing of knowledge assets, create and energize them, and enable and promote the continuous spiral of knowledge creation (Nonaka, Toyama & Byosièrè, 2003, 505). They should encourage communication, encourage negotiation, encourage knowledge sharing, promote interactive processes for knowledge acquisition, and encourage team members to gather information and the knowledge required to monitor their performance (Politis, 2001, 362). Consequently, the best form of leadership style for managing knowledge is the delegating style wherein employees are given adequate power, authority and responsibility to experiment and innovate with facts and figures which they may come across while working on any tasks (Singh, 2008). Namely, there is a strong relationship between transformational leadership and knowledge management behaviors (Crawford, 2005). Leadership style that involves human interactions, encourages participative decision-making processes, promotes mutual trust, and respects subordinates' ideas and feelings is positively related to the skills and traits that are essential for knowledge management when compared with the leadership style that is characterized by task oriented and autocratic behavior (Politis, 2001; Singh, 2008).

In order to make the knowledge management process work successfully, knowledge leadership should be evident throughout the organization and it should operate at all hierarchical levels (Singh, 2008, 6).

Knowledge workers' supportive human resource management

The responsibility of human resource management department/function is to promote a culture that supports knowledge management by identifying and bringing in the best possible people, by designing compensation and reward systems that nurture and encourage knowledge sharing, by educating employees about knowledge management and its benefits, by developing and compensating managers who are dedicated to achieving knowledge management goals, and by convincing knowledge workers to stay when they threaten to wander (Bollinger & Smith, 2001; DeTienne et al., 2004; Davenport, 2005).

The quality and effectiveness of knowledge management initiatives depends especially on compensation schemes applied in an organization. In a context where individuals see little in the way of financial reward for knowledge-sharing activities, it is not surprising that forms of knowledge-hoarding may take place (Walsham, 2001, 603). Unproductive reward and recognition programs are said to be one of the obstacles to creating knowledge-based companies (Chase, 1997). Organizations should therefore use a variety of incentives to show that they're serious about sharing knowledge (Stevens, 2000, 54), as incentives, no matter big or small, ultimately teach employees what the company really wants out of them (DeTienne et al., 2004, 34).

Because knowledge management is, at its roots, depending on people's actions, corporations willing to implement knowledge management strategies are aware that they must implement new incentive policies and programs in order to motivate employees to take part in knowledge management programs, to share knowledge they otherwise might hoard, etc. (Hansen, Nohria & Tierney, 1999; DeTienne et al., 2004). Successful firms thus focus on embedding knowledge and practice transfer into their employees' work methods and professional development systems, and recognizing employees for their contributions (O'Dell & Grayson, 1998, 168).

EMPIRICAL RESEARCH

Research methodology

The practice of managing knowledge workers in Croatian organizations was assessed through gathering indicators selected as indicative for that practice.

The instrument used for the purpose of data collection was a highly-structured questionnaire designed for organizations, which examined the overall knowledge management practice, including the policies/activities for managing knowledge workers.^{vi} On behalf of their organizations employees that were either responsible for knowledge management or in a position to have the best insight into it fulfilled the questionnaires.

The population consisted of Croatian organizations with more than 1000 employees, as researchers in knowledge management field imply that the organizational size is significant for the knowledge management quality (Davenport & Prusak, 2000), and that superior knowledge management practices are primarily present in large organizations with more than 1000 employees (Singh et al., 2006). Out of 76 Croatian organizations with more than 1000 employees in 2007,^{vii} 34 participated in the survey. The response rate of 44.7% signifies that the final sample is representative. The profile of organizations in the sample is presented in table 1.

Table 1: Profile of organizations in the sample

Characteristic	Structure (%) of organizations
Size (measured by number of employees)	1000 to 1500 employees (29.5%), 1500 to 3000 employees (35.3%), 3000 to 5000 employees (17.6%), more than 5000 employees (17.6%)
Main activity	agriculture, forestry and fishing (5.9%), gas (2.9%), manufacturing (17.6%), construction (14.7%), wholesale and retail trade (8.8%), transport and storage (11.8%), hospitality and tourism industry (2.9%), information and communication technologies (11.8%), financial services and insurance (11.8%), other (11.8%)
Ownership structure	state- or mostly state-owned organizations (50.0%), mostly private Croatian-owned organizations (29.4%), mostly private foreign-owned organizations (20.6%)

Collected data (analyzed using Statistical Package for the Social Sciences – SPSS) resulted in 28 indicators regarding practice of managing knowledge workers in Croatian organizations grouped in three sets: (1)

knowledge culture indicators (9 indicators), (2) knowledge leadership indicators (9 indicators), and (3) knowledge workers' supportive human resource management indicators (10 indicators).

Research findings

The quality of Croatian practice while managing knowledge workers was assessed through: (1) the percentage of Croatian organizations that were found to conduct/perform specific knowledge workers' enabling policies/activities, and (2) the categorization of each indicator of managing knowledge workers as either positive or negative depending on its value – positive in case of more than 50% of Croatian organizations conducting/performing specific policy/activity, and negative in the opposite case.

Table 2 displays 9 knowledge culture indicators, as well as the assessment whether they reflect a positive or negative practice of managing knowledge workers.

Table 2: Knowledge culture indicators

Percentage of organizations...	%	Positive/negative
1. in which communications are open	9.7%	-
2. in which employees trust each other	34.4%	-
3. in which employees share knowledge	38.7%	-
4. in which employees consult their colleagues	34.4%	-
5. in which employees dedicate their time to converse with colleagues	38.7%	-
6. in which employees admit their lack of knowledge	16.1%	-
7. in which the initiative for generating new knowledge originates from employees	15.7%	-
8. that are highly innovative	40.0%	-
9. that have a specific place intended for informal socialization of employees during working hours	62.5%	+

As evident from table 2, out of nine knowledge culture indicators, only one is positive according to its value. Specifically, the only knowledge culture initiative that is present in more than 50% of organizations in the sample is having a specific place that is intended for informal socialization of employees during working hours (62.5% of organizations in the sample have such a place). In the same time, Croatian organizations do not exhibit having a knowledge culture on average, as they do not have open communications, as their employees do not trust each other, do not share their knowledge, do not consult their colleagues, do not admit their lack of knowledge, and do not dedicate their time to converse with colleagues, as the initiative for generating new knowledge does not originate from employees, and as they are not highly innovative.

Table 3 provides 9 knowledge leadership indicators, and the assessment of their value.

Table 3: Knowledge leadership indicators

Percentage of organizations...	%	Positive/negative
1. which embrace formal obligation of sharing information and knowledge gained at conferences, workshops, etc.	20.6%	-
2. in which the last phase of managing projects is the identification of lessons learned	21.9%	-
3. that share lessons learned on the particular project with employees that were not involved in that project	23.5%	-
4. that include knowledge in their mission statements	18.5%	-
5. that have an employee responsible for KM	47.1%	-
6. in which employee responsible for KM is positioned on the top management level	28.6%	-
7. that reward employees for their contribution to KM	64.7%	+
8. that have the official mentorship program for the majority of new employees	56.3%	+
9. that have more than 5% of their employees participating in the mentorship program	33.3%	-

As table 3 depicts, only two out of nine knowledge leadership indicators are regarded as positive based on their value. Precisely, more than a half of Croatian organizations in the sample reward employees for their contribution to knowledge management (64.7% of them), and have the official mentorship program for the majority of new employees (56.3% of them). On the other hand, majority of Croatian organizations are not accustomed to encourage their employees to share information and knowledge gained at conferences, workshops and similar, to identify lessons learned after completing projects, and to share lessons learned on the particular project with employees that were not on the project, as well as to include knowledge in their mission statement, to have an employee responsible for knowledge management, to have an employee responsible for knowledge management positioned on the top management level, and to have more than 5% of their employees participating in the mentorship program.

The last set of results is presented in table 4, and consists of indicators concerning knowledge workers' supportive human resource management.

Table 4: Knowledge workers' supportive HRM indicators

Percentage of organizations...	%	Positive/ negative
1. that possess a list of key knowledge	75.0%	+
2. that identify the discrepancy between required and available knowledge at least once a year	43.5%	-
3. that perform 75% or more additional education based on the specific needs	50.0%	+
4. that have additionally educated 50% or more of their employees in 2006	33.3%	-
5. in which additionally educated employees have not left the organization in the past twelve months	36.0%	-
6. that employed 50% or more of their employees because of their specific knowledge and/or skills	36.0%	-
7. in which more than 1% of employees engage in KM activities	12.5%	-
8. that poses and regularly expand their libraries	47.1%	-
9. in which the involvement in KM activities is part of employees' performance appraisal	32.3%	-
10. in which the involvement in KM activities is part of performance appraisal for more than 50% of employees	11.6%	-

As evident from table 4, only two out of ten indicators of knowledge workers' supportive human resource management are evaluated as positive. In particular, two policies/activities that imply developed knowledge workers' supportive human resource management practice in Croatian organizations in the sample are possessing a key knowledge list (75.0% of them), and arranging 75% or more education based on the needs for specific knowledge (50.0% of them). However, according to the majority of indicators, Croatian organizations exhibit a poor human resource management practice while managing knowledge workers. Generally, they do not identify the discrepancy between required and available knowledge regularly, they do not additionally educate 50% or more of their employees, many additionally educated employees left their organizations in the past twelve months, they have less than 1% of employees engaged in knowledge management activities, they do not poses or regularly expand their libraries, they do not appraise involvement in knowledge management activities, and knowledge management activities are not part of performance appraisal for more than 50% of their employees.

Discussion

Table 5 summarizes the research findings, displaying percentages of positively assessed indicators in each set of indicators regarding managing knowledge workers.

Table 5: Number and percentage of positively assessed indicators of managing knowledge workers

Sets of indicators	Number of indicators in the set	Percentage of positive indicators
Knowledge culture indicators	9	11.1% (1/9)
Knowledge leadership indicators	9	22.2% (2/9)
Knowledge workers' supportive HRM indicators	10	20.0% (2/10)
TOTAL	28	17.9% (5/28)

Table 5 indicates clearly that the presence of policies/activities regarding managing knowledge workers in Croatia is not sufficient. It can be said that Croatian organizations are not aware that “management in the ‘knowledge economy’ is a different game with different rules” (Davenport, 2005, 191). They are not aware that even the best knowledge initiatives will come unstuck if they don’t take account of human behavior and adapt to fit with employees’ everyday work (Poole, 2000, 8).

Precisely, Croatian organizations are not embracing the fact that knowledge culture is the basic caterpillar of successful knowledge management (Nahm, Vonderembse & Koufteros, 2004; Lam, 2005), as only one out of nine knowledge culture indicators is assessed positive. Secondly, Croatian organizations are not responsive to the fact that “leaders are essential for successful generation of knowledge” (Nonaka, Reinmoeller & Senoo, 1998, 684), as evident from only two positive knowledge leadership indicators out of nine. Finally, Croatian organizations do not realize that while managing knowledge workers, effective knowledge management and human resource management linkages are essential (Godbout, 2000; Gloet & Berrell, 2003; Hislop, 2003; Gloet, 2006; Edvardsson, 2008), as only two out of ten knowledge workers’ supportive human resource management indicators are evaluated as positive.

CONCLUSION

Both knowledge and human resources are being increasingly regarded as key levers of competitive advantage in today’s global, dynamic and complex business environment (Oltra, 2005, 71). Therefore, the necessity of managing human resources – and knowledge workers in particular – is not only evident, but fundamental.

In order to manage their knowledge workers, contemporary organizations have on their disposal three particular groups of policies/activities. Firstly, they are invited to establish knowledge cultures. Secondly, they are advised to develop knowledge leaders. Thirdly, they are encouraged to implement knowledge workers’ supportive human resource management. By embedding knowledge culture, knowledge leadership, and knowledge workers’ supportive human resource management into their everyday routines, they have a solid base for survival and success in the knowledge economy.

Unfortunately, although academic and business communities around the globe are aware of the significance of managing knowledge workers in the world which celebrates intangibles as means of competitive advantage, research findings imply that the issue is rather ignored in Croatia. Precisely, only one out of nine knowledge culture indicators, two out of nine knowledge leadership indicators and two out of ten knowledge workers’ supportive human resource management indicators signify a proactive engagement while managing knowledge workers. Altogether, organizations in the sample are found to practice only five out of twenty-eight policies/activities regarding managing knowledge workers. This implies that in Croatia the majority of actions vital for the successful employment of knowledge workers are being neglected.

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ENDNOTES

ⁱ Some sectors, for example financial services, consulting and software industries, depend on knowledge as their principal means of value creation (Earl & Scott, 2001).

ⁱⁱ All jobs involve knowledge to some degree, but knowledge workers are those whose jobs are particularly knowledge-oriented (Davenport, 2005, 24), which means that they use their heads more than their hands to produce value. The primary purpose of their jobs involves the creation, distribution or application of knowledge (Davenport, 2005, 10), in other words, they add value through their ideas, their analyses, their judgment, their syntheses and their designs (Horibe, 1999, xi). They have high degrees of expertise, education or experience (Davenport, 2005, 10).

ⁱⁱⁱ The article deals with knowledge workers and not human resources in general, as there is more and more knowledge work, and as knowledge workers are those who are essential for contemporary organizations.

^{iv} Another area of focus should be on ensuring that managers receive adequate training, empowerment, and support to promote the desired culture (Bollinger & Smith, 2001).

^v *Ba* is a shared space that serves as a foundation for knowledge creation which can be thought of as a physical (e.g., office, dispersed business space), virtual (e.g., e-mail, teleconference), mental (e.g., shared experiences, ideas, ideals), or any combination of shared spaces for emerging relationships (Nonaka & Konno, 1998, 40).

^{vi} The data was primarily gathered for the master thesis *Knowledge management in large Croatian companies*, defended by Maja Vidović at the Faculty of Economics and Business, University of Zagreb, Croatia in 2008.

^{vii} The list of Croatian organizations with more than 1000 employees was obtained from the Croatian Chamber of Economy web database (http://www1.biznet.hr/HgkWeb/do/extlogon?lang=hr_HR)

NEW MARKETING STRATEGY TO FACE FINANCIAL DIFFICULTIES IN JAPANESE AIRPORTS: CASE STUDY RESEARCH (JAPAN CENTRAIR AIRPORT)

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ABSTRACT

International airports are some of the major infrastructure in any country. International airports are necessary to connect the country with the outside world, to establish social and business contacts, and to promote tourism. Investing in airports was never an easy task. Airport' development took usually a considerable part of the federal budget and keep airport running requires a continuous spending from the government. A problem facing many governments and local authorities is the deficit of the airport under hand. The reasons behind such deficit are numerous. Perhaps, the most important one is the decrease of passengers' number due in its turn to several causes. Governments and local authorities are therefore looking to new marketing strategies able to annihilate this deficit and to bring success to their airports.

Based on a case study of Centrair airport in Aichi prefecture in Japan, the current paper enumerates with details the reasons behind the airport deficit and proposes several remedies to deal with it. For instance, it shows how changing airport from a place to fly into a leisure complex that contains a place to fly may increase considerably the revenue of the airport. The paper presents the marketing strategy followed by the above airport and how it could sweep the deficit of the airport and change it into profit.

INTRODUCTION

Generally, airports are thought to be a “public traffic place for aviation”. Sakamoto (2003) argued that the essential function of airports is to assist and support air transportation. He considered that, business economic benefit and the promotion of local economic development are derivative to the airport activity. If airports could success in their essential function, they would obtain considerable benefit and promote local economic development naturally.

However, some airports due to some socio-demographic and geographic constraints tried to reverse the rule and tried to enhance activities that are not directly related to the aviation industry. Some of the Japanese airports are typical examples of those airports which tried to adopt innovative strategy that aims to strengthen the secondary functions. In our study we tried to shed light on some of the Japanese airports strategies that tried to balance between the aviation and the commercial activities.

BACKGROUND

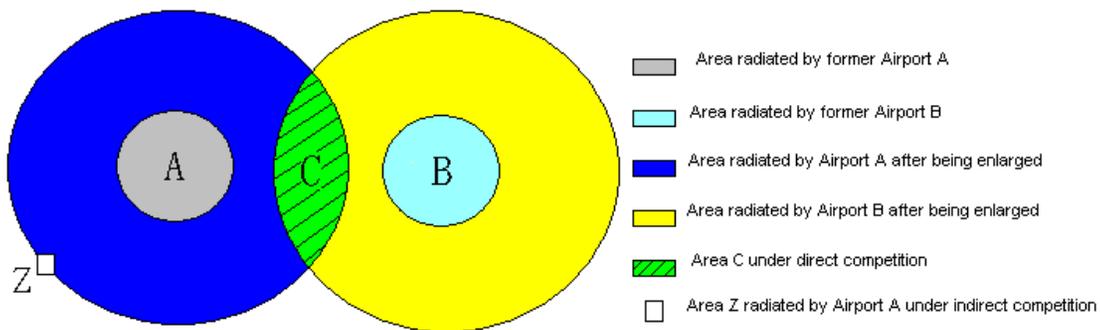
The Japanese airports market environment is marked by three main points: the harsh competition between the different airports, the competition with other transportation means and the repercussions of the liberalization of aviation's industry. Due to such circumstances, many airports struggle to sustain their income resources and limit their financial deficit.

Market environment

Competition between airports

Due to the national infrastructure, airports used to benefit from strong local monopoly that limited market competition. However the evolvement of aviation industry has changed the situation and competition is becoming the rule of the market. Figure 1 is an illustration of this evolvement where Airport A and Airport B used to keep natural monopoly status in respective locations. But along with development of aviation industry and constant enlargement of aviation network, the advantage involved in local monopoly is being lost gradually and some areas become radiated by both of the airports (C in the figure) (Kitani, 2007). Competition between the two airports becomes harsher and passengers' tax price and the offered services' quality become some of the competition's keys. As a result, all passengers belonging to the areas radiated by the two airports can enjoy high-quality service at low price. In other words, because the area under direct competition exists, the benefit of whole areas radiated by an airport will be affected largely.

Fig. 1 Sketch Map of Competition among Airports



Competition with other transportation means

Airport industry and aviation industry keep close relation which affect mutually and restrict each other. The achievement of an airport depends heavily upon the boom of aviation industry.

