

THE RELATIONSHIPS BETWEEN MARKET ORIENTATION, FIRM INNOVATIVENESS AND INNOVATION PERFORMANCE

Sabri Erdil
Marmara University, Turkey
Oya Erdil and Halit Keskin
Gebze Institute of Technology, Turkey

ABSTRACT

The paper addresses the issue of interrelationships between market orientation, firm innovativeness and innovation performance. Three dimensions of market orientation, namely collection and use of market information, development of market –oriented strategy and implementation of market oriented strategy are measured. Factor analysis is used to validate the measures of market orientation, firm innovativeness and innovation performance. A correlational analysis is performed to determine whether market orientation is associated with firm innovativeness and innovation performance.

INTRODUCTION

The survey results in the literature provide evidence for the basic propositions that market orientation influences firm innovativeness and firm performance. Within marketing, there has been great interest in market orientation as an intangible factor that has an effect on organizational performance (Homburg *et al.*, 2003). Market orientation is the business culture that produces performance by creating superior value to customers (Slater and Narver, 2000). Organizations must constantly innovate in every aspect of their business operations in order to compete and survive in the competitive market place. Kohli and Jaworski (1990) provided a useful interpretation of the marketing concept and a market orientation from a behavioral process (Matsuno *et al.*, 2003) and they defined market orientation as the organization-wide generation of market intelligence pertaining to current and future customer needs, dissemination of intelligence across departments and organization-wide responsiveness to it. Slater and Narver (2000) focuses the values and beliefs market orientation approach encourages 1) continuous cross-functional learning about customers' expressed and latent needs and about competitors' capabilities and strategies, 2) cross-functionally coordinated action to create and exploit the learning. The culture including such values and beliefs results in collection and use of market information, development of market-oriented strategy and implementation of market-oriented strategy (Gima, 1995). Narver and Slater see organizational culture as a driver of behavior and only when the culture is defined with commitment to superior value for customers market oriented behaviors manifest themselves in an organization (Matsuno *et al.* , 2003).

In this paper the relationships between market orientation and firm innovativeness and innovation performance are analysed. The research design and methodology adopted is given together with the findings leading to the conclusions related to propositions concerning the variables.

MARKET ORIENTATION

Market orientation has been characterized as a culture of the organization that requires customer satisfaction be put at the center of business operations (Liu et al, 2002) and therefore produces superior value for customers and outstanding performance for the firm (Day, 1994; Narver and Slater, 1990). Customer needs and expectations evolve over time and delivering consistently high quality products and services and responsiveness to changing marketplace needs become important for the success of firms (Jaworski and Kohli, 1993). Responsiveness to changing market needs often calls for the introduction of new products and services together with innovation capacity for a firm. Market orientation has also been described as the implementation of marketing activities designed to satisfy customer needs better than competitors are able to satisfy customer needs (Martin and Grbac, 2003). While there is some variability in conceptualizations of market orientation, it typically focuses on three components; 1) customer focus, 2) competitor focus and 3) interfunctional coordination (Celuch *et al.*, 2002). All conceptualizations have an operational focus on information gathering, information dissemination and the ability to behaviorally respond to what is received (Baker and Sinkula, 1999).

Kohli and Jaworski (1990) define market orientation in terms of three dimensions; 1) The generation of market information about needs of customers and external environmental factors, 2) The dissemination of such information among organizational functions and 3) The development and implementation of strategies in response to the information. These elements include continuous and systematic information gathering regarding customers and competitors, cross-functional sharing of information and coordination of activities, and responsiveness to changing market needs (Martin and Grbac, 2003). The organization-wide context of market orientation illustrates the significance of adopting a proactive attitude to doing business and developing a competitive edge (Liu et al, 2002) and is conceptually different from organizational proficiency in performing marketing related activities (Gima, 1995).

Market Orientation and Firm Performance

A number of researchers have examined the link between market orientation and performance. Although several studies have supported an association between market orientation and profitability the link between market orientation and innovation appears to be more complex (Martin and Grbac, 2003; Slater and Narver, 2000). Several conceptual writings suggest that the importance of market orientation for organizational performance depend on environmental conditions (Narver and Slater, 1990; Gima, 1995). A strong market orientation is required to focus the organization on those environmental events that are likely to influence their ability to increase customer satisfaction relative to competitors (Baker and Sinkula, 1999). Kohli and Jaworski (1990), for example suggest that market orientation may not have critical importance in turbulent environments. Technical turbulence moderates customer and competitor orientations' impact upon innovation performance (Liu et al., 2003). Recent research shows that the strength of the relationship between market orientation and firm performance is not influenced by the environment (Jaworski and Kohli, 1993; Gima, 1995). As a result implementation of a market-oriented strategy, reacting to market feedback may allow a firm to adapt successfully to external environmental changes. However while a strong market orientation may keep a firm on a steady course, alone, it may not necessarily constitute a dominant market position for the firm. Firms with both strong learning and market orientations may be best able to respond environmental forces through learning that enables innovative and reactive marketplace behavior (Baker and Sinkula, 1999).