Transportation volume of Japanese air passengers is increasing year by year, but the proportion in total Japanese transportation volume is still very low. In 2004, air passengers only accounted for about 0.1% of total passengers. GIAC (Greater-Kanto Industrial Advancement Center) carried out an investigation on the trend of Japanese aviation industry in 2004. The report shows that a sharp competition in attracting passengers exists between air transportation and railways, road and marine transportation. In recent years, the advantage of air transportation is constantly weakened with the evolution and development of Shinkansen (Japanese high speed trains connecting cities) rails and the multiplication of expressway roads. Airports are consequently suffering from the reduction of users' number. For example, Kagoshima Airport mentioned above that since Shinkansen rail was established in Kyushu in 2004, the number of Kagoshima Airport passengers decreased by 6.5% than the previous year. The shinkansen line established in Fukuoka was disastrous for the region's airport as the annual airport passengers' number fall from 720,000 persons to 260,000 persons.

Liberalization of Japanese aviation industry

The first civil airline in Japan is Japan Airlines (JAL). It was founded in 1951. At that time, Japanese government established aviation law to standardize air transport enterprises. The aviation law aimed to protect and support air transport enterprises so that any operator must be approved by the government. It also supervised and governed freight price in order to ensure equal and stable source of passengers for all operating airlines. In 1970, under the "45/47 System" Japanese aviation industry was regrouped to establish three corporations namely Japan Airlines Corporation, All Nippon Airways and Toa Domestic Airlines (which changed to Japan Air

System) to respond to the rapid growth of Japanese air transportation and provide passengers with comfortable and secure air services. The three corporations are separately responsible of managing international and local lines, and domestic trunk. However, “45/47 System” was too conservative, limited free competition among airlines and blocked innovation in order to avoid competition. Therefore, the aviation industry was stagnant. Along with the liberalization of aviation in the world, comments on “45/47 System” were multiplied. The Japanese government therefore started to move from control of the industry toward more liberal and free market competition since 1982 by allowing companies to operate on the same line and manage competitive prices.

Such conditions where competition among airlines themselves and between aviation and other transportation forms have pushed companies to actively integrate airlines and reduce or cancel inefficient lines in order to keep invincible position among competitors.

Under such circumstances, Japanese airports, especially the airports suffering insufficient air demand are likely to face heavy deficit trouble.

Toward sustainable financial resources

To limit their deficits, airports need to increase their incomes generated through two main resources namely the aviation industry and the commercial activity. However limited by objective factors such as geographic position, airport scale etc., it is difficult for most of Japanese airports to increase income generated by air demand in short time. Additionally, the rise in airport fee may cause the dissatisfaction of airlines and push them to decrease travel frequency of high cost lines. The second solution is to increase the revenues from business activities and hence airports management should look for new business activities and a new management style able to generate revenues. For instance, the services delivered should be enhanced to attract more customers, the business activities should be diversified to attract aviation users and their companions; and the airport’s management should be improved in order to save money by cutting cost. Doing so, airports can increase stakeholders’ added value and therefore they are likely to attract more people (aviation related and non-aviation related customers) and hence raise benefits. Although the second solution seems to be realizable and attractive, it has one main limitation. In this sense, Hirai (2004) argued that the increase of business revenues is only possible within big airports where the number of users is always high. Nevertheless, it cannot work effectively with small and medium airports where the number of users depends on seasons. Thus Hirai (2004) recommends that small and medium airports’ managements need to focus on how to attract non-aviation users (those living around the airport) more than on how to attract aviation users. The airport, therefore, should become a place of traffic as well as a leisure and entertainment facility. Airports should be perceived as places where people can fly, make shopping, have fun, watch movies, and spend time with family members and friends. Doing so, airports’ revenues are likely to increase with changing neither the revenue per passenger or per flight nor the number of passengers or flights.

The salience of the above strategy pleased Central Japan International Airport (Centrair) management and they decided to adopt. The adoption of Hirai (2004) recommendation by Centrair will be the case to study in this research.

CASE STUDY

Central Japan International Airport opened on Feb.17, 2005. It is classified as a trunk airport. However similar to many Japanese airports, it faced the problem of insufficient air demand due to its location in an area (Aichi prefecture) highly sophisticated in transportation infrastructure and close to other prefecture known for their highly competitive airports (e.g., Narita airport in Tokyo, Kansai airport in Osaka). Under these circumstances, Central Japan International Airport developed an original innovative business strategy that helped squeezing its financial deficit and turn it sometimes into profit.

When opening, the Central Japan International Airport had a good reputation among the public and there was an abundant existence of non-aviation-users for fun. Attractive Shopping Malls were in place, leisure areas, and several entertainment facilities. After the opening period: promotion by the staff from field trip tour, popular events and commercial facilities helped to keep non-aviation users visiting the airport and enjoying non-related aviation services and goods.

To deem about the success of such innovative tendency, an interview with the airport officials, and a review of the airport’s financial reports and analysis were performed. The review of the early financial reports of the

airport shows that the non-aviation users' activities had been contributive to the airport revenue and that the half of the airport's commercial revenue had been achieved from activities related to non-aviation users.

Nevertheless, some financial analysts (NIKKEI Journal) kept skeptical about these results and state that it is not sure that non-aviation users had effectively contributed to the increase of Centrair revenue. These analysts back their statements by the high average aviation related users transaction (average aviation users transaction = commercial revenue / number of aviation users) .

Furthermore a review of the later and actual financial reports and related electronic press release shows that most of the revenue in the recent period is achieved from passengers' taxation and airlines companies' charges (aviation related sources). The balance between aviation related sources and non-aviation related sources is no more achieved. In the interview, the airport's officials attested that the airport is experiencing a fail to meet its initial business concept of attracting both aviation related and non-aviation related users as the second type of users are recently found to contribute by negligible and insignificant proportion to the airport's overall revenue.

This fail in sustaining the success of the new strategy can be attributed to the shift of airline companies and the end of expo boom (expo forum is a once per five years show event of the latest technologies in different sectors that attract numerous visitors and was held in Aichi prefecture in 2005). Furthermore, the appearance of imitator airports that followed Centrair's strategy has mitigated the attraction of the airport as an innovator. In addition, the stagnation in the airport's commercial activity has been deepened by the management's fail to continuously provide fresh and innovative ideas.

IMPLICATIONS

Despite the early success of innovative strategy adopted by Centrair airport to attract more consumers and increase revenue, the later fail and the dramatic fall down of airport users' number seems to be the consequence of the management miss-implementation of the strategy.

In fact when opening, Centrair fascinated consumers through series of innovative ideas. The existence of big shopping area and the abundance of leisure facilities in the airport were themselves central motif for Japanese consumers to visit the airport and discover its space. However, because the area around the airport is itself an attractive business place where giant shopping malls and entertainment complexes are multiple, the Japanese consumers has rapidly lose their motivation to explore the airport and to visit it again. Therefore Centrair's attractiveness was reduced and consequently non-aviation activities are no more significant contributors in the airport's revenues.

The shortage of continuous innovative ideas weakened the airport's competitive power. Nonetheless, other Japanese airports continue to attract people through a range of competitive service such as Kagoshima airport.

In fact, in order to win competition with Shinkansen, Kagoshima Airport carried out the first round of marketing actions non-directly related to aviation in 2001. The airport tried to set up multiple handicapped-free facilities, improved service level of shops and restaurants and held various interesting gatherings. In 2007, Kagoshima Airport carried out the second round of actions where more attention is paid to the promotion of entertainment activities. The main objective of the airport was to gradually enlarge targeted segment from passengers to common consumers (local residents). The airport succeeded in continuously attracting consumers with step-by-step innovative ideas.

The disparity between the two cases proves that maintaining sustainable financial incomes depends heavily on the airport management creative strategies. Competition with other airports and different form of transportation can not be won with a stagnant management style and conservative limited ideas.

CONCLUSION

Due to market liberalization, Japanese airports' managers have found themselves confronted with several challenges. The development of aviation industry and the extension of aviation network create a sharp competition between airports and make the existence of an airport in a wide region no longer a considerable advantage. Furthermore, the competition between aviation industry and other transportation industries seems to be causing the decrease of airports users (airlines and passengers) numbers. Japanese airports tried to face the financial problems and to increase their income by promoting new activities non-directly related to aviation industry. The accent is put on shopping and leisure activities. However such strategy could not sustain the success without a continuous flow of innovative idea.

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PERSPECTIVES FOR INNOVATION ECOSYSTEM DEVELOPMENT IN RUSSIA

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ABSTRACT

Topical problem, which many countries try to resolve, is creation of their National Innovation System (NIS). Whether this formation will help them to advance in innovation development and will it make them world leading states? A secret of the most innovative regions is not only successful NIS. They managed to create so-called Innovation Ecosystem (IE) – a kind of NIS, characterized by way of its emergence. So, the purpose of our research is revelation and systematization of the conditions, which let IE appear. We explore Silicon Valley as the best example of IE and then we will transmit the results to analyze and check the possibilities of IE growing in one of the Russian innovation-oriented regions – Tomsk.

INTRODUCTION

Nowadays, one of the most topical problems, faced at many countries is a link between science and business. Each state tries to resolve this problem in different ways. Some of them look for successful examples and then adopt them (France – Sophia Antipolis), others work out their own models (Finland). But still the recognized leader in the creation of highly-developed system of transaction innovation to practice is the USA (Silicon Valley and MIT).

The methods of state innovation policy usually are:

- development of special institutes, which provide regulatory functions;
- creation of innovative infrastructure;
- government works;
- coordination of educational and scientific activity by providing of financial procurement etc.

In general, states are looking for creation of their own national innovation system (NIS), after what to implement it on regional level (formation of regional innovation system-RIS). RIS fulfills the same functions as NIS, but its influence is limited by certain territory.

So it's obviously, that a state play very significant role in the sphere of innovation. That's why it's necessary to make regulation, monitoring and creation of the conditions for the development and commercialization of innovation, directed not only to internal market, but to the international level too. However, to reach such a result, it's obligatory to do much inside the country.

Though, in spite of the state's activity, if to consider real examples of great success, we will not make very long list of the such countries. That's why the question is: "What is the thrill appeal of successful NIS and RIS?" "Why some of them are attractive and the rest of them are not?"

So, the purposes of our research are:

1. Define and systematize special conditions, which make NIS or RIS attractive.
2. "Trying on Russia" the outlined requisites and make conclusions about the Russian perspectives.

THEORETICAL FRAMEWORK

At the beginning of our paper we'd like to consider some theoretical aspects about definitions and peculiarities of creation NIS and RIS. Several definitions of what NIS are presented in Wikipedia [source: http://en.wikipedia.org/wiki/Innovation_system]. We believe, that the best definitions are:

- “.. the network of institutions in the public and private sectors whose activities and interactions initiate, import, modify and diffuse new technologies.” [Freeman, 1987]
- “.. the elements and relationships which interact in the production, diffusion and use of new, and economically useful, knowledge ... and are either located within or rooted inside the borders of a nation state.” [Lundvall, 1992]
- “.. that set of distinct institutions which jointly and individually contribute to the development and diffusion of new technologies and which provides the framework within which governments form and implement policies to influence the innovation process. As such it is a system of interconnected institutions to create, store and transfer the knowledge, skills and artefacts which define new technologies.” [Metcalf, 1995]

The founder of the term “national innovation system” is C. Freeman. There are different approaches of how to create NIS. One of most famous conceptions of NIS is a “Triple Helix Model”, which is worked out and adopted in EU. It's a model of collaboration between business, universities and authorities.

Later idea of NIS was developed and transferred to regions and sectors. The actors of this system are enterprises, universities and research institutes. There several types of NIS: local, regional, technological and sectoral.

Basing on theoretical description and definitions of NIS, we must conclude that NIS (and its types) have two core characteristics: it is formal and is made according to “up-bottom” approach. What does it mean? It's a vertically oriented structure, where the state decides what measures it will choose to develop science and provide a link between science and business. Is it a good approach? Time will show it. We know definitely (and practice shows too) that horizontally oriented structures (like communities, networks etc) are more viable. That's why we think that only combination of vertical, horizontal and “bottom-up” approach will permit to appear a zone which will be attractive to many actors.

In the light of our discourse, we would like to appreciate whether NIS can respond to the pointed characteristics. We believe, that NIS is a state's will, where interests and preferences of the “bottom” can't be taken into account in full. That's why the best decision is a combination of all approaches listed above for growing a system of innovation. Improvement of such a system on the one hand will be unplanned, and on the other hand indirect conditions created by the state let it appear. The role of this system can fulfill innovation ecosystem (IE). Again, according to Wikipedia IE is a kind of NIS, which main characteristic is *ecological (unplanned) innovation environment*.

The best example of such a zone is Silicon Valley (SV). It's obviously that without state's help universities of the USA wouldn't have got opportunity to develop their R&D, to call investors for innovation's commercialization and in general to form innovation infrastructure. On the other hand, if there weren't special conditions which permit to grow environment for innovation the place wouldn't be so attractive.

So we think that a thrill appeal in such a zone's development is self-appearance, self-development of it's innovation ecosystem – informal community, where all the elements coexist and their lives are directed to the fulfillment of a certain purpose.

Why ecosystem?

We think that there are two principal reasons for using of this term. First one is the essence of such a system: ecosystem is “The whole system,... including not only the organism-complex, but also the whole complex of physical factors forming what we call the environment” [Tansley, 1935] or “Any unit (biosystem) which includes all organisms (biotic community) living in a certain territory and interact with physical environment. It makes a current of energy to create biotic structures and rotation of substances between living and nonliving components” [Yu.Odum, 1986].

So it's obviously, that IE alive and is subordinated to laws of natural ecosystems: emergence, development and death is itself.

Problem of “innovation ecology” was also reported by [Wulf WA, 2007], [Debernardy M., Boisgontier P., Goyet G., 1993]. In general, we would say that in spite of the long time of discussing, this problem is topical today too.

The second reason (it's also a consequence) is a crossing of different sciences and finding of common spheres of interests. Recently one of the scientific directions, named multidisciplinary approach has been developed very actively. According to this approach, using of categories, laws or language of one section of science can be

translated to many others not connected with the first one. The best examples are convergence of physics and philosophy, sociology and biology, economy and biology etc.

If to consider commonality of economy and biology, we should explore the papers of the next scholars: [Robert Ayres, 2004], [Van den Bergh, 2003]. Robert Ayres defined common and different features of biology and economy in general. Van den Bergh investigated problems of biological evolution: natural selection in concerning economy. The author made a conclusion that enterprise's development corresponds to organism's life, coexistence and competition.

Speaking about ecosystems, we need to outline the directions of this term's using in economy.

J.F.Moore offered the way of coexistence instead of competition in his works [J.F.Moore, 1997]. He wrote about the advantages of environment's creation for company's life. Customers, deliveries, and partners – all of them form community, which helps to firm development and distribution in the market. He also described four stages of business ecosystem evolution.

There are also digital ecosystems, product-oriented IE (complex of goods-complements). The last type of IE were studied in work of [R. U. Ayres, 2004], who considers IE as creation of innovative production's platform, included new item and its complements. Digital ecosystems were studied by [G. Briscoe, P. De Wilde, 2009]. They explain digital Ecosystems as “novel optimisation technique where the optimisation works at two levels: a first optimisation, migration of agents (representing services) which are distributed in a decentralised peer-to-peer network, operating continuously in time; this process feeds a second optimisation based on evolutionary computing that operates locally on single peers and is aimed at finding solutions to satisfy locally relevant constraints” [source: <http://arxiv.org/abs/0712.4102>].

In our opinion the approach which diverge special attention is cenosis approach, created by Russian scientific school headed by [B.Kudrin, 2008]. Cenosis (biocenosis) means range of plants, animals, microorganisms living in a certain territory and having special interrelation between each other and abiotic factors of environment [source: <http://slovari.yandex.ru/dict/bse/article/00008/62500.htm>]. The core idea of the cenosis approach is that biological diversity can be transmitted to technique. Moreover, the followers of this idea applied it to other sciences – sociology, economy, linguistic etc.

If to consider biology, cenosis and ecosystems are very close and similar terms. The difference between them is that ecosystem is not limited by certain territory and it includes conditions of existence. So term “ecosystem” is wider than term “biocenosis”. Let's see an example of such a difference, concerning innovation sphere.

Actually, if to consider SV, there are a lot of companies, which headquarters are situated in different places of the world and the most part of the staff is located outside SV. But conceptually, there are no huge contradictions between these two biological terms. That's why we think that it's reasonably to apply cenosis approach to investigation and resolving some problems in IE existence and development.

So, let us give definition of a term “IE” and then examine it in details. IE – is a self-organized system, where due to interaction between its elements directed to exchange of information, financial and other kinds of resources the aim of creation and commercialization of innovations and also sustainable development of present system is attained.

Basing on OECD recommendation about creation of NIS and research of [L.Kopeikina, 2008], [C.Freeman, 1987] we sorted out three levels of IE: State, Regional and Corporation levels [A.Yakovleva, 2009] Two of them are characterized by its core – company or University. As regard IE at national level, it's possible to consider it in two ways: as NIS and as a whole set of other IE (of lower levels) which belong to a concrete state. Usually scholars outline the next actors of IE: person who:

- produce innovation;
- finance promotion of new products, made using innovation;
- find ideas and “sponsors”;
- community, where it's possible to report new ideas, exchange them or put into practice.

These functions usually fulfilled by different actors, which structure depends on the level of IE. We believe, that it's more rationally to study IE of regional level, because providing their successful work is more complicated thing.

So we can classify IE according to two criteria:

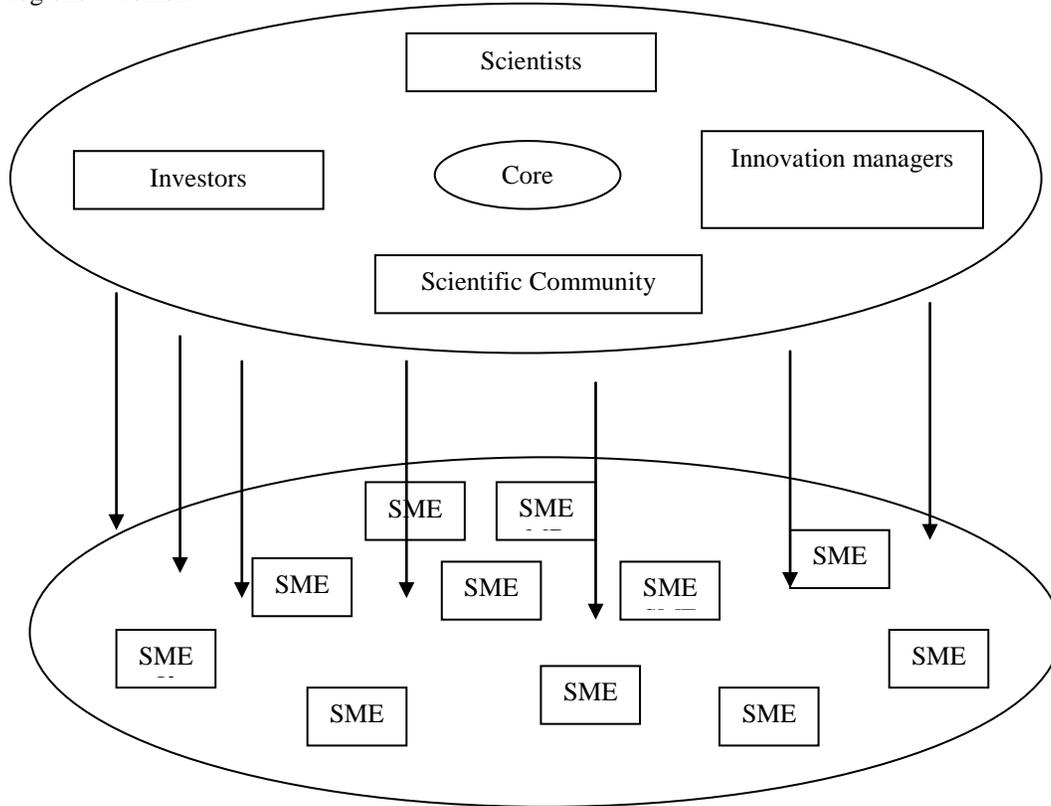
1. Level – national, regional, corporative.
2. Maturity – origin, youth, mature, death.

In our opinion the model of IE includes two types of elements: elements-conditions and elements-results (see fig.1).

Fig.1 Model of Innovation Ecosystem

If to speak about the prerequisites and conditions which let IE appear, we prefer to make their systematized analysis basing on investigation of a case study.

So here above we presented the complex of theoretical basis which provides understanding and reasonability of using term IE in economy, i.e. innovation sphere, and the perspective importance of this kind of innovation communities. Further, in case study we consider theoretical computations concerning IE of SV and one of Russian regions – Tomsk.



CASE STUDY

As an example of IE we study SV being. There are a lot of scholars, who explored this problem. But we'd like to consider this phenomena from the other point of view. SV responds to the principal characteristic which define the term "IE" – self-emergence. So, after investigation the papers written by different practitioners [P.Graham, 2006, 2009], [R.Isaak, 2008], [V.Kritov, 2008], Oganov [source: <http://lenta.ru/conf/oganov/>] we decided that it's necessary to make systematized list (using different criteria) of the conditions which can led to the IE growing (see first three columns of Table 1).

Table 1. Classification of conditions required for IE emergence

№	Group of classification	Conditions	Tomsk	Comments
1	Culture	• Openness	+	There is special intellectual climate: science and education are the most prestigious activity. Society is ready to develop innovation.
		• Equality, absence of elitism	+	
		• Moderate ambitions - absence of wish to become large company at once	+	
		• The main source of activity is the people	+	
		• Psychological stance – permanent search and creation	+	
		• Failure isn't the end of career	+	

		<ul style="list-style-type: none"> • Strategy “first to market” 	+	There some kinds of innovative production were created: nanotech powder materials, quantum-sensitive apparatus, scientific report on malaria, systems of cleaning sewage etc.
2	Hubs	<ul style="list-style-type: none"> • Large university 	+/-	There are three best universities of Tomsk. They are famous in Russia too, but not in the world
		<ul style="list-style-type: none"> • Research (techno) park 	+	Was founded in 1990
		<ul style="list-style-type: none"> • Nerd 	+	Special events are hold to find nerds (competitions, seminars etc)
		<ul style="list-style-type: none"> • Intellectual center for exchange of ideas, experience, leisure-time 	+	This function belongs to Center of corporate development.
		<ul style="list-style-type: none"> • Nets between hubs 	+/-	Wide network are under construction: universities try to make contacts with foreign and other Russian universities, companies, VC etc. As regards connections between alumni, now they are at a high level, because alumni are involved in business incubator creation
		<ul style="list-style-type: none"> • Best Venture Capitalist (VC) 	+/-	Mostly there are Russian
3	Political and economic situation	<ul style="list-style-type: none"> • Low level of bureaucracy 	+	Authorities are interested and directed to innovation development of the region, that's why in general they prefer not to do any obstacles. The way of information exchange is horizontal
		<ul style="list-style-type: none"> • Stability 	+	
		<ul style="list-style-type: none"> • Economic, legislative, social guarantee 	+/-	State programs of development territory, state strategy for development, programs and mechanisms for start-up support
		<ul style="list-style-type: none"> • Authority in the world 	-	
4	Financing	<ul style="list-style-type: none"> • “Sponsors”- organization which can provide financing 	+	State and VC investment
		<ul style="list-style-type: none"> • State support 	+	State financing programs, grants by state venture funds,
		<ul style="list-style-type: none"> • Alternative of different types in investor’s searching 	+/-	Investors from Slovenia, Vietnam, Israel, Germany, USA, Japan, Canada, South Korea etc
		<ul style="list-style-type: none"> • VC’s participation in start-up’s development 	+	Usually it's expressed in readiness to help in project promotion by older and more experienced colleagues (alumni)

5	Social-geographic location	• Good climate	-	Continental climate Average $t_{Jan} = -17,3C$ $t_{Jul} = 18,7C$
		• Geographic location	?	Siberian region which is remote from European part of Russia
		• Special kind of city – touristic, but not in mainstream, not glamorous; not with solid or traditional value, because nerd are a little “crazy”; there must be a developed attractive center etc.	-	Historically Tomsk is a city – science-oriented with population of 496519p.
		• Location within an hour's drive.	+/-	For local investors this condition is available
6	“Special people”	• VC	+/-	There local VC, state venture funds and some international (Intel)
		• Nerds	+	
		• A lot of young people	+	There are approximately twenty universities
7	Time	At least about 5 years – university can be created quickly, but it will take time to start new firms, because start-ups grow organically		Data of TP's foundation is 1990
8	Vanguard of progress	Searching the front of technological development	+	

Now we study the way of how these conditions can be transmitted in Russian area.

It's well-known that the core of SV is Stanford University and its research park. So, first of all we consider the status of research park (techno park - TP) in Russia. History of similar formations starts from 1960s with the creation of academic-towns near Moscow and Novosibirsk. But these structures were oriented only to defense industry. Today there are more than 800 TP [Butryumova N.N., Fiyaksel E.A., 2009]. Such a high quality of TP is explained by the deficiency of law. According to Russian legislation any trade net or office building, where companies which can take office are connected with innovation sphere, can be called TP. There are some specific features of TP work in Russia. Very often these structure's function is only a room to present. It means that companies which stay there have many preferences: lower taxation; less fees for accommodation and lease; accounting, business or judicial help etc. But they don't function as placement or centers where ideas born, transform and “boil”. As usually such points don't manage to draw investors or other scientists. In reality there are much less TPs in Russia. It's possible to speak about 80, but among them only approximately 30 are effective [source: <http://www.raexpert.ru/researches/technopark/part3/>]. On the fig.2 we present a map of Russia, where the cities where the most famous and successful TP are pointed.

History of Russian TP starts from 1990, when TP of Tomsk was created. Now it's one of the best TP in Russia. So we consider possibilities of innovation ecosystem emergence there. We will study two last columns of table 1, where it's shown what condition have just been revealed and comments to them. At the same time we will describe peculiarities of Tomsk innovation sphere.

As a result of the Priority National Project which was held in 2006-2008 three universities of Tomsk got financing for its development. They are TGU (Tomsk State University), TUSUR (Tomsk University of Management Systems and Radio electronics), TPU (Polytechnic University of Tomsk). So it let to embed new educational technologies and develop educational infrastructure: new labs, business incubators, scientific centers etc. Thanks to this program, fifty three new firms emerged and entered in so-called “innovation zone” of organizations situated in Tomsk. Important, that these enterprises weren't created as a state's will. Originally it was universities incubator's plan, which after getting resources was fulfilled. Projects of Tomsk universities are integrated in all level of education: colleges and schools and also they are distributed to the scientific organizations.

Fig.2. Location of Russian TP



New programs of the universities permitted to attract students not only from Russia, but foreigners too. Business incubators helped to involve students and investors in joint collaboration. Speaking about people who enters different technological departments of universities, it's remarkable that in 2007 competition doubled. It's very good indicator, because recently, there have been common tend in Russia to learn economy or law.

We should say that in spite of high level of all three universities mentioned above, an absolute leader is TUSUR. There are a lot of events dedicated advanced training of professors and staff; selection of nerds for participation in universities innovation projects; distance learning of pupils; exchange professors program, invitation foreign teachers etc. It's obviously that much attention is paid to human capital.

Big steps were also made in the direction of keeping and development of corporate culture. Partly it was expressed in involvement of alumni (who had created their own companies) to creation of business incubator. These people were attracted to transmit their experience to younger colleagues. Not long ago alumni were students too, so it wasn't very complicated to find common language with the beginners. The formula of relationship "leader- subservient" doesn't work in these circumstances. Trust, respect are the best way to collaborate. Recommendation about educational process or interconnections between departments, incubator etc. – all are hotline submitted. So in general, association of alumni is a custodian of history and corporative culture, which influences on educational, scientific, business aspects of interconnection between university, science and business.

It's remarkable that special system of attracting experienced and well-to-do people was organized. It's called system of "double citizenship". Chiefs of companies can finance various directions of university activities and in return for it to become a member of some university structures (councils) or can use brand of the university.

The interaction between enterprises of business incubator and students let the last to promote their projects, receive practical material for writing diploma and dissertations. Simultaneously business gets opportunity to search nerds. And in general it leads to appearance of new scientific topics. One of the most successful projects is STS "Simple Trade Solutions" was invited by Intel to present Russia on the competition IBTEC-2008 at University of California (Berkeley) investment conference "Silicon Valley Open Doors".

Development of IE in TUSUR is also expressed in participation not only professors, but firm's staff in conferences, seminars and academic process of university.

There are a lot of other facts, which can confirm process of IE appearance, however the principal of them were reported. So to conclude, development of special culture, scheme of interconnections between authorities, departments of university, professors, students and staff are a kind of horizontal system of self-government and direct expression of innovation ecosystem emergence.

RESULTS & CONCLUSIONS

As a result of current research we consider summary of our analysis and recommendations for the revelation and systematization of the conditions which provide IE emergence and how these prerequisites can be followed in Russia. We found out that the region of Tomsk responds to almost all the requirements. So here we present a list of the conclusions, which was made during the analysis:

1. There is lack of theoretical basis, which explains definition and essence of the term “IE”. Usually IE is considered as NIS. However two these terms are not equal. The difference is in the approaches to these systems creation: NIS is a result of “up-bottom” decision and IE is self-emerged. There is also no description of classification groups, systematized conditions of IE appearance. So our contribution is generalization of theoretical approaches to this category and defining of what IE is, its types and its model.
2. Because of underdevelopment of theoretical aspects of IE, ecosystems in economy are considered only as networks for collaboration or systems of products-complements for innovative production. There is mention of digital ecosystems too. So we believe, that it’s necessary to supplement idea of ecosystems in economy, particularly in innovation sphere by the development of this scientific direction, because nowadays problem of growing an effective system of knowledge transfer is very topical.
3. We systemized conditions which are necessary for IE emergence and grouped them in eight categories: Culture, Hubs, Political and economic situation, Financing, Social-geographic location, “Special people”, Time, Vanguard of progress. This investigation was made basing on analysis of Silicon Valley being, because it’s an excellent example of IE. So, in our opinion, for the future research it can be used as an ideal pattern, because it already has rather long story, statistical basis and can be partly formalized and systematized.
4. Using offered classification we explored whether Russian region Tomsk corresponds to outlined conditions. We found out that almost all the prerequisites are fulfilled in this zone. One interesting fact, which we revealed during research is that Silicon Valley and Tomsk have opposite geographic and climate conditions. There is very comfortable weather in Silicon Valley. At the same time Tomsk is situated in Siberia, but it doesn’t disturb to develop IE. So, may be it’s not so significant factor of what place to choose? Course it’s important, but still, there are a lot of other indicators which influence this process more. Among them is “Hubs”. As we see from the table 1, this condition isn’t followed in full. It’s a hard work to attract “the best people” (nerds, VC), to transform the core of IE to magnet and to make the region famous and prosper for innovation development. It will take time, money and wish to become a leader. So we think that the analysis which we made can be useful for the regions which are looking for creation or improvement of their IE and in general for extension of the links between science and business.

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AN INVESTIGATION ON THE PLACE AND IMPORTANCE OF TOTAL QUALITY IN SPORTS MANAGEMENT

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ABSTRACT

Within today's commercial conditions where sports is a political and economic power and the management strategies are effective on each step of competitive markets and free market economies, the sports foundations and institutions aim at using their management strategies in the most productive way in order to improve their productivity and effectiveness on the public. Total Quality Management in recent years has had a strong influence on providing at institutional development identity and system management works and producing positive effects on several managerial steps. Same as in the global world, phenomenon of sports has become an economic sector in our country and with its managerial diversities; it has become a field directed by sports managers. Total Quality Applications which can be used in a wide-ranged field including sports, economics, health, and management have particularly become an important cornerstone during the managerial process. As part of planning, application, control, and correction strategies, Total Quality Management facilitates realizing the managerial activities of institutions. In this thesis, a study has been done on the sports managers' views on Total Quality Management within the range of sports foundations and institutions in the province of Antalya and a survey is conducted among one hundred people in Antalya. By means of the questionnaire, the most important part of the study, demographical structural and phenomenon. Profiles of sports managers have been obtained. To get their views on the subject data of the survey have been used. According to their demographic features, it's been studied how the Total Quality Application effect the management process.

INTRODUCTION

Double or quits, sports clubs are service enterprises and market service. Services consist of activities and operations, they cannot be tested before being bought or consumed also they may be composed of a series of sub services (PARASUMAN, VALARIE and LEONARD, 1985). While the consumers evaluate the service as a whole, service quality materializes direct promotion to the expectation of consumer which he made upon total quality. In fact service quality can be analyzed in two titles: the dimensions about the workers and the dimensions about the organization climate. In this context, employees' personal characteristics' compatibility to the service is fairly important. Another important point about employees is their work abilities. Employees' having basic information and abilities that the work requires should be furnished. This information's will also affect the employees' way and attribute of connecting to the people (MASAAKI, 1999). How the employees understand the concept and exercises of the establishment is also very important for establishment to get the quality. Because employees must feel that the necessary support is being supplied for them to be satisfied from work and their success (MCDONALD, 1997). These dimensions about employees, human resources management views and exercises of establishments are directly related to the effects on the employees. These effects will reflect to the costumers through the employees' attitudes and behaviors and will affect costumer's

satisfaction (TENNER and IRWING, 1992). In this case the dates of this study which was made with sports managers to enlighten the actions of our establishments which want to get certificate will be helpful in our country which can be counted as inexperienced in quality exercises yet.

EVALUATION AND ANALYSIS OF THE STUDY

It was determined that 38,6 % of the sport managers who participated in the survey was women and 61,4 % was men, and 54,3 % of the participants worked for the public sector whereas 45,7 % worked for private sector. According to management status distribution, it was observed that 58,6 % was a middle level manager and 30 % was an upper level manager. On the other hand, it was found that 64,3 % of the sport managers who participated in the study was younger than 35 years old. With regard to sport managers' education levels, it was found that 51,4 % of the participants was a university graduate, 44,3 % middle school graduate and 4,3 % postgraduate. These figures specify that more than half of the managers who work in our province had a higher education level.

According to Sport managers' income levels, it was determined that 57,1 % of the participants' monthly income was between YTL 500 and 1.000 YTL and 28,6% was between YTL 1.001 and YTL 1.500, 12,9 % was between YTL 1.501 and YTL 2.000, 1,4 % was YTL 2.500 and over.

When the managers were asked if the quality management system is applied to the establishments where they work, it was found that 70 % of these establishments did not carry out such a system. According to this result, it was concluded that the total quality management was not applied to the majority of the sport clubs existing in our province. When trying to inquire if they had any knowledge about the quality system, 78,6 % had some knowledge and 21,4 % did not have any information about the quality system.

When the managers were asked if they were ready for a quality-based change, it was determined that while 87,1 % of the participants felt ready, 12,9 % were not ready for such a change. For the education on quality, 67,1 % indicated the necessity of education and 32,8 % did not find it necessary. On the other hand, it was found that only 38,6 % of the participants had been attending the meetings and seminars about the quality.

Eighty percent of the participants accepted the work oriented management, however 20 % did not accept it and it was found that upper managers provided only 25,7 % of the contribution needed for the employees' development. Therefore, 25,7 % of the sport managers who took part in this survey argued that they were in line with the mission and vision values of their establishment and 34,3 % found the policies and service strategies of their establishment enough. The participants found that the knowledge accumulations and perfection of their work mate were enough about 31,4% of the time and with regard to the appreciation of the work according to their performance, 25,7 % expressed positive views.

54,3 % of the participants attached importance to the teamwork of their establishment, but 35,7 % did not think that this is important. It was revealed that 48,6 % of the establishments at which the participants work was not enough in terms of the development of knowledge accumulations. When examining if the sport managers join the administration of their establishment, it was found that 55,7 % of them has never participated in the administrative duties. On the other hand, 48,6 % positive response was received when they were asked if their need for communication was met or not.

The proportion of establishments which follow the technological developments was 47,1 % according to the participants. Such establishments were found to be successful in terms of the use of technological developments and knowledge accumulations by 57,1 % of the participants. With regard to the building rigging and the appropriate use of all kind of materials, 50 % positive response was obtained. The proportion of the participants who fairly benefited from the opportunities of their establishments provided with fee or free of charge was 27,1 %.

In terms of levels of the determination of long-term administration strategies implemented by the managers of the participants, 57,2 % of the managers was successful. It was determined that 58,5 % of the managers was successful regarding the mission and vision values at their establishments. The participants who took part in the survey expressed that the level of their manager's standard of knowledge was enough at 57,2 %. The level of manager's experience and the level of manager's ability for planning, application and control were found to be 71,4 % and 58,6 %, respectively, by the participants.

Table 1. Participants knowledge about quality system by gender (%)

Sector	Gender	Yes	No	Total

Public	Female	86,7	13,3	100,0
	Male	56,5	43,5	100,0
Private	Female	100,0	-	100,0
	Male	82,4	17,6	100,0

When investigated if the participants had any knowledge about the quality system by gender, it was determined that 100 % of the women working at private sector had information about the subject, however, 86,7 % of their counterpart working for public sector had the knowledge, and these proportions for the male managers were 82,4 % and 56,5 % for the private and public sector, respectively. In this sense, female sport managers working at the public sector sport establishments in our province stated that their establishments were not sufficient in terms of the harmony of the vision, mission, principle, and values.