There has been substantial amount of systematic studies examining the market orientation and performance link. Traditionally, the literature concerning the marketing concept has assumed that the implementation of the market orientation would lead to superior organizational performance (Piercy et al, 2002). In their study Kohli and Jaworski (1990) propose that the greater the market orientation of an organization, the greater would be the overall performance and that this relationship would be moderated by such several external forces like weaker economy, greater market turbulence and competition. The environmental context of an organization will probably influence its level of market orientation. Organizations in more competitive and dynamic environments may be expected to be more market oriented. As a result, the linkage between market orientation and performance depends on the

environmental characteristics of an organization (Jaworski and Kohli, 1993). Three environmental characteristics have been proposed by Jaworski and Kohli (1993): Market turbulence (the rate of change in the composition of customers and their preferences), competitive intensity and technological turbulence. Organizations that work with rapidly changing technologies may be able to obtain a competitive advantage through technological innovation together with the market orientation.

Greenly (1995), in contrast, concluded that market orientation might not be an appropriate organizational strategy for turbulent markets, where customers have limited power and technological change is rapid. Narver and Slater (1990) found a positive relationship between market orientation and business profitability where a market orientation is primarily concerned with learning from various forms of contact with customers and competitors in the market (Day, 1994; Slater and Narver, 2000). Further the authors extended their original study by considering the influence of entrepreneurial orientation on profitability. An entrepreneurial orientation encompasses such behaviors as innovativeness, risk taking and competitiveness which may enhance the prospects for developing a breakthrough product or identifying an unserved market segment (Lumpkin and Dess, 1996; Slater and Narver, 2000).

Market orientation is significantly important in enabling firms to understand the market place and develop appropriate product and service strategies to meet customer needs and requirements (Liu et al, 2002). A market orientation assures a customer focused strategy for market knowledge base generation, followed by coordinated, interfunctional marketing efforts to achieve long term firm – success. There has been significant advances in the development of a market orientation construct since the late 1980s and much analytical effort has been devoted to defining, conceptualizing, and operationalizing constructs of market orientation (Deng and Dart, 1994). Two conceptualizations of market orientation have gained wide support (Piercy et al, 2002): the information-based view of market orientation developed by Kohli and Jaworski (1990) and the culture-based interpretation of market orientation tested by Narver and Slater (1990).

In this study market orientation was measured by a 13-item scale adapted from Gima (1995) which adopted the information-based view of market orientation. Six items pertain to the collection and use of market information, four items tap the development of market-oriented strategy and three items measure the implementation of a market oriented response to customer needs. This questionnaire is designed to be organization-oriented rather than competitor-oriented.

Collection and Use of Market Information

There has been increasing interest in the role of use of market information for strategic purposes. External factors such as competition, uncertainty and needs are driving forces for strategic applications of market information (Choe, 2003). Collection and use of market information enabled by information systems is broadly considered to be a competitive weapon to cope with uncertain and volatile environments. Companies can deal with uncertainty by increasing their information processing capability and by creating interorganizational links between customers and suppliers. Knowledge-based resources and information gathering include specific technical and creative skills as well as integrative and coordinative skills (Mata et al, 1995). When customers tastes and rivals' strategies are dynamic, there is need to redesign or adapt the product. Firm innovativeness described by the development and marketing of innovations is likely to involve market, technology and competitor uncertainty. This means need for new information, technical changes and new organizational arrangements.

It is essential that senior managers are committed to the concept of market orientation and fully understand the role of market information and sound overall intelligence. Strategy formulation and implementation necessitates the active participation and commitment of staff throughout an organization (Clark, 2000). Companies need intelligence-gathering capabilities to keep up with technology development including both formal processes and information systems and informal systems that involve employees and senior managers to have the responsibility to the company to gather, disseminate and interpret technological information (Tyler, 2001). The more informed individuals engage more in problem solving discussions and create significant number of innovation which is

associated with the ability to access knowledge from outside the boundaries of the firm and the ability to integrate knowledge across departmental boundaries within the firm.

FIRM INNOVATIVENESS

There has been significant interest in product and firm innovativeness in recent years. An innovation is defined as an idea or object that is perceived as new by an individual or an agency (Rogers, 1995) “The perceived newness of the idea from the individual’s point of view determines his or her reaction to it. If the idea seems new to the individual, it is an innovation” (Robertson and Yu, 2001). An innovation consists of certain technical knowledge about how the things can be done better than existing state of the art (Tyler, 2001). The innovativeness of a new product and firm innovation capability is important for several reasons. Innovation products present opportunities for firms in terms of growth and expansion into new areas as well as allow firms to gain competitive advantage. Innovation by itself is defined as the generation, acceptance, and implementation of new ideas, processes, products or services. The innovation process includes the acquisition, dissemination and use of new knowledge (Calantone et al, 2002) and successful implementation of creative ideas within an organization (Amabile et al, 1996). There seems to be wide agreement that learning climate, corporate entrepreneurship, and firm innovativeness are highly correlated and research have been conducted by many scholars to measure how they are linked (Hurley and Hult, 1998; Liu et al, 2002). Corporate entrepreneurship focuses on experimentation, involving innovativeness, risk taking and proactiveness (Baker and Sinkula, 1999) and can generate competitive advantage for a firm in dynamic and turbulent markets.