Table 2. Quality based Change and Renovation Willingness of Participants by Gender (%)

Sector	Gender	Yes	No	Total
Public	Female	100,0	-	100,0
	Male	78,3	21,7	100,0
Private	Female	80,0	20,0	100,0
	Male	94,1	5,9	100,0

When we tried to examine the levels of feeling themselves ready for a quality-based change by gender of the participants who work for public and private sector, it was determined that 80 % of the women working at private sector felt themselves ready, on the other hand, 100 % of their counterpart working for public sector was ready, and the figures for the male managers were 94,1 % and 78,3 % for the private and public sector, respectively.

Table3. Agreement with harmony of vision, mission, principle, and values of establishments (%)

Sector	Gender	Agree	Undecided	Disagree	Total
Public	Female	6,7	13,3	80,0	100,0
	Male	21,7	56,5	21,7	100,0
	Total	15,8	39,5	44,7	100,0
Private	Female	60,0	40,0	-	100,0
	Male	52,9	29,4	17,7	100,0
	Total	54,5	31,8	13,6	100,0

When asked if the vision, mission, principle, and values determined by the establishments where the participants work are in harmony, it was revealed that only 6,7 % of the females working at public sector was in favor of this, however, 60 % of their counterpart working for private sector was in favor, 52,9 % of the male managers working at public sector was in favor, 21,7 % of their counterpart working for public sector was positive. In this sense, female sport managers working at the public sector sport establishments in our province stated that their establishments were not sufficient in terms of the harmony of the vision, mission, principle, and values.

Table 4. Sufficiency of fundamental policies and service strategies of establishments based on participants' gender (%)

Sector	Gender	Agree	Undecided	Disagree	Total
Public	Female	-	13,3	86,7	100,0
	Male	34,8	47,8	17,4	100,0
	Total	21,1	34,2	44,7	100,0
Private	Female	60,0	40,0	-	100,0
	Male	76,5	5,9	17,6	100,0
	Total	72,7	13,6	13,6	100,0

The success rates for the sufficiency of fundamental policies and service strategies implemented in the establishments were 86,7 % and 60 % for the women working at public sector and private sector, respectively. 76,5 % of the male managers working for the private sector expressed positive opinion and this proportion was 34,8 % for the male managers working at public sector. According to this result, fundamental policies and

service strategies implemented in their establishments were regarded as more sufficient by the participants working at private sector than the public sector.

Table 5. Sufficiency rate of participation to management of establishments based on participants' gender (%)

Sector	Gender	Agree	Undecided	Disagree	Total
Public	Female	-	6,7	93,3	100,0
	Male	26,1	26,1	47,8	100,0
	Total	15,8	18,4	65,8	100,0
Private	Female	60,0	20,0	20,0	100,0
	Male	52,9	17,6	29,4	100,0
	Total	54,5	18,2	27,3	100,0

According to the results of the survey, 93,3 % of the women working at public sector did not find the participation into the administration sufficient, however, 60 % of their counterpart working for private sector found it sufficient. On the other hand, 52,9 % of the male managers working at private sector found the participation enough, but only 26,1 % of the male managers working at public sector found it enough. As a result, while sport managers at private sector were getting involved more in the administration of their establishments, the involvement of those who work at public sector is much less. Moreover, especially most of the women sport managers working at public sector had no saying in the administration.

Table 6. Knowledge level about quality system based on participants' education level (%)

Sector	Education	Yes	No	Total
Public	Secondary Education	47,1	52,9	100,0
	Higher Education	85,7	14,3	100,0
	Total	68,4	31,6	100,0
Private	Secondary Education	83,3	16,7	100,0
	Higher Education	87,5	12,5	100,0
	Total	86,4	13,6	100,0

When compared if the participants had the knowledge about the quality system according to their education level, 87,5 % of the participants who work at private sector with at least a university degree had the knowledge about the matter, 83,3 % of the participants who work at private sector with a high school degree or less had the opinion about the subject, on the other hand, 85,7 % of the participants who work at public sector with at least a university degree had the knowledge about the matter, 47,1 % of the participants who work at public sector with a middle school degree had the knowledge. In this sense, it appears that the seminars on total quality carried out in the private sector have been useful and effective.

Table 7. Sufficiency rate of participation to management of establishments based on participants' education level (%)

Sector	Education	Agree	Undecided	Disagree	Total
Public	Secondary Education	17,6	29,4	52,9	100,0
	Higher Education	14,3	9,5	76,2	100,0
	Total	15,8	18,4	65,8	100,0
Private	Secondary Education	66,7	16,7	16,7	100,0
	Higher Education	50,0	18,8	31,3	100,0
	Total	54,5	18,2	27,3	100,0

When we examine the level of participant's involvement in the administration of their establishments according to the education level, it was determined that the proportions were 14,3 % and 17,6 % for the participants working at public sector with at least a university degree and for their counterpart with a high school degree or less, respectively. Furthermore, these proportions were 50 % and 66,7 % for the participants working at private sector with at least a university degree and for their counterpart with a high school degree or less,

respectively. The sufficiency of level of private sector employee's involvement in the administration of their establishments was much higher than the public sector.

Table 8. Knowledge level about quality system based on participants' status (%)

Sector	Status	Yes	No	Total
Public	Upper Level	75,0	25,0	100,0
	Middle Level	69,2	30,8	100,0
	Total	70,0	30,0	100,0
Private	Upper Level	100,0	-	100,0
	Middle Level	70,0	30,0	100,0
	Total	86,4	13,6	100,0

When examined if the public and private sector employees who took part in the survey had any knowledge about any kind of quality system according to their status, it was found that 75 % of the upper-level public employees and 69,2 % of middle-level public employees had some knowledge. However, 100 % of the upper-level private sector employees and 70 % of middle-level private sector employees had the required knowledge.

Table 9. Need for total quality management education based on participants' status (%)

Sector	Status	Yes	No	Total
Public	Upper Level	75,0	25,0	100,0
	Middle Level	92,3	7,7	100,0
	Total	90,0	10,0	100,0
Private	Upper Level	25,0	75,0	100,0
	Middle Level	70,0	30,0	100,0
	Total	45,5	54,5	100,0

When examined if the public and private sector employees who took part in the survey required training on the total quality management according to their status, it was found that 75 % of the upper-level public sector employees and 92,3 % of middle-level public sector employees required training. However, 25 % of the upper-level private sector employees and 70 % of middle-level private sector employees needed training. This significant difference between the upper-level public and private sector employees proved that there is an urgent need for a training of the public sector employees in service on the total quality management.

Table 10. Participation to management of establishments based on participants' status (%)

Sector	Status	Agree	Undecided	Disagree	Total
Public	Upper Level	25,0	25,0	50,0	100,0
	Middle Level	3,8	7,7	88,5	100,0
	Total	6,7	10,0	83,3	100,0
Private	Upper Level	83,3	16,7	-	100,0
	Middle Level	20,0	20,0	60,0	100,0
	Total	54,5	18,2	27,3	100,0

When we examine the sufficiency of participant's involvement in the administration of their establishments according to their status, it was determined that 25 % of the upper-level public sector employees and 3,8 % of the middle-level public sector employees found it sufficient. On the other hand, 83,3 % of the upper-level private sector employees and 20 % of the middle-level private sector employees found it sufficient. There is a positive correlation between the status and the involvement of the public and private sector sport managers in the administration.

Table 11. Agreement with harmony of vision, mission, principle, and values of establishments based on participants' status (%)

Sector	Status	Agree	Undecided	Disagree	Total
Public	Upper Level	50,0	50,0	-	100,0
	Middle Level	11,5	23,1	65,4	100,0
	Total	16,7	26,7	56,7	100,0

Private	Upper Level	75,0	25,0	-	100,0
	Middle Level	30,0	40,0	30,0	100,0
	Total	54,5	31,8	13,6	100,0

When compared the harmony of the vision, mission, principle, and values determined by the participants establishments according to the status of the public and private sector employees, it was revealed that 50 % of the upper-level public sector employees and 11,5 % of the middle-level public sector employees found it sufficient. 75 % of the upper-level private sector employees and 30 % of the middle-level public sector employees found it sufficient. From these results, it was determined that both upper-level public and private sector employees conceived the harmony of the vision, mission, principle, and values determined by the establishments differently than the middle-level employees.

Table 12. Fairly benefiting from the opportunities with fee or free of charge of establishments based on participants's status (%)

Sector	Status	Agree	Undecided	Disagree	Total
Public	Upper Level	25,0	25,0	50,0	100,0
	Middle Level	-	15,4	84,6	100,0
	Total	3,3	16,7	80,0	100,0
Private	Upper Level	66,7	16,7	16,7	100,0
	Middle Level	20,0	20,0	60,0	100,0
	Total	45,5	18,2	36,4	100,0

The proportions of the participants fairly benefiting from the opportunities of their establishments provided with fee or free of charge were determined according to their status. 50 % of the upper-level public sector employees and 84,6 % of the middle-level public sector employees thought that it is not sufficient and 15,4 % of them were undecided. On the other hand, 66,7 % of the upper-level private sector employees and 60 % of the middle-level private sector employees were found to be insufficient. As a result, the private sector managers were luckier than the public sector managers in terms of the salary.

RESULT

In this study, it was found out that the quality management system has not been applied in most of the establishments where the sport managers work, on the other had, it was determined that almost all of the public and private sector employees felt ready for a quality based change and innovation by gender. While more than half of the sport managers in Antalya region had a higher education level, those working at the private sector had much higher salary. Consequently, the private sector managers were more pleased with their salary than the public sector managers. The private sector employees were more advanced in terms of the salary, involvement in the administration, determination and application of strategies, use of riggings, access of the new technologies and being productive to their establishments than their counterparts working in the public sector. According to the results of this research, the private sector managers got more involved in the administration of their establishments than the public sector employees. In addition, it was revealed that most of the female sport managers had no effect on the administration especially in the public sector. In this sense, the female sport managers working at public sector stated that their establishments were not sufficient in terms of the harmony of the vision, mission, principle, and values. In fact, while most of the participants thought that their establishments were not sufficient in terms of fundamental policies and service strategies implemented in their establishments, it was determined that especially the female sport managers were more open to the innovations and the choice service marketing than their male counterparts.

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THE ROLE AND IMPORTANCE OF SPONSORSHIP OVER CONSUMER BEHAVIOR

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ABSTRACT

Companies are aim to practice means of organizational communications efficiency to influence advertising, marketing and public relations efficiency and offensive spending on competitive and broad marketing that valid fair business practice. In recent years, inter means of organizational communications sponsorship which provides corporate image and product on effective awareness on consumers/mass has extremely large effective field to bring companies in the foreground against other rival companies.

Such as world-wide organizations "sport fact" has just become an "industry" in our country and together with diversity of financial resources, "sport industry" has become a field in which not only sport fans but also companies show an interest. Acquiring large application field like sport, culture, social activities science, sponsorship practice has took a large place especially in sport field. Because of sport industry reach the consumers easily, has effective place on mass; companies taking a place in sport organizations with advertising, marketing and public relations practices. The reason of sport sponsorship practice which has become a part of promotion comparing, creating brand and corporate image and promoting strategies, accomplish companies civil involvement activities and create impression of choice of their own products.

In this thesis, part and effect of sport sponsorship practice applied nation-wide, searched thoroughly in Antalya urban area. The place and importance of sport sponsorship in our country, legal measures made for incentives has analyzed has been taken a poll 432 consumers in Antalya urban area. With this marketing survey, demographical, structural and fact characteristic of consumers has profiled and put forth part and effect of sport sponsorship on consumers for consideration.

INTRODUCTION

While sponsorship means support, patronage, bail or to support, to patronize or to bail, it has been defined as "to relieve aids, such as money, equipment, personnel and data aids done just as a charity without regarding commercial gains and returns, to persons or organizations in cultural and social fields."

Sleight, however, has described sponsorship as providing various funds, by a corporation in order to acquire commercial acquisitions or advertising advantages, to persons or organizations who demand sponsorship. Thus, since sponsorship is a significant factor for corporations in reaching their corporate goals (image development, social responsibility, awareness), marketing goals (sales attempts, reaching marketing goals, promotion), media goals (creating awareness, creating mass, increasing advertising campaigns) and personal goals (management interests), it is a means of communication frequently preferred by corporations today.

As Shank sponsorship is preferable for the firms not only it works as substitution function in the case of restriction of advertisement but also because of advertisement expenses increased rapidly and getting result in the long run, in the light of cost and benefits.

Success of a sponsorship is result of orderly communication work and an optimal sponsorship plan. While preparing the sponsorship plan, one of the most important points is to choose the type of the sponsorship.

Sponsor firm can choose one or more subjects including culture, sports, art, social, adventure-journey, also according to sponsorship's budget main, secondary, special or name sponsorships can be chosen.

SPORTS SPONSORSHIP

Although the most intensive sponsorship subjects are sports, music, culture-art, education and healthy in the world, if the subject is sponsorship the first reminded sponsorship is sports sponsorship that have the biggest budget.(Mc Donald,1991).Thus life conditions getting easy owing to developed technology made people find a special time and created possibility to join reactive activities. Due to address to the mass, show variety for the viewer, intelligible for whole people, sports is the most important fund for companies and firms wanted to introduce their service and products.

Another factor making sports sponsorship charm is sports activities take part on mass media. If it is considered that sport is a whole bunch of activities that includes different types of events, to reach the viewers of each event will be easier by sponsorship. Another important factor is that the firms that are sponsors for the sports activities have two different types of consumer group. The first group of these potential consumers is viewer and fans, the second group are sportsmen and players themselves. In this context while sports sponsorship promotes the activities and organization without breaking the harmony and disrupting the viewer; being a fan and psychology of support a team, which come from the root of sports, is described as a very important factor that impresses the consumer's behaviors (Etzel and ect., 2005).

On the other hand organizing the sports activities by the sides that are being sponsored, has become more and more expensive by the day. In this case committees and boards of related originations have to work with sponsor firms to overcome the organization cost.

Although sports sponsorship still has a large budget and is the most chosen type of sponsorship due to its effects (Brooks, 1994), it is necessary to observe its activity. Especially by the side of the sponsor firm, it is extremely important if the expectations of the sponsorship activities are actualized or not. In this way, mistakes that are done during the sponsorship plan and process can be noticed and informative knowledge can be acquired for other sponsorship activities.

Accounting of sponsorship however, is being done by the aid of various researching techniques. These researching techniques can be asking question, making observation or public survey. Furthermore by the tests being done before, during and after the sponsorship activity, it is tried to evaluate the situation, attitude, care and attention to the organization and the sponsor firms of the target audience,

In this study by survey method among the researching techniques, it is tried to measure the effect of the sports sponsorship upon the consumer's behaviors.

Table 1. Distribution of Consumers According To Their Age Groups

Age groups	Number	Percentage %
<20	106	24,5
20-24	96	22,2
25-29	89	20,6
30-39	60	13,9
40-54	57	13,2
55 +	24	5,6
Total	432	100,0

Majority of the groups consists of the <20 age group (24,5 %) in the questionnaire of the role and effect of sport sponsorship over consumer behavior in the urban of Antalya 56,5 % of 432 participants of the questionnaire are female.

Table 2. Distribution of the Consumers According To Their Gender

Gender	Number	Percentage %
Female	244	56,5
Male	188	43,5
Total	432	100,0

Table 3. Distribution of Consumers According to Their Education Levels

Education Level	Number	Percentage %
Can read and write	8	1,9
Elementary	59	13,7
High school	160	37,0
College	205	47,5
Total	432	100,0

Majority of the groups consist of college students and graduates with the rate of 47,5 % and of which 21,3 % of this group are the officers.

Table 4. Distribution of Consumers According to the Sport Branch They Interested In

Branch of sport	Number	Percentage %
Football	120	27,8
Basketball	24	5,6
Volleyball	24	5,6
Swimming	20	4,6
Ski	24	5,6
Fitness	24	5,6
Motor Sports	40	9,3
Racket Sports	28	6,5
Don't interest in	20	4,6
Other	24	5,6
Walking	80	18,5
Handball	4	,9
Total	432	100,0

The city of Antalya, which has a major role in world tourism with its climatic and natural beauties, has welcomed many sport organizations both on national and international level. Considering the fact that main group is consisting of young population, it is an expected result of this study that football has the highest rate of interest (28,7 %) among all these organizations.

Table 5. Distribution of Consumers According to Their Watching of the Sport Organizations They Interested In

Watching of organizations	Number	Percentage %
Yes	156	36,1
No	72	16,7
Spare time	196	45,4
Total	424	98,1
Lost value	8	1,9
	432	100,0

The rate of the consumers watching sport organizations which they interested in is parallel to the rate of the officers in the main group. With the number of 196 person and rate of 45,1 % most of the participants are officers, working individuals, and they can watch only when they have time.

Table 6. Distribution of Financial Sources According To Consumers

Financial Sources	Number	Percentage %
Budget of related club	68	15,7
General Management of Sports and Youth (GSGM)	21	4,9
Ministry that responsible of sports	12	2,8
Federation Budget	42	9,7

Sponsors	212	49,1
No Idea	77	17,8
Total	432	100,0

42,1 % of the participants have the habit of reading daily newspaper and 55,8 % of them have the habit of using internet. Because of the value for being news, sport organizations and sponsorship works are seen very often in the mass communications media, referring to this “thinking of participants with the rate of 49,1 % that financial source of sport organizations is sponsors” is another expected result of this study. 47,2 % of the consumers think of sponsorships as advertising activities of the companies.

Table 7. Distribution of the Most Sponsored Fields According To the Consumers

Fields that sponsored	Number	Percentage %
Sport	280	64,8
Art-Cultural activities	36	8,3
TV Programs	48	11,1
Education	4	,9
Adventure-Travel	4	,9
Science	20	4,6
Soap opera	40	9,3
Total	432	100,0

Like the studies carried out all around the world, 64,8 % of the people living in the urban of Antalya thinks that sport is the most sponsored field. Sponsorships for soap operas on TV which rarely seen in local and foreign publishing’s is considered as 9,3 % and sponsorships for scientific fields is considered as 4,6 % by the consumers of the city of Antalya.

Table 8. Distribution of Preference of the Sponsors Products by the Consumers Whether On Purpose or Not

Preference	Number	Percentage %
Yes	244	56,5
No	188	43,5
Total	432	100,0

When the effects of the sponsorship activities on the consumers shopping behavior is questioned, 244 out of 432 person with a majority rate of 56,5 % has declared that they especially prefer the sponsors product.

Table 9. Distribution Of Cause For The Consumers Not Preferring The Sponsors Products

Not preferring	Number	Percentage %
To contribute sponsorship activities	75	17,4
Because supports a person or a team i like	124	28,7
Trusting the quality of Sponsor companies’ products	41	9,5
Total	240	55,6
Lost Value	192	44,4
	432	100,0

124 out of 244 person with a rate of 28,7 % is preferring the products of the sponsors in order to support the person or organization they like. Consequently most of the consumers in the urban of Antalya prefer the products of the sponsor companies in order to support the person or organization they like.

As a conclusion; despite the fact that most of the consumers think of sponsorship as an advertising activity, because of identifying themselves with the person or organization they like they prefer the products of the sponsors as a support. With another saying; consumers in the urban of Antalya think of sponsorship as a supporting activity as much as they think of it as an advertising activity and their behavior of buying shows itself as buying the sponsor companies’ product in a supportive manner.

Table 10. Distribution of the Consumers According to Being A Sport Team Supporter or Not

Supporter of a sport team	Number	Percentage %
Yes	318	73,6
No	56	13,0
Only national team	56	13,0
Total	430	99,5
Lost Value	2	,5

73,6 % of the consumers in the urban of Antalya supports a sport team, 13 % of them supports only national team. So it means that 86,6 % of the consumers in the urban of Antalya is a group of team supporter. 52,8 % of this supporter group declared that sponsorship activity helps to the success of their teams.

Table 11. Distribution of Consumers According to Whether Buying the Products of Sponsor Company of the Team They Support or Not

Preferring	Number	Percentage %
Yes I prefer it especially	144	33,3
No I don't care	288	66,7
Total	432	100,0

But 288 out of 432 person with the rate of 66,7 % has declared that they especially didn't prefer the products of the sponsor company of the team which they support. Considering the 23,1 % of the participants of questionnaire has a level of 451-650 YTL and 651-850 YTL income with 100 person in each category and the economical conditions in our country, it is evaluated as a natural result that most of the consumers are not especially preferring the products of sponsor company of the team they support.

Table 12. Distribution of the Three Products of Sport Sponsors Those Consumers Bought Last One Year

Product 1.	Number	Percentage %	Product 2.	Number	Percentage %	Product 3.	Number	Percentage %
Adidas	32	7,4	Adidas	24	5,6	Adidas	28	6,5
Avea	24	5,6	Avea	60	13,9	Arena	4	,9
BJK Form	4	,9	Bonuscar	4	,9	Atasay	4	,9
BP	8	1,9	Carsi	1	,2	Avea	16	3,7
Carlsber	4	,9	Cocacola	52	12,0	Blendax	4	,9
Cocacola	68	15,7	Colaturk	16	3,7	Bonuscar	4	,9
Colaturk	4	,9	Colgate	4	,9	Cocacola	96	22,2
Digiturk	4	,9	Efes	59	13,7	Digiturk	4	,9
Efes	67	15,5	Fanta	8	1,9	Efes	48	11,1
Maxwelho	4	,9	Ford	4	,9	Eti	4	,9
Nestle	4	,9	Lescon	4	,9	Ford	8	1,9
Nike	56	13,0	Linea	4	,9	Goretex	4	,9
Nivea	12	2,8	Lipton	8	1,9	Hurriyet	12	2,8
Omo	4	,9	Marlboro	12	2,8	Igs	4	,9
Orkid	24	5,6	Merinos	4	,9	Marks&Sp	4	,9
Powerade	4	,9	Nescafe	12	2,8	Marlboro	24	5,6
Puma	44	10,2	Nestea	4	,9	Nescafe	4	,9
Reebook	8	1,9	Nike	32	7,4	Nike	48	11,1
Rossigno	12	2,8	Omo	12	2,8	Nivea	4	,9
Taclinen	4	,9	Orkid	12	2,8	Nokia	4	,9
Tuborg	4	,9	Pepsi	4	,9	Omo	4	,9
Turkcell	8	1,9	Petrolof	4	,9	Orkid	4	,9
Ulker	8	1,9	Powerade	4	,9	Petrolof	20	4,6

Vestel	4	,9	Puma	16	3,7	Puma	8	1,9
W.V.	4	,9	Quiksilv	4	,9	Reebok	4	,9
Winston	12	2,8	Salomon	4	,9	Sarar	4	,9
Total	432	100,0	Sarar	12	2,8	Select	4	,9
			Sonyeric	4	,9	Teva	4	,9
			Turkcell	8	1,9	Tuborg	4	,9
			Ulker	4	,9	Turkcell	4	,9
			Vestel	8	1,9	Ulker	28	6,5
			Vileda	12	2,8	Vestel	4	,9
			Vitra	4	,9	West	4	,9
			Wilson	4	,9	Total	432	100,0
			Winston	4	,9			
			Total	432	100,0			

Another result of this study is the common group of three products of sport sponsors bought by the consumers in last one year consists of sport team sponsor companies. Among those products the most important companies which sponsor sport are Adidas, Coca Cola, Efes Pilsen, Puma, Avea, Nike, Petrol Ofisi ve Turkcell. Not only with the sponsorship activities but also being considered as a trustworthy trademark, these trademarks and products take their place in the result of this study for being bought by the consumers in the urban of Antalya because of their sport sponsorship property.

Table 13. Distribution of the Opinions of Consumers about Whether Sponsorship Activities Contribute to the Success of Their Teams

Contribute to the success of teams	Number	Percentage %
Yes	228	52,8
No	76	17,6
No Idea	128	29,6
Total	432	100,0

52,8 % of the consumers in the urban of Antalya declared that sponsorship activities contribute to the success of their teams.

Table 14. Distribution of the Effects of Buying the Products of the Sponsor Companies to the Success of the Team They Support According to Consumers

Sponsors product-success	Number	Percentage %
Yes	216	50,0
No	89	20,6
No Idea	127	29,4
Total	432	100,0

216 person with the rate of 50% choose the “yes” answer to another question “do you think buying the product of sponsor company helps to the success of team you support? ” in the questionnaire. As a result the consumers of the urban of Antalya think that both sponsorship activities and buying the products of sponsor companies help to the success of team they support. Consequently, the consumers of the city of Antalya are buying the products of sponsor companies because of thinking that there is a positive connection between the sportive success and financial opportunities.

Table 15. Distribution of the Top Three Company Signed By Consumers According the Their Priority

Column 1	Number	Percentage	Column 2	Number	Percentage	Column 3	Number	Percentage
Efes Pilsen	168	38,9	Efes Pilsen	54	12,5	Efes Pilsen	12	2,8
Avea	58	13,4	Avea	70	16,2	Avea	24	5,6
Vestel	10	2,3	Vestel	36	8,3	Vestel	51	11,8
Cocacola	53	12,3	Cocacola	56	13,0	Cocacola	62	14,4
Sarar	6	1,4	Sarar	13	3,0	Sarar	9	2,1
Carlsberg	1	,2	Carlsberg	3	,7	Carlsberg	16	3,7
Adidas	13	3,0	Akbank	8	1,9	Akbank	4	,9

Y.K. Bankasi	5	1,2	Adidas	23	5,3	Adidas	28	6,5
İs Bankasi	6	1,4	Puma	1	,2	Puma	28	6,5
Ulker	3	,7	Pepsi	1	,2	Pepsi	16	3,7
Tuborg	1	,2	Siemens	2	,5	Siemens	8	1,9
Hurriyet	1	,2	Y.K. Bankasi	7	1,6	Y.K. Bankasi	16	3,7
Lcwaikiki	1	,2	İs Bankasi	8	1,9	İs Bankasi	8	1,9
Turkcell	39	9,0	Kocbank	1	,2	Ulker	16	3,7
Mercedes	8	1,9	Ulker	4	,9	Tuborg	8	1,9
M. Spencer	2	,5	Tuborg	2	,5	Lipton	16	3,7
Mastercard	3	,7	Fanta	1	,2	Lcwaikiki	1	,2
Nike	1	,2	Hurriyet	1	,2	Colaturka	12	2,8
Orkid	6	1,4	Lcwaikiki	3	,7	Telsim	4	,9
Arena	4	,9	Colaturka	2	,5	Turkcell	35	8,1
Petrolofisi	4	,9	Vakifbank	1	,2	Mercedes	12	2,8
Garanti Bank	3	,7	Turkcell	16	3,7	M.Spencer	8	1,9
A.H.Emeklilik	2	,5	Ntvmsnbc	8	1,9	Ntv	4	,9
Nescafe	5	1,2	Mercedes	4	,9	Ford	8	1,9
Sonyericsson	26	6,0	Seven Hill	1	,2	Nike	4	,9
Motorola	2	,5	Ntv	9	2,1	Petrolofisi	8	1,9
Cilitbang	1	,2	Mastercard	2	,5	Kodak	4	,9
Total	432	100,0	Visa	3	,7	Garanti Bank	4	,9
			Kocalliance	5	1,2	Nescafe	4	,9
			Ford	7	1,6	Sonyericsson	1	,2
			Nike	9	2,1	Carrera	1	,2
			Orkid	5	1,2	Total	432	100,0
			Eti	2	,5			
			Arena	4	,9			
			Tansas	6	1,4			
			Petrolofisi	5	1,2			
			Kodak	3	,7			
			Garanti Bank	4	,9			
			A.H.Emeklilik	1	,2			
			Nescafe	4	,9			
			Wolkswagen	4	,9			
			Sonyericsson	12	2,8			
			Gumussuyu	8	1,9			
			Motorola	4	,9			
			Muratbey P.	4	,9			
			Carrera	2	,5			
			Cilitbang	3	,7			
			Total	432	100,0			

In this study Efes Pilsen, Avea, Coca Cola, Turkcell, Adidas, Nike, Tuborg, Vakıfbank, Hp Compaq, Reebok, Eczacıbaşı, Nestea, Powerade, Pınar, Beko, Arçelik, Vestel, Marlboro, Camel are the most repeated products and trademarks in the list of top three sponsor company which asked to the consumers according to their priority. The companies which seen in Turkish press frequently with their sport sponsorships have similarity with the list of products and trademarks that the consumers buy mostly.

CONCLUSION

Various sport organizations which get popular in our country and World and European championships of various sport branches arranged in our country had changed our point of view and society started to interest in sport organizations more. Consequently, because of being very familiar to sport, consumers are getting started to know sponsors more. This is the reason why investments on sport sponsorships are increasing obviously in the

last years. Considering the mass communication media are a getting a part of our lives, sport sponsor companies are getting popular among us with their sponsorship activities.

As a result of this questionnaire study carried out face to face talking with 432 people in the urban of Antalya, it is possible to suggest that sport sponsorship is effective on buying behavior of the consumers.

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OPERATIONAL IMPROVEMENT BY END USER COMPUTING – A CASE STUDY OF RICOH

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ABSTRACT

In this research, I explored suitable organizational design for system development focusing on the relationship between End User Computing (EUC) and organizational effort to improve the operations based on Informational Technology (IT). However many researches about developing optimum designing of information system and user interface, relatively few researches have explored suitable organizational design for system development and relationship between operational improvement and development of information system. After reviewing of previous researches, I examined a case study about EUC in a Japanese manufacturing company, RICOH. I found that end users has developed and modified their own information systems based on "Kaizen" activities, and how information system changed and evolved Kaizen activities in RICOH and vice versa.

ATTENTION TO END USER COMPUTING

The availability and use of information systems and technologies has grown enormously since 1980s (Dewett and Jones, 2001). Especially, the growth of end user computing is one of the significant phenomena of the 1980s in the information management world (Benson 1983). End user computing (EUC) is an environment in with a problem requiring computer resources address these resources directly. In the traditional data processing environment, users interact with the computer indirectly, through a professional analyst/programmer or operations (Doll and Torkzadeh 1988). In an end user computing environment, managerial, professional, and operating level personnel in user departments have more influence in the determination of system objectives and information needs. Additionally, some of these end users may develop their own applications using data base, however they are not professional software developers (William and Gholamreza 1989). The latter aspect of EUC is also called End User Development.

This increased attention to EUC is accounted for by some reasons. At first, the increasing amount of software embedded within consumer and professional products points to a need to promote EUD to enable effective use of these products (Lieberman, Paterno, Klann and Wulf, 2006).

Second, EUC came to the attention of manager's because of the expansion of data processing activities which press the limits of the human resources available to sustain this growth. Thus, to resolve long backlog of requests for data processing services, it seemed necessary to transfer development tasks from data processing professionals to users. Especially when user's requirements are diversified, changing, and at times hard to identify precisely, conventional development cycles with software professionals to keep up with evolving contexts would be too slow, time consuming, and expensive. Thus, the users themselves would be required to be able to continuously adapt the systems to their needs.

Third, End user development tools made it easier for end users to develop applications for themselves or other end users (William and Gholamreza 1989). The end users, some with data processing skills but most with none, are in the best position to understand the needs of the business, at least intuitively, but they need a means of translating this understanding into working applications (McLean 1979). The emergence of user-friendly software encouraged end users to develop needed applications by themselves.

Fourth, increase of better educated and computer literate users is also one driver for expansion of EUC.

In traditional data processing, users are consulted concerning their information needs. However, the development of many end user applications (e.g., decision support systems) requires a much higher level of personal involvement (Sprague and Carlson 1982). End users often expect the system's design to reflect their way of

making semistructured decisions, e.g. to match their cognitive style. End user tools make it easier to custom-tailor an application, encouraging a higher level of user involvement (William and Gholamreza 1989).

In end user computing, users interact with computer resources directly and have more influence in the determination of system objectives and information needs (William and Gholamreza 1989). End user involvement in systems development is important because it may improve the quality of design decisions, resultant applications, end user skills in system utilization, and develop user abilities to define their own information requirements, and enhance user commitment to and acceptance of the resultant application (William and Gholamreza 1989).

CENTRALIZATION OR DECENTRALIZATION

EUC will promote distributed development of applications in a corporation. However, without integration, the corporation may have many different "islands of automation", all of which have their own autonomous information systems. It is the problem which has been pointed out since a debate about appropriate organizational design for system development between centralization and decentralization in the early decades.

Centralization refers to the allocation of all IT resources to one particular business unit that provides IT services to the whole firm (Gordon and Gordon, 2000). The main characteristics of a centralized approach include control, efficiency and economy. Centralized approaches are effective in gaining or regaining control over an organization's information system (Robson, 1997).

In centralized approach, it provides centralized control using established technology and vendors (Kroenke and Hatch, 1994). Thus this approach has advantages in terms of risks and total costs. They involve less technical risks because information systems professionals providing highly reliable operation maintain such systems. Additionally, duplication of effort, resources and expertise is also reduced, saving cost and time.

But the inflexibility of centralized approach may raise some problems. Local, independent processing is not allowed and the entire information system is dependent on the one CPU (Kroenke and Hatch 1994). In addition, Personal attentions to individual groups are not possible. Many centralized information systems are isolated from real business priorities and concerns (Robson 1997).

In contrast, decentralization gives individual business units autonomy over their own IT resources without any major considerations over other units unless it is essential to the overall organization policy (Gordon and Gordon 2000). The main traits of a decentralized approach include flexibility, empowerment of individual business units and service orientation.

In decentralized information systems, tailoring and scaling the system to individual needs is possible. Organizational flexibility and responsiveness is a major advantage brought by increased autonomy in decentralized approach. Furthermore, due to this autonomy, there is greater scope for motivating and involving users (Robson, 1997). Because local individuals control their own information system, the logic is that they will have to act in a much more responsible way because they control their own destiny. That is, decentralization offers benefits of increased accountability, motivation and management responsiveness (Hodgkinson, 1996). But lacking a centralized control, decentralized systems will confront with difficulties when conflicting ideas arise. In addition, there is a high degree of duplication of resources, effort and expertise, which wastes time and causes cost increases. That is, one of the important issues about system development today is how to integrate distributed information systems at corporate level and achieve total optimization.

SYSTEM DEVELOPMENT IN MODULAR DESIGN

As Dewett and Jones (2001) argued that IT is both a provider of centralization and decentralization. In the last decade some contingency or hybrid approach has emerged instead of emphasizing on centralization or decentralization. The request for integration could be partially achieved by system design called "modular design" that increases the extent to which software is composed from separate parts, called modules. In this approach, a system is subdivided into smaller parts (modules) that can be independently created and then used in different systems to drive multiple functionalities. Modules are typically incorporated into the program through interfaces. A module interface expresses the elements that are provided and required by the module. The elements defined in the interface are visible to other modules. Modules can be easily understood in isolation, constructed in a way similar to playing with Lego bricks, and changes or extensions to functionality would be easily localized. That's why modular design enables end users to modify or create application autonomously without affecting systems of the other users and the whole enterprise. In sum, modular design can ease

processing complexity by adopting standardized architecture of interfaces and enhance the autonomous customization by local users. Modular design is an attempt to combine the advantages of standardization (high volume normally equals low manufacturing costs) implemented in centralization, with those of customization related to end user computing.

Most existing research suggested empowering end users and focused on developing optimum designing of information system and user interface. But there are relatively few researches that explore suitable organizational design for system development and relationship between operational improvement and development of information system. So in this research, I focus on two remaining questions.

First, although the advantages of EUC have been recognized for decades, there are so few companies which succeeded in making application development by end users a reality. Then, what are the organizational conditions that make for end user computing? Second, in modular design, the design of module interfaces is determined in advance. Thus end-users can develop or modify systems without affecting other modularized systems and the architecture as a whole. On one hand, this separation is the enabler of flexibility and responsiveness within a module. However, on the other hand, the standardized interface design may weak flexibility between modules and of the entire organization. Aggregation of suboptimizations within certain system and business process does not necessarily mean total optimization in the corporate level. Then, how can the localized application developments can lead to competitiveness at corporate level?

The critical issue is to achieve a balance between extreme centralized and distributed system, and to determine how much power and autonomy should be transferred to the end users. Even in the hybrid approach, there is an important and remaining problem resembling the struggle between centralization and decentralization in the old days: how to achieve the flexibility of end user computing without spoiling the total optimization at enterprise level that is related to the competitiveness.

A CASE STUDY

To explore adequate and balanced organizational design for developing flexible and competitive IT system, I examine the best practice of RICOH, which is a Japanese manufacturer pushing operational improvement by EUC. In the company, end users develop and modify their information systems by themselves. RICOH has succeeded achieving cost reduction and developing competitive new products in 1990s and enhanced its capability further by introducing IT. RICOH's this EUC and bottom-up approach is based on continuous improvement activities, called "Kaizen", which is known as activities to continually improve all functions of a business, from manufacturing to management, adopted by TOYOTA and other Japanese manufacturers. By combine Kaizen and EUC, RICOH succeeded to achieve a turnaround since 1994. Today RICOH grew to become the largest copier manufacturer in the world. I focused on RICOH's business improvement efforts by using IT systems called "IT/S" activities.

RESEARCH METHODOLOGY

In my exploratory case study, the primary objective was (1) to identify how RICOH could achieve competitiveness by operational improvement and EUC, and (2) to explore how IT/S department of RICOH attempts to resolve the dilemmas between flexibility and optimization of described in the previous section. In 2007 and 2008, I hold 3 times formal interviews with Mr. Yutaka Matsuzaki who is the general manager of IT/S department which is promoting EUC in the company and company staff members who develop and utilize information systems by EUC, asking how they have balanced IT standardization for total optimization with flexible improvement in each department achieved by Kaizen. To supplement the interviews, I also examined company documents such as a company history, newspapers, articles in magazines featuring interviews with its CIO or top management, books written by its managers and employees.

COMPANY BACKGROUND

RICOH is a leading office automation equipment company, which provides photocopiers, multi-functional and other type of printers, fax machines, personal computers, optical disk and the other relevant products and services. It also offers Software as a Service (SaaS) for document management solutions. In 2008, the Ricoh Group has 81,900 employees and offices in over 150 countries. From the late 1990s to around 2000, in the global

office computerization and networking boom, the company grew to become the largest copier manufacturer in the world.

RICOH achieved 2,219.9 billion yen as net sales in 2008 (year ended March 31) and 13 straight years of earnings growth. This solid results was made possibly by the expansion of sales of multi-functional peripheral(MFP) and laser printers, and increase of sales of IT services due to growth of solution businesses. RICOH advances rebuilding of business structure, aiming to support customer's business improvement by providing not only copiers and printers but also IT systems integrated with these equipments. RICOH's competitiveness is promoted by business improvement effort using IT systems persisting for more than 10 years. This effort has been supported by company-wide activities called "IT/S" activities, which is started in the early 1990s aiming to develop information literacy of each employee. Because its main product copier was losing its competitive advantage, earning was deteriorated in the period. Thus, the most urgent task was to become more efficient and achieve lean operations. RICOH started corporate restructuring program in order to eliminate wastes and improve its business quality and made it out of deficit. However the sales continued to decline by 1993.

It just so happens when office equipment digitalized drastically. In order to regain competitive advantages with digitalized next-generation equipments, RICOH was necessary to improve information literacy of company members, so company-wide movement for improvement, IT/S activities started. In 2000, it achieved to reduce stock by half with implementation of SCM(Supply Chain Management) globally. As a result, RICOH achieved a strong performance as mentioned above.

IT/S ACTIVITIES IN RICOH

The name "IT/S" stands for "Information Technology and Solution" and company-wide business improvement activity using IT systems. A promotion committee for company-wide IT/S activities was formed on December in 1994, and project teams within each department or subsidiary were also formed in 1995. These company-wide IT/S activities were headed by the president and each project team was led by top manager of each department or subsidiary. The promotion committee for IT/S activities which is the largest organization where operations division and IT system division work together is composed of 136 dedicated staff members as well as 271 additional staff. But practically, who played a central role in IT/S activities were 76000 end users across sectors and countries. End users in RICOH mean all of the company members who participate in IT/S activities. IT/S headquarter consisting of 230 staffs in the information system department in RICOH supports all of these IT/S activities by providing diverse services. The central role of IT/S headquarter is to promote IT/S activities in each divisions, to provide common infrastructure (e.g., Lotus Notes), and to support technically and educate end users.

What is called EUC in RICOH might be classed in 2 types: utilization of information infrastructure, shared database system, and local modification and development of systems in each department.

As EUC, IT/S headquarter provides integrated database system as common informational infrastructure for all employees. Any end user who has useful information for others is allowed to create a database and provide them to the other end users.

IT/S headquarter, that is the information system department in RICOH, provided integrated database system as common technological infrastructure. It unifies and integrates information from all core corporate functions which includes planning, development, designing, purchasing, producing, marketing and service and supporting functions. In RICOH, Lotus Notes was introduced in 1994 as a core group ware and about 14000 company members were using the group ware in 2003. Before introducing integrated database system, there was a large amount of information collected in each department but underutilized. The only option to retrieve and refer the accumulated information was asking information system department directly. Because information flows were divided between different departments, delays and inefficiency in responding to customer's needs and developing new products were introduced. Beginning to utilize Lotus Notes as a common infrastructure which enables each department to accumulate useful information and to give another department the security clearance for it, utilization of information was particularly improved. Thus, now whoever a person having useful information for others can create a database and transmit it to whom in need of. In fact, there are about 20000 Notes' databases in RICOH group today.

IT/S headquarter (1) charge a usage fees to user departments based on volume of data stored in the database server, and (2) inform managers in each user department about the usage situations and the amount of usage fees

of database in order to help them judge the helpfulness of stored information. Operational departments are fully responsible for judging the value of stored information, while IT/S headquarter just support their judgment.

Another aspect of RICOH's EUC is customization of standardized system in each department. IT/S headquarter develops base systems of core corporate functions such as network infrastructure shared with suppliers, production control system and system for EDI (Electric Data Interchange). But IT/S headquarter is composed of only 230 staff members that is too few to support modification of system to fit each department. Employees in each department do not only use these basic systems but also modify them to fit existing operations or develop additional systems. In a case of production system, production system in RICOH were being integrated globally, so basic function such as systems for production plan, inventory control, order, delivery and cost calculation were standardized. At the same time, some functions are different between each production sites and necessary to be added to basic system. To fit these unique functions, end users in each production site develop additional systems. If members in another production site also recognize this additional system as useful, they will also adopt the system for their own site positively. Because they shares basic system in common, it is not difficult to adopt additional system developed in another division. Separation of fixed basic system and variation system enables end users both autonomous modification and flexible dissemination.

If the additional systems developed by end users became to be widely-disseminated and appreciated among multiple divisions, IT/S headquarter sometimes adopt it as a corporate-wide standardized system. Thus, excellent system developed flexibly by EUC could be a standardized system to contribute company-wide reformation. IT/S headquarter monitors diffusion of newly developed system in each division and examine which system should be individual or standard system once in 3 to 6 months. As a result of the examination, company-wide standardized system is also updated at regular intervals, keeping flexibility. Updated standardized basic system may upgrade local operations, creating a virtuous cycle.

For instance, in RICOH's business process of SCM, a production adjustment system which makes a schedules for production based on combined information from sales division is also one of system developed by an end user who was an engineer in production department. This production adjustment system made it possible to adjusting production on day-to-day basis and to cut down lead time considerably. It was developed in 2002 by EUC, reformed by IT/S headquarter, and adopted as a global production adjustment system in 2004.

MANAGEMENT BY IT/S HEADQUARTER

In this section, I will show how IT/S headquarter support these EUC activities in detail. Examining case of RICOH, 4 supporting factors were discovered.

1. Supporting to improve information literacy of end users:

IT/S headquarter has provided various opportunities to improve end user's information literacy, ranging from training for operating Excel to advanced coding techniques since 1990s. Additionally, IT/S headquarter is checking information literacy level among end users in each department and ricochet off allocation of human resources, making up for deficiencies in order to achieve adequate staffing for EUC.

2. Providing decentralized system architecture:

For RICOH, the fact that system architecture is clearly separated into shared basic system and open-ended system is an important factor for encouraging EUC. On one hand, shared basic system made unrestricted dissemination possible, on the other hand open-ended nature of system enabled autonomous modification and development of system by end users. Previous researched pointed out lacking a control as problems of distributed system development. They worried that the decentralized system development might bring disorder and conflict among various systems. But in case of EUC in RICOH, IT/S headquarter designed system architecture so that the variety brought by autonomous development falls in a certain extent. Meanwhile by sharing of common basic system among different systems and divisions, it is possible for IT/S headquarter to delegate its system developing task to end users, accepting diversity. This robustness of RICOH's system architecture is similar to that of modular design.

3. Promoting emulations of Best practices:

In RICOH group, best practices are exposed to all company members in order for knowledge sharing. If one subsidiary developed know-how to improve its operation, it will open the know-how and accept inspection visit from the other subsidiaries, causing company-wide chain of operational improvement. IT/S headquarter also convene awarding ceremony every year which recognize the best practice of EUC publicly and award 300,000yen for outstanding performance. These disclosure activities are addressed aiming to promote autonomous diffusion of excellent improvement practices and useful systems developed by end users.

4. Close linkage between operational improvement and information system development:

Operational improvement preceding introduction of information system is another noticeable feature in RICOH's reformation by IT. When they develop any IT system, operational improvement goes ahead. Furthermore, using a developed new system will change the users' operations, and as end users change their operations they will have requirements for systems in new ways (Carroll and Rosson, 1992; Pipek and Wulf, 1999). In RICOH, operational improvements in local level are seemed necessary as a ground work for introducing competitive information systems. Unless the ground works, introduced system will not work properly.

RESULTS OF IT/S ACTIVITIES

Employees in RICOH got a capability to develop any necessary system, output and tool except large-scale system by themselves instead of asking information system department. As a result, large-scale reformation could be realizable in RICOH, using resources efficiently. Since 2000, during implementation of company-wide reformation, IT/S activities in RICOH have doubled its size when the number of its employees has been reduced since the implementation of restructuring program in 1990s.

Additionally, intelligence sharing actualized by EUC accelerated its business improvement much further. At the beginning of 1990s, because operation within each department was isolated from that in another, delay and increase of cost occurred. Then they initiated a reform to develop new products crossing borders between departments. This inter-department coordination also expanded to the relations with outside suppliers. These RICOH's reform enforced cost competitiveness of its products, enabling the development of blockbuster new products including a digital copier "IMAGIO" (released in 1993) and an analogue copier "SPIRIO" (in 1994).

Sharing a common database among core corporate functions promoted the intelligence sharing further. For example, staffs in design or marketing department became to be able to refer what planning department is discussing by using common database system. Design department can know what sales representative listened from clients immediately. Purchasing department can tell design department the current purchase price of material they need.

These intelligence sharing is possible even by analogue and personal communications when its scale is not so large. However while required degree of freshness and accuracy of information has become higher and higher and coordination between different departments enlarged to global magnitude, intelligence sharing is incomplete without using information systems. Today RICOH's integrated database system is shared among subsidiaries all over the world and outside business partners as circumstances demand. This broad range of intelligence sharing which enables RICOH to develop neat new products and have competitive edge was achieved by using integrated database system through EUC.

DISCUSSION

I examined RICOH's EUC in the case study above in order to explore adequate and balanced organizational design for developing flexible and competitive IT system. Company-wide business improvement contributed to coordinate various development of information system by end users, avoiding the consequence of many different "islands of automation". Sharing in the common objective among all of employees in RICOH contributed to reduce discrepancy in interpreting various information. Additionally, in terms of system architecture, separation of fixed basic system and variation system enabled both autonomous modification by end users and system standardization and integration in corporate level. That is, by sharing common technological infrastructure, variation of applications developed by end users is limited to a certain extent

Previous researches about EUD have pointed out the need to foster the building of communities where end-users can effectively share their EUD-related knowledge and artifacts with their peers (Lieberman, Paterno, Klann and Wulf, 2006). In RICOH, awarding ceremonies for the best practice of EUC and small group activities for business improvement in each department served as communities for sharing their EUD-related knowledge and artifacts in various dimensions.

Adequate coordination of total optimization and flexibility in RICOH is partially achieved by clear separation of shared basic system for integration and open-ended system for autonomous improvements that is similar to the idea of "modular design".

RICOH's continuous operational improvement is rooted in incremental improvement "Kaizen" whose purpose is supporting the natural creativity of individuals for the benefit of themselves and their firm (Lewis 1995). By empowering individuals to make low cost changes all aimed at overall cost reduction, workplace easement, increasing safety or to benefit the environment, the top manager is less "in charge" but is working as a "leader", a "coach" and a "facilitator". This approach seems to be one effective manner for moderate control to overcome dilemma between centralization and decentralization and to achieve both of integration and autonomy. EUC and Kaizen are complementing each other, creating co-evolutional cycle of introducing new system and improving operation.

However I should mention some limitations of findings from the case study of RICOH's EUC. Monden (1994) argued that in non-Japanese firms there is the need to be very careful of how the "Kaizen" activity (TOYOTA system) is introduced because it is a 'way of life', rather than the application of a set of control techniques. The same is true of RICOH's way to implement EUC. In RICOH, it was necessary for all of the company members to share the same goal among in order to succeed in continuous improvement by EUC. It implies that any company having multiple concern and products may not be able to employ the same approach as RICOH's.

In addition, differences in information literacy between employees in RICOH may be originally smaller than the other company which manufactures non-digitalized products. Because individual differences between users may affect the level of user involvement and resulting benefits, Rockart and Flannery (1983) suggest that the end user computing population is characterized by great diversity in skill and motivation. People differ widely in their reaction to computers. Some enjoy getting involved while others, concerned about the complexity of the technology, suffer from computer anxiety (Howard and Smith 1986). Considering this problem of diversification in information literacy among members, more intensive supports and educations or different approach may be required in some other cases.

As conclusion, I found some implications from the case study of RICOH. System development by end users is beneficial when end users are sharing a common goal and when there is a mechanism to integrate and coordinate developed systems. This emphasizes that organizational capacity in the local level must be taken into account when determine organizational design for system development.

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IS ADAPTABILITY TO ENVIRONMENTAL CHANGES IN THE AUSTRALIAN AUTOMOBILE INDUSTRY A KEY TO ITS SUCCESSFUL BUSINESS PERFORMANCE?

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ABSTRACT

Whilst the influence of corporate cultural traits on business performance has been researched worldwide, few have focused on industries undergoing rapid change. This paper, based on an Australian automobile industry survey, analyses the link between corporate cultural traits of involvement, mission, consistency and adaptability and business performance in a changing environment. The research findings indicate that firms within this industry can enhance their business performance during environmental change through the effective alignment of key cultural traits. The study found that although all cultural traits were important, adaptability has the greatest influence over business performance, while consistency has the lowest.

INTRODUCTION

For decades researchers have assessed the influence of corporate culture on the management style within organisations and how this influences employee performance (Lee and Yu, 2004). Corporate culture can be characterised via employees' values, beliefs and their behaviour within the organisation (Singh, 2006; Petrovic-Lazarevic, 2006). Due to the important role corporate culture plays on forming the core identity of an organisation, it is considered one of the most powerful tools which can improve business performance (Denison, *et al.*, 2003). Further, an organisation with a highly adaptive corporate culture can actively respond in a changing environment and capture market opportunities (Singh, 2006).

By displaying the distinctive cultural traits of *consistency*, *mission*, *involvement*, and *adaptability*, corporate culture can be used as a tool to influence business performance (Rotenberry and Moberg, 2007; Denison, *et al.*, 2003). These cultural traits can be defined as follows:

Consistency characterises the organisation's core values; methods used to achieve agreement; and the coordination and integration systems that hold the company together (Denison *et al.*, 2003). Cultural *consistency* improves business performance by creating coordination from top level management to first line employees (Mavondo and Farrell, 2003).

Mission describes the strategic direction and intent an organisation is aiming to achieve; its goals and objectives; and its vision. Hence, employees who have a clear *mission* in their mind can significantly improve their productivity (Buckingham, 2005).

Involvement covers the level of staff empowerment in decision making; its team orientation; and the capability development undertaken by the firm. It is used to measure the company's ability to drive commitment and develop ownership with employees (Denison *et al.*, 2003; Rotenberry and Moberg, 2007).

Adaptability measures the company's ability to read and scan the business environment and to respond to change (Denison *et al.*, 2003). Organisations which have an adaptable culture tend to both actively and openly receive and interpret opportunities and threats from the external environment and respond to these external signals appropriately (Pennington, 2003). An adaptive culture encourages and supports employees to improve their ability by learning from day-to-day tasks (Denison *et al.*, 2003).

As a cultural trait *adaptability* may have a major influence on business performance in a changing environment. It has three components that Denison *et al* (2003) positively related to business performance: *creating change*, *customer focus* and *organisational learning*.

Creating change indicates the level of organisational flexibility when doing business in response to environmental changes (Mavondo, 2000). This author suggests *creating change* is crucial to business performance as it is a source for generating a best fit business strategy to respond to change in an industry Mavondo (2000). Ljungquist (2007) sees the concept of *creating change* as a source of organisational core competence.

Customer focus refers to the methods used to satisfy customers' needs and wants and how these influence business performance (Byus and Lomerson, 2004).

Organisational learning is seen as an opportunity for the organisation to learn and improve; encourage innovation and risk taking; and ensure effective transfer of knowledge and understanding of task performance (Vakola and Rezgui, 2000).

Business performance can be measured in a variety of ways, including financial and non-financial performance measures (Allen and Helms, 2002). Financial indicators include profit, efficiency trend, sales trend (Kloot, 1999), return on investment (Kennerley and Neely, 2003) and market share (Bloodgood and Katz, 2004); whilst customer satisfaction is considered an important non-financial indicator (Vukmir, 2006).

The Australian automobile industry was chosen for this study because it is a key sector in the Australian economy. In 2007 this industry's exports were around AUD\$5.1 billion and imports were AUD\$27.9 billion. Exports now accounts for around 40 % of domestic motor vehicle production. The industry's domestic value added component total was over AUD\$5.6 billion, representing 5.6 % of the total Australian manufacturing sector value added (Department of Foreign Affairs and Trade, 2008).

Since free trade agreements between Australia and other nations have been signed, the Australian automobile industry is gradually moving towards a more open trading environment and low levels of protection from Australian Federal and State governments. In order to continually produce higher quality and better value products, and above all, help the Australian economy to overcome the present global economic crisis - the Australian automobile industry will need to improve its business performance. One of the ways in which this can be achieved is through developing a performance oriented corporate culture.

This study explores links between corporate culture and business performance while considering the relevance of *adaptability* to a changing environment in the Australian automobile industry. This paper is organised as follows: after the methodology, we present and discuss the project results, followed by some concluding remarks and future research interests.

METHODOLOGY

This study used a multi-method study based on both quantitative and quantitative research. The approach was considered appropriate as it provides a robust, in-depth analysis of research findings (Creswell, 2003).

The quantitative aspect was based on the *Denison Organisational Culture Survey* (Denison and Neale, 1996). The survey measured twelve indices of organisational culture (See Table 1) using five questions for each index, thus reaching a total of 60 questions. For all items a five-point Likert scale with response categories ranging from strongly disagree to strongly agree was applied. The twelve indices were used to measure four main cultural traits: *involvement*, *consistency*, *adaptability* and *mission*. The survey also evaluated the chief executive officers' perception of organisational performance on the following variables: *net profit*, *customer satisfaction*, *market share*, *return on investment*, *efficiency trend*, and *sales trend*. All measures were aggregated at the organisational level.

The selection of the organisations was based on three main sources:

- Member list of the Federation of Automotive Products Manufacturers
- Australian Automotive Aftermarket Association – Exporters Directory
- Registered Automotive Retailers from the Yellow Pages telephone directory.

These sources were used to create a mailing list for distribution of the questionnaire. A total of 250 organisations were selected for this project. Chief executive officers and/or general managers were chosen as the appropriate target respondents to complete the questionnaire because of their knowledge of strategic and operational issues in the organisation.

Table 1 outlines each cultural trait.

Table 1. Four Cultural Traits and Major Elements

Cultural Trait:		Indices Under Each Cultural Trait		
1	<i>Involvement</i>	Empowerment	Team Orientation	Capability Development
2	<i>Consistency</i>	Core Value	Agreement	Coordination and Integration
3	<i>Adaptability</i>	Creating Change	Customer Focus	Organisational Learning
4	<i>Mission</i>	Strategic direction and Intent	Goals and Objectives	Vision

SPSS for Windows 15.0 was used for data analysis. All of the analysis calculations were conducted at the 5% level with $p < 0.05$. Results which were significant at the $p < 0.10$ level were also identified as they may have had some implications for the research.

DISCUSSION OF RESULTS

The overall response rate was 32%, which being above 25% is considered satisfactory (Sellitto, 2006). Based on the demographic data, three groups have been identified: manufacturer (51%), retailer (46%) and others (3%). Of the organisations surveyed, 34% had been operating less than 10 years and 66% over 10 years. The majority of respondent organisations were subsidiaries of overseas firms (48.5%), another 44% were privately owned domestic firms and 7.5% publicly owned domestic firms.

The survey shows that about 54% of respondents were in general management positions, while the rest of respondents were either chief executives officers or lower level managers. Most respondents' primary functional areas of responsibility were: general management (39%), financial/ accounting (20%), and sales/ marketing (18%). The rest of the respondents' primary functional activity areas were in customer relations (6%), production/ manufacturing (5%) and other (1%).

The Reliability test results, measured by Cronbach's alpha, are presented in Table 2:

Table 2. Cronbach's alpha

	Cronbach's alpha
Business performance measures	0.83
<i>Involvement</i>	0.91
<i>Consistency</i>	0.89
<i>Adaptability</i>	0.88
<i>Mission</i>	0.93

According to Liu and Zumbo (2007), a Cronbach's alpha of 0.70 and above is an acceptable reliability coefficient. Hence, as all the summated measures used to assess business performance and cultural traits in this study were above 0.70, they were treated as reliable.

Kasila and Poskiparta (2004) and Denison *et al.*, (2003) identified that all four cultural traits influence business performance; our analysis confirmed their findings. However, respondent's opinions on the impact of cultural traits and the intensity of their affect on the components of business performance varied slightly. *Consistency* (mean 3.99) scored the highest, while *adaptability* (mean 3.92) scored the lowest of corporate cultural traits (See Table 3).

Table 3. Importance of Corporate Cultural Traits to Business Performance

		Involvement	Consistency	Adaptability	Mission
N	Valid	80	80	80	80
	Missing	0	0	0	0
	Mean	3.98	3.99	3.92	3.97

The respondents' opinion that *consistency* is the most important cultural trait, suggests their belief that a key to business success is to develop and maintain core values, have clear methods to reach agreement on issues, and maintain clear coordination and integration systems. Overall this result suggests the desire to follow a consistent format to deal with the day to day activities of operations within the firm. This might be appealing and appropriate in a stable, slow changing environment, but entrenched systems can be significant barriers in a rapidly changing environment. However, further analysis identified that respondent organisations generally did not have well structured coordination and integration systems, perhaps due to the current turbulent environment they are in.

The comparatively lower score of *adaptability* indicates that the Australian automobile industry may not yet recognise the importance of adapting to environmental change in order to improve its business performance; these findings are consistent with Pennington, (2003).

Since *adaptability* reflects the organisational response to environmental change, its sub-components have been further analysed (See Table 4). *Creating change* scored the highest (mean=3.77). Yet the surveyed respondents did not confirm the importance of *creating change* to business performance in their organisations as found in previous studies of Nwokah and Maclayton, (2006) and Byus and Lomerson (2004). The respondents also indicated that their organisations were not very interested in being innovative. They suggested this was often due to a lack of delegated power to be innovative; lack of appropriate resources, in particular financial resources; and the failure by many organisations to provide an appropriate reward system to encourage innovation.

The high score for *creating change* should be an indicator of this being an organisational core competence Ljungquist (2007). But given respondents relatively lower score of *adaptability's* influence to business performance compared to other factors (See Table 3), it may be that some firms do not understand the importance of developing this into a potential core competency in a competitive environment. This situation appears particularly common in small firms, where some respondents suggested that in the current competitive environment their margins were small, making funding for innovation a luxury they could not afford.

Table 4. Sub-Components of Adaptability

		Creating Change	Customer Focus	Organisational Learning
N	Valid	80	80	80
	Missing	0	0	0
	Mean	3.77	3.59	3.56

Further, *customer focus* (mean = 3.59) has lower perceived relevance within *adaptability* (See Table 4), but as a measure that influences business performance it has the highest mean of 3.86 (See Table 5). The latter finding is in accordance with Allen and Helms (2002). It is clear that most firms understand that a strong customer focus leads to higher customer satisfaction and therefore better business performance. However, many respondents felt it unnecessary for all employees to have substantial knowledge of their customer's needs; rather they needed to have relevant knowledge to do their jobs. Given a customer focus may be a core competency in many organisations, this finding creates a potential dilemma for organisations. They need to decide what level of customer knowledge employees require to gain a competitive advantage.

Although *organisational learning* had the lowest score (mean = 3.56, Table 4), surveyed respondents identified this as being important for improving business performance. This finding is consistent with Vakola and Rezgui (2000) and Hyland *et al.*, (2001). Respondents highlighted that their firms did not link organisational learning with the reward system therefore the full benefits of a learning organisation were not achieved.

The value of business performance measures

In terms of business performance measures used in this survey, respondents felt some traditional financial measures were not as important as the non-financial measure of *Customer Satisfaction* (See Table 5). Respondents ranked *Profit* (mean= 3.68) and *Return on Investment* (mean =3.68) the lowest and *Customer Satisfaction* the highest (mean 3.86).

Further, the influence of environment change to the business of an organisation in any industry, including the automobile industry, is usually evidenced through the change of customer needs (Evans and Lindsay, 2005). The high priority given to this measure by respondent organisations suggests they understand that customer satisfaction is a prerequisite to achieving desired financial returns.

Table 5. Business Performance Measures

	Mean	SD
Financial measures		
Profit	3.68	.839
Market Share	3.75	.907
Return on Investment	3.68	.938
Efficiency Trend	3.79	.758
Sales Trend	3.76	.903
Non-financial measures		
Customer Satisfaction	3.86	.707

To analyse the strength of the relationship between the four cultural traits and business performance in the Australian automobile organisations, correlation analysis was undertaken.

Table 6. Correlation Analysis between Four Cultural Traits and Business Performance

Variables	1	2	3	4

1	Business Performance				
2	Involvement	.540**			
3	Consistency	.507**	.822**		
4	Adaptability	.554**	.810**	.848**	
5	Mission	.510**	.807**	.849**	.820**
**Correlation is significant at the 0.01 level (2 tailed).					

Table 6 indicates that all four cultural traits have a strong relationship with business performance as all achieved > 0.5 level. *Adaptability* has the strongest relationship with business performance (r=0.554); and *consistency* was found to have the weakest relationship with business performance (r=0.507). Some key links between cultural traits and performance measures are outlined below.

As *adaptability* is considered to have a major impact on business performance (Denison *et al.*, 2003), this cultural trait was analysed in more detail using both qualitative and quantitative responses. Assessment of the three subcomponents of adaptability being: *creating change*, *customer focus*, and *organisational learning* provided some insights into corporate culture variations between higher and lower performing organisations. The results suggest lower performing firms may need to develop good cultural habits overall to improve their business performance. Emulating current higher performance firms and becoming more adaptable in the current environment of rapid change may be one strategy they could adopt.

To achieve greater performance outcomes, the results suggest the Australian automotive industry need to look at the way they create change. In particular, it was found that current poorer performing firms needed to create an environment that encourages change, adopt new ways to do work, and improve cooperation between different parts of their organisations. Both high and low performing respondents identified that their firms need to find ways to reduce resistance to change.

Currently higher performing firms in this survey were found to value a strong customer focus. Poorer performing firms were found not to have a deep understanding of their customers' wants and needs, particularly in the case of manufacturers rather than retailers. Some potential solutions identified include: greater use of customer feedback; and improving communication between customers and automotive organisations. In addition, it was identified that manufacturers may need to improve relationships with their channel customers and ensure they understand end-customer needs as well. Current priorities that appear to be in place amongst all respondents include: using customer comments and recommendations to make changes; using customer feedback to influence company decision-making; focus on customer interests; and encouraging direct contact with customers by the firm. Although these priorities were recognised as important across all respondent organisations, it was noted that many poorer performing organisations did not reward staff for excellence in customer service.

Organisational learning was identified in this survey as an area for attention for all organisations in the Australian automotive industry, but in particular lower performing companies. The survey identified that these firms need to better understand that failure can be an opportunity for learning and improvement; that learning is an important daily objective; effective internal communications is required in a learning environment; and learning assists employees perform their tasks effectively and efficiently. Survey results make it clear that in this industry more attention is required to ensure innovation and risk taken is rewarded, and that greater attention is given to detail in day to day learning activities.

CONCLUSIONS

The research project has revealed a link between corporate culture and business performance in the Australian automobile industry. Adaptability to environmental changes was found to be an important key to business performance success. However, it was identified that organisations need to focus on all four cultural traits: *involvement*, *consistency*, *adaptability* and *mission* as each played an important, different and integrated role in achieving business performance outcomes.

Successful companies were analysed in depth to identify strategies from which others could learn. Firstly, it was found that those firms that ranked their performance against competitors as higher or much higher, had a stronger belief about the importance of cultural traits than those firms with lower performance outcomes. Secondly, high performing firms were more likely to value all the cultural traits as important or very important, compared to lower performing firms. Finally, higher performing firms appeared to be more prepared for dealing with the changes taking place in their industry than lower performing firms.

Because in times of rapid change it appears *adaptability* is an important trait that can provide sustainable performance success, this trait was analysed in greater depth. *Adaptability* was found to have a strong link to profit, sales and market share in higher performance firms. However, even current higher performing firms were found needing to focus more on organisational learning and greater customer focus. Lower performing firms were identified as needing to pay more attention to all the subcomponents of adaptability: *creating change*, *customer satisfaction* and *organisational learning*.

Future research could include more analysis of both internal and external environmental factors impacting of firm performance and how these can be better assessed, monitored and utilised to gain a sustainable competitive advantage.

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FINANCIAL MONITORING IN REALIZATION ENTERPRICE BUSINESS STRATEGIES AND TECHNOLOGICAL INNOVATIONS

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ABSTRACT

This article is dedicated to solving problems of a management quality financial control organization in an enterprise in accordance with the business strategies and technological innovations application. The problems of a quality control, management quality and financial management quality are the kea problems in any enterprise. This very problem can be solving by constant enterprise financial monitoring and by using its results in process of business strategies and technological innovations elaboration and realization.

INTRODUCTION

We need finance management in any work on an enterprise, especially in new works, such as business strategies and technological innovations elaboration and realization. Financial monitoring is a systematic, independent and documented process for obtaining financial monitoring evidence and evaluating it objectively to determine the extent to which financial monitoring criteria are fulfilled. This article continues the solving problems of a quality control, management quality and financial management quality in an enterprise, the questions of organization and realization on-site monitoring activities.

PLANNING A ON-SITE FINANCIAL MONITORING ACTIVITIES

A monitoring team leader should prepare a plan for the on-site monitoring activities. This plan should provide necessary information to a monitoring team, monitoree and monitoring client. It also facilitates scheduling and co-ordination of a monitoring activities.

The level of detail provided in the monitoring plan, should be adapted to suit the scope and complexity of the monitoring. The details can for example differ between initial and subsequent monitors and also between internal and external monitors.

The monitoring plan should include:

- a) a monitoring objectives and scope;
- b) a monitoring criteria and any reference documents;
- c) the dates and places where the on-site monitoring activities are to be conducted;
- d) the identification of the organizational and functional units and processes to be monitored;
- e) the expected time and duration for monitoring on-site activities, including meetings with the monitoree's management and audit team meetings.

The monitoring plan can also include, as appropriate:

- f) the identification of the sites, activities, and management system processes that are essential to meeting monitoring objectives in order to allocate appropriate resources to critical areas of the monitoring;
- g) the identification of the monitree's key representative participating in the monitoring;
- h) the working and reporting language(s) of the monitoring where this is different from the native language of the monitor(s) and/or the monitree;
- i) the identification of roles and responsibilities of the monitoring team members and any accompanying persons;
- j) the monitoring report topics (including any methods of nonconformity gradings), format and structure, expected date of issue and distribution;
- k) logistic arrangements (travel, on-site facilities etc.);
- l) matters related to confidentiality;
- m) any arrangements for monitoring follow-up actions.

The plan should be reviewed and accepted by the monitoring client and presented to the monitree before the audit. Any objections by the monitree should be resolved among the audit team leader, the monitree and the monitoring client before continuing the monitoring. The monitoring plan should be sufficiently flexible to permit changes, such as any changes in emphasis which can become necessary as the on-site monitoring activities progress. Any revised monitoring plan should be agreed among the parties concerned before continuing the monitoring.

FINANCIAL MONITORING TEAM WORK ASSIGNMENTS

When a monitoring is conducted by a monitoring team comprising more than one monitor, the monitoring team leader, in consultation with the monitoring team, should assign to each team member responsibility for monitoring specific management system processes, functions, sites, areas or activities. Such assignments should take into account the need for monitor independence, competence and efficient use of resources as well as different roles and responsibilities of monitors, monitors-in-training, and "technical" experts. Changes to the work assignments can be made to ensure the achievement of the monitoring objectives.

The monitoring team members should review the relevant information related to their monitoring assignments and prepare any work documents necessary for those assignments.

FINANCIAL MONITORING WORK DOCUMENTS

Work documents used by the monitoring team for the purpose of reference and/or recording the proceedings of the monitoring can include:

- a) monitoring procedures, checklists and monitoring sampling plans;
- b) forms for recording information, supporting evidence, records of monitoring findings and meetings.

The use of work documents, such as checklists and forms, should not restrict the extent of monitoring activities. Work documents, and any records resulting from their use, should be retained, at least until monitoring completion. Retention of documents, including records, after monitoring completion will describe later. Those involving confidential or proprietary information should be suitably safeguarded at all times by the monitoring team members.

FINANCIAL MONITORING OPENING MEETING

An opening meeting should be held to confirm the monitoring plan, clarify how the monitoring activities will be undertaken, and to establish communications. The opening meeting should be held with the monitree's management or, where appropriate, those responsible for the functions or processes to be monitored. The opening meeting should also include opportunity to the monitree to ask any questions. In many instances, for example, internal monitorings in a small organization, the opening meeting can consist of simply

communicating that a monitoring is being conducted and explaining the nature of the monitoring. For other monitoring situations, the meeting should be formal and records of the attendance should be kept.

The meeting should be chaired by the monitoring team leader and the following items considered, as appropriate:

- a) introduction of the participants, including an outline of their roles;
- b) confirmation of the monitoring objectives, scope and criteria;
- c) confirmation of the monitoring timetable and other relevant arrangements with the monitoree, such as the date and time for the closing meeting, any interim meetings between the monitoring team and the monitoree's management, and any late changes;
- d) methods and procedures to be used to conduct the monitoring, advising the monitoree that the monitoring evidence will only be a sample of the information available and that therefore there is an element of uncertainty inherent in all monitorings;
- e) confirmation of formal communication links between the monitoring team and the monitoree;
- f) confirmation of the language to be used during the monitoring;
- g) confirmation that during the monitoring, the monitoree will be kept informed of monitoring progress;
- h) confirmation that any resources and facilities needed by the monitoring team are available;
- i) confirmation of matters relating to confidentiality;
- j) confirmation of relevant work safety, emergency and security procedures for the monitoring team;
- k) confirmation of availability, roles and identities of any guides;
- l) method of reporting including any grading of non-conformities;
- m) information about conditions on which the monitoring can be terminated;
- n) information about any appeal system on the conduct or outcome of the monitoring.

FINANCIAL MONITORING ROLES AND RESPONSIBILITIES OF GUIDES

Where guides are assigned, they should assist the monitoring team and act on the request of the monitoring team leader. Their duties can include ensuring that rules concerning site safety and security procedures are known and respected by the monitors, and they can also witness the audit on behalf of the monitoree.

Guides should not influence or interfere with the conduct of the monitoring except where, with the agreement of the monitor, the guide can provide clarification or assist in establishing correct information.

FINANCIAL MONITORING COLLECTING AND VERIFYING INFORMATION

Information relevant to the monitoring objectives, scope, and criteria, including information relating to interfaces between functions, activities, and processes should be collected during the monitoring. It should be verified by the monitor(s) and can then be considered to be monitoring evidence. Monitoring evidence should be identified as such and recorded.

The monitoring evidence will inevitably be only samples of the information available, since a monitoring is conducted during a finite period of time and with limited resources. There is thus an element of uncertainty inherent in all monitorings, and those acting upon the monitoring conclusions should be aware of this uncertainty.

The sources of information chosen can vary according to the scope and complexity of the monitoring and can include:

- a) interviews;
- b) observations of activities and the surrounding work environment and conditions;

- c) documents, including, for example, policy, objectives, plans, procedures, instructions, licences and permits, specifications, drawings, contracts, orders;
- d) records, such as inspection records, minutes of meetings, reports or logbooks on customer complaints and other relevant communication from external parties, audit reports, monitoring programmes and results of measurements;
- e) data summaries, analyses, metrics and performance indicators;
- f) records of the basis of relevant monitree's sampling programmes and the procedures for ensuring effective quality control of sampling and measurement processes;
- g) reports from other sources, for example, customer feedback, external reports and vendor supplier ratings;
- h) computerized data bases and web sites.

FINANCIAL MONITORING INTERVIEWS

Interviews are one of the important means of collecting information and should be carried out in a manner adapted to the situation and person interviewed. However, the monitor should consider the following:

- a) interviews should be held with persons from different levels and functions, and especially with persons performing activities or tasks within the scope of the monitoring;
- b) whenever possible, the interview should be conducted during normal working hours and at the normal workplace of the interviewed person;
- c) every attempt should be made to put the interviewed person at ease prior to the interview;
- d) the reason for the interview and any note taking should be explained;
- e) interviews can be initiated by asking the persons to describe their work;
- f) the results from the interview should be summarized and reviewed with the interviewed person;
- g) questions that bias the answers (leading questions) should be avoided;
- h) the interviewed persons should be thanked for their participation and co-operation.

FINANCIAL MONITORING AUDIT FINDINGS

Collected monitoring evidence should be evaluated against the monitoring criteria to generate the monitoring findings. A monitoring finding can indicate either conformity or nonconformity with monitoring criteria and/or identify an opportunity for improvement. If so decided, monitoring findings can be graded in accordance with the monitoring plan. A monitoring team should meet as needed to review the monitoring findings at appropriate stages during the monitoring.

Conformities should be summarized to at least indicate locations, functions, processes, or requirements that were monitored, where no nonconformities were observed. If within the agreed scope, individual audit findings of conformity should also be recorded and supported with monitoring evidence.

Nonconformities should be recorded and supported by monitoring evidence. Nonconformities should be reviewed with an appropriate auditee representative to obtain acknowledgement of the monitoring evidence. The acknowledgement indicates that the monitoring evidence is accurate, and that the nonconformity is understood. Every attempt should be made to resolve any divergence of opinion concerning the monitoring evidence and/or findings, and unresolved points should be recorded.

COMMUNICATION DURING THE MONITORING

Dependent upon the scope and complexity of the monitoring, it can be necessary to make formal arrangements for communication during the monitoring. A monitoring team should confer at least daily in order to exchange information, assess monitoring progress, and reassign work between monitors as needed.

During the monitoring, the monitoring team leader should periodically communicate the status of the monitoring and any concerns to the monitree and monitoring client, as appropriate. Any evidence collected in

the monitoring that suggests a significant risk exposure should be reported immediately to the monitree and, as appropriate, to the monitoring client.

Where the available monitoring evidence indicates that the monitoring objectives are unattainable, the monitoring team leader should report the reasons to the monitoring client and the monitree to determine the appropriate action. Such action can include reconfirmation of the monitoring plan, termination of the monitoring or a change in the monitoring objectives.

Any concern about an issue outside the monitoring scope should be noted and reported to the monitoring team leader, for possible communication to the monitoring client and monitree. Any need for changes in the monitoring scope which may become apparent as on-site monitoring activities progress should be reviewed with and approved by the monitoring client and, as appropriate, the monitree.

PREPARATION FOR THE CLOSING MEETING

The monitoring team should confer prior to the closing meeting in order to:

- a) review the monitoring findings and any other appropriate information collected during the monitoring;
- b) prepare a list of audit findings, if appropriate;
- c) reach consensus on the monitoring conclusions;
- d) agree on roles and tasks for the closing meeting;
- e) prepare recommendations, if specified by the monitoring objectives;
- f) discuss subsequent monitoring follow-up, if appropriate.

In many instances a simplified approach can be taken for the monitoring team review, depending on the monitoring objectives and scope and the monitoring team size.

CLOSING MEETING

A closing meeting should be held to present monitoring findings and conclusions in such a manner as to ensure that they are understood and acknowledged by the monitree, and to agree, if appropriate, on the time period for the monitree to present any corrective action plan.

In many instances, for example, internal monitorings in a small organization, the closing meeting can consist of simply communicating the results of the monitoring.

For other monitoring situations, the meeting should be formal and minutes, including records of attendance, should be kept. The meeting chaired by the monitoring team leader should be held with the monitree's management and those responsible for the functions monitored.

Any unresolved diverging opinions relating to monitoring findings and/or conclusions between the monitoring team and the monitree should be discussed and if possible resolved. If not resolved, both opinions should be recorded.

If specified by the monitoring objectives, the monitoring team leader should present the monitoring team's recommendations for improvements. It should be emphasized that recommendations are not binding. It is normally the responsibility of the monitree to determine the extent and nature of improvement actions.

Therefore solving the problems of a quality control, management quality and financial management quality can be fulfilled through well done procedure of on-site monitoring activities the processes of business strategies and technological innovations elaboration and realization.

APPENDIX

Main Definitions

Financial monitoring is a systematic, independent and documented process for obtaining financial monitoring evidence and evaluating it objectively to determine the extent to which financial monitoring criteria are fulfilled.

Financial monitoring criteria set of policies, procedures or requirements used as a reference.

Financial monitoring conclusions are the outcome of a financial monitoring, reached by the financial monitoring team after consideration of the financial monitoring objectives and all financial monitoring findings.

Financial monitoring client organization or department requesting a financial monitoring.

Financial monitoree is an organization or department being monitored.

Financial monitor is a person with the competence to conduct a financial monitoring.

Financial monitoring team is one or more financial monitors conducting an financial monitoring. One financial monitor of the financial monitoring team is appointed as financial monitoring team leader. The financial monitoring team can include financial monitors-in-training and, where required, technical experts. Observers can accompany the financial monitoring team but do not act as part of it.

Technical expert is a person who provides specific knowledge or expertise with respect to the subject to be monitored. Specific knowledge or expertise includes those on the organization, process, or activity to be monitored, as well as language or cultural guidance. A technical expert does not act as a financial monitor in the financial monitoring team.

Financial monitoring programme set of one or more financial monitors planned for a specific time frame and directed toward a specific purpose.

Financial monitoring plan is a description of the on-site activities and arrangements for a financial monitoring.

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NORWEGIAN RESEARCH NETWORKS

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ABSTRACT

In this study, research networks are analyzed by using data on Norway Research Database. Research networks among different organizations such as universities, research institutions, and firms are mentioned in the scientific network literature. Main examples of the scientific collaboration are analyzed through co-authorship networks and it almost became the most applicable way of measuring research networks. Contrary to past academic routines, in recent years, most of the academic papers reveal as an output of joint projects. However, there is no emphasis on networks in joint projects which trigger co-authorship networks. In this study, I analyze joint project networks among social science departments in Norway.

INTRODUCTION

In recent years, the importance of collaborative research has been increased. There are a set of factors which encourage people from different scientific fields to come together. Katz (1994) emphasized the role of geographical proximity in collaboration. It is claimed that research cooperation decreases exponentially with the distance separating the collaborative partners. Other reasons are the similarity between research fields, working in complementary fields such as chemistry and architecture and to get the benefits of networking such as cost of reduction. The most important contribution of networking to science seems to knowledge sharing. A common example of knowledge sharing mechanism is co-authorship networks (Glanzel and Schubert, 2004; Newman, 2004). Co-authorship networks implies the product-based approach which takes into consideration the relation between authors. Most of the research papers reveal as an output joint research projects. However, the collaboration in joint projects has received insufficient attention. One possible explanation is that in the very beginning of the research, publishing a paper takes place as one of the main goals. Thereby, writing a collaborative paper became the indication for the project success. On the other hand, there is a strong need for complementary work to co-authorship networks: research project networks. The main research questions regarding the research project networks are:

1. How do we measure the collaboration? (Is participation in the project reliable indicator for the measurement?)
2. What is the main trend? (Are these research projects disciplinary, do more funded research organizations include greater number of scientists? What is the level of collaboration among different organizations with referring to literature on industry and academia partnerships?)

Katz (1997) analyzed the differences between institutional and individual collaboration. To illustrate, in one paper, two institutions and one author appear and in another, two authors and one institution exist. These two examples refer to collaborative work. However, for the first example, it can be claimed that it will probably include different approaches or routines because there are two institutions.

In this paper, the indicator of collaboration is participation and especially involvement of different institutions and departments because the main argument of this study is that diversity of the network provides long term benefits to the participants such as transfer of knowledge. The research question is to what extent research

projects in Norway are interdisciplinary. On the other hand, there is a clear need of further study in order to reach more reliable results. To illustrate, doing interview with project partners and revealing past relations among the individuals or organizations may unravel the problem of measurement.

Conducting interdisciplinary research has gained importance by the changing world structure. Especially, with globalization, the mobility of researchers and the number of joint projects including people from different departments and universities increased (Frost and Jean, 2003). In this study, the main concern is to what extent research projects by organizations in Norway are interdisciplinary. The main idea is that organizations such as firms, research institutes or universities are linked if scientists know each other through working in the joint projects or move from one organization to the other.

In some of the literature, it is claimed that the increasing number of scientific papers by multiple authors is related to increasing funding opportunities (Heffner, 1981). Do the economic aspects of networking seriously affect the observed co-authorship patterns? The average international article usually involves more coauthors than a non-international article. The number of members in the interdisciplinary projects is more than the number of members in disciplinary projects. Perrson, Glanzel and Danell (2004) claimed that greater amount of project budget is related to differences in numbers between interdisciplinary and disciplinary projects. However, which project is more efficient is negotiable. Beaver (2001) analyzed the role of funding on joint projects and determined a list of 18 purposes for who collaborate. The list includes a) access to funding and equipment b) access to expertise c) speeding up progress d) enhancing productivity and e) reducing isolation. Considering the related activities during the joint projects or after the projects, participants of the network can transfer of costs to the other parties through using coordination mechanism.

Coming back to question of how we measure the collaboration in joint research projects, we need to know the past relations and experiences of the individuals or organizations. In this study, it is assumed that being involved in the project refers to short/long visit by the researcher in the country which the project is initiated. Other possible explanation is that with the increase in EU projects and funds and the facilities which are available on the web, researchers easily find the partners and get in touch with them through basic search on the web.

DATA AND METHOD

In this study, I don't use the number of participants in the projects as determinants of interdisciplinary notion of the project. Instead, I focus on the content of the projects. For instance, I come across with the projects including a number of members from the same department. This shows us the importance of similarity. On the other hand, as mentioned in the network literature the greater the diversity refers to the greater the network benefits.

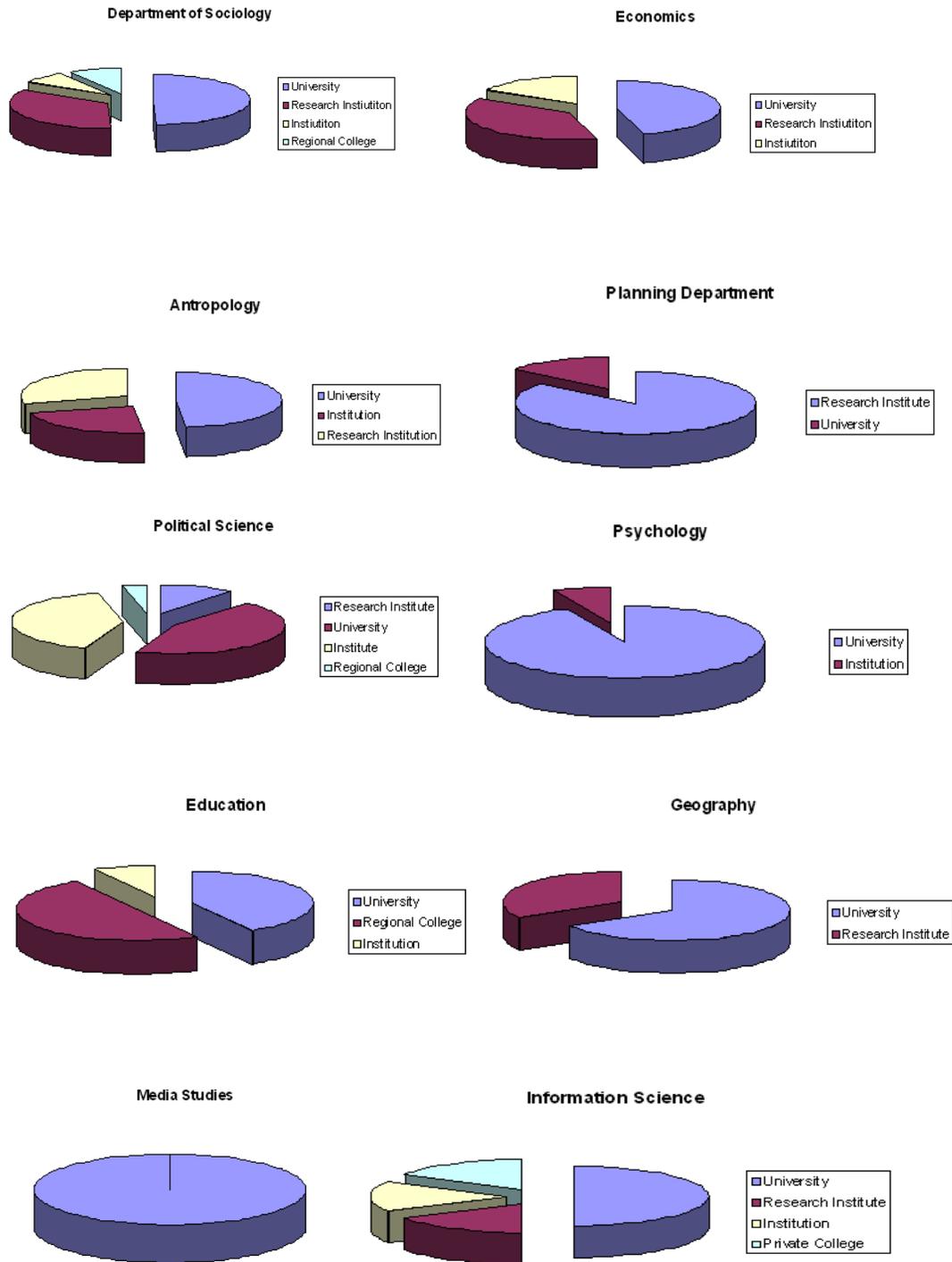
Network data was collected through using project information such as project name, the name of the institution, type of the institution, project duration and summary of the project. Different organization types in the projects of each department are displayed in Figure 1-13. It is understood that some of the departments seem to include different organizations. For example, participants in projects of sociology, political science, law, information science and interdisciplinary departments are more diverse. How can we interpret these results? Considering the proportion of the organizations, is that possible to claim that some departments tend to pay more attention to universities' participation? Do they show resistance to involvement of other type of organizations? In fact, it is not very strong argument without doing complementary study such as interviews because there may be other reasons such as the nature of the work which requires university involvement. However, we can assume that for some departments such as planning, psychology, geography, media studies, and sports education and interdisciplinary, the number of universities in the project is greater than other organizations.

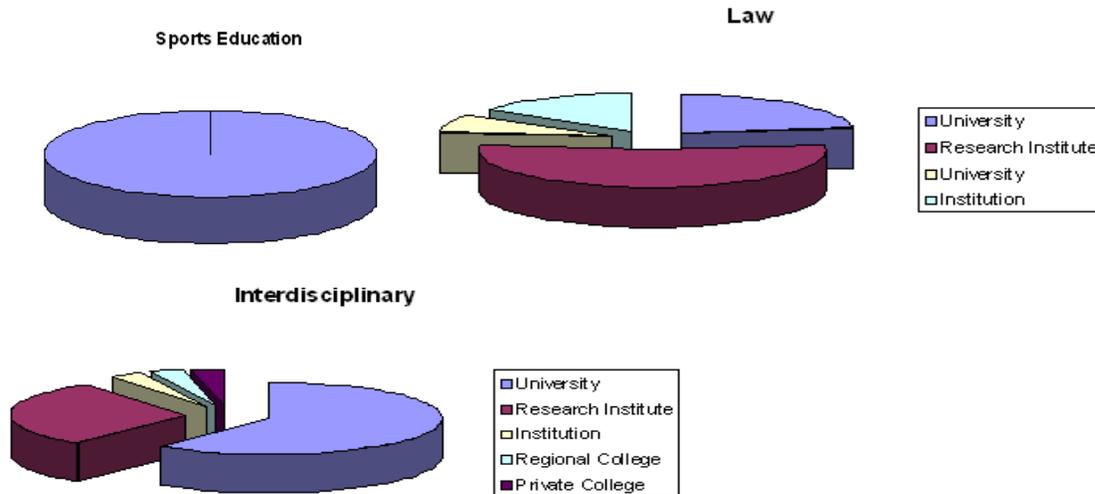
When we look at the first network figure which shows the entire project network, it seems that a set of central actors are involved in more than one project and they are linked to different organizations, departments or nations (Figure, 2).

In Figure 3, denser network in sociology department can be observed. In fact, having larger number of projects has impact on this result. In addition to this, research networks in Norway are quite interdisciplinary referring that organizations in Norway collaborate each other and other institutions abroad. In each department's network, there are important central actors playing a brokerage role among network participants. In this study, there are

two central organizations namely NTNU and SNF which seem to be linked with different departments. It is assumed that, interdepartmental collaboration will increase with a great effort of these organizations. In the next subsection, the short information about activities of NTNU and SNF are elaborated.

Figures 1-13. Organization types in the projects





Norwegian University of Science and Technology (NTNU)

NTNU is a university which involves different departments from social sciences to arts, medicine and architecture. As a mission, interdisciplinary researches are strongly emphasized in each event that they take part in. Besides coordinating educational activities, the university has a set of different actions such as participation in projects in. In other words, NTNU play a crucial role in designing the national policy. The main research fields are marine, energy, medicine, materials, and computing. There is strong emphasis on interdisciplinary cooperation on technology transfer, and entrepreneurship issues with the participation of companies. Except business management projects, NTNU participate in other departments' projects which shows the interdisciplinary notion of the organization. Thereby, each organization is linked to each other and shares their project experiences and specializations with the other parties. As a mediator, NTNU gains more because it works as a pool of which the different organizations leave the specific information and knowledge.

Institute for Research in Economics and Business Administration (SNF)

SNF is a market-based research organization which is built on three fields. These are;

1. The Centre for Applied Research, which was established as a research centre at NHH in 1973, and subsequently organized as a separate research foundation in 1984.
2. The Institute of Industrial Economics (subsequently the Institute of Business Economics), which was established as a research unit under the Ministry of Industry in 1975.
3. The Centre for International Business, which was founded as a research foundation affiliated to NHH in 1986.

Differently from NTNU, SNF seems to coordinate the networks within the same department: business management. Therefore, as a new strategy for the future projects, SNF may get in touch with the NTNU and transfer its specialization on business management field to NTNU and other departments through NTNU.

CONCLUSION

In recent years, the number of collaborative research has been increased with the funding opportunities of European Union projects. In this study, I analyze the project networks among departments of social sciences in Norway. According to results, organizations in Norway are more linked to other organizations outside of their university. In other words, social science departments do not prefer the same department and even the same university as a partner.

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APPENDIX A

Figure 2. Interdepartmental Network

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