Market orientation and entrepreneurial drive provides cultural foundation for organizational learning which enables an organization to achieve a higher level of performance and better customer value (Liu et al, 2002). Researchers have also concluded that organizational learning is associated with the development of new knowledge, which in turn, is crucial for firm innovativeness and firm performance (Liu et al, 2002).

Significant innovations allow firms to establish dominant competitive positions, and afford new comer firms an opportunity to gain an edge in the market. Innovations are also associated with high risks and may require more firm resources. Firm innovativeness consists of different dimensions; product innovativeness examined in the literature both from customers’ perspective and firm’s perspective; innovation in production processes (Victor et al, 2000), work organization, and human resource management practices (Baer and Frese, 2002). A product or a process orientation of firm innovativeness will result in success if the firm undertakes actions valued by the market (Harmsen et al, 2000). Product oriented firms need to be competent in understanding its customers and ensure that customers recognise the production possibilities facilitated by its processes.

Macro level attempts of national surveys regarding innovation capabilities have been hold in recent years. The most methodological framework to collect firm-level data on innovation activities is the one developed by OECD, the so-called “Oslo Manual”. The manual has provided a specific set of guidelines for national surveys covering a wide range of dimensions of innovation activities (Evangelista et al, 2001).

The Major areas of investigation of the Oslo Manual can be summarised as follows:

- The typology of innovation (process/product innovation)
- The amount of resources devoted to innovation activities
- The specific strategies implemented by firms
- The channels firms acquire and exchange technological information
- The existence of technological flows within firms
- The effect of innovation activities on sales and exports

The measurement of consumer needs and purchase interest may be valid for screening continuous innovations and market orientation induces businesses into being interested in short term customer needs which can be detrimental to innovation and long-term success of a company (Tse *et al.* , 2003). Jaworski and Kohli (1996)

suggest that market orientation might be an antecedent to innovation and market – oriented organizations tend to be more innovative (Liu *et al.* , 2003).

MARKET ORIENTATION AND FIRM INNOVATIVENESS

Studying the impact of market orientation on firm innovativeness has been a popular research area in recent years. Firms have to pay more attention to the needs of customers in the prevalent business environment which is defined highly competitive and offer them quality products and services to satisfy their ever-rising expectations. Hence, firms need a strategy that aligns the organization with the stake-holders and a business approach with customer or market orientation.

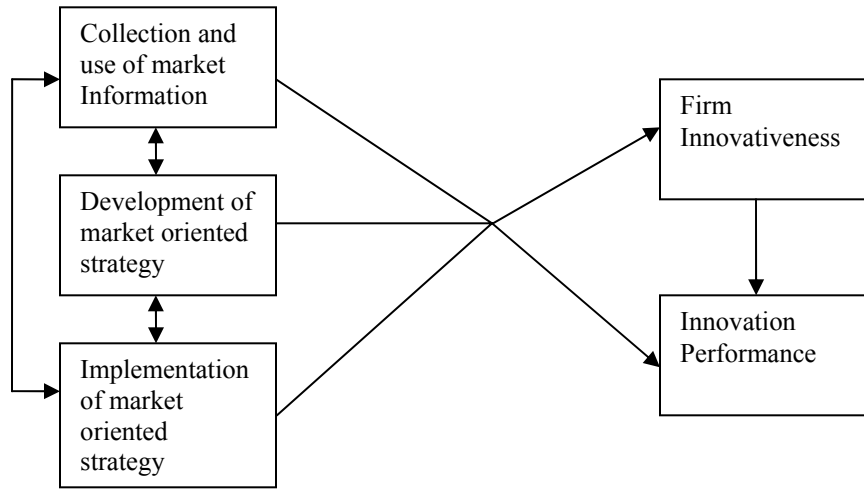
Market orientation is one of the core aspects of strategic marketing (Liu *et al.*, 2002; Webster, 1992; Gatignon and Xuereb, 1997) together with firm performance, new product performance and firm innovativeness (Gima, 1995; Gatignon and Xuereb, 1997; Bear and Frese, 2002; Calontone et al, 2002). Increasing attention given to market orientation by both researchers and practitioners is based on the assumption that market orientation improves organizational performance and relies not only on the concept of competitive orientation (Choe, 2003). Competitive effects play an important role in the strategy of firms and in their innovation strategy and performance. As commonly reported in the literature market orientation may have a direct impact on performance and indirect effects may exist too. R&D and market orientation and the interaction between them drive innovation and firm innovativeness (willingness and capacity to innovate) which in turn drive customer acceptance (Harmsen et al, 2000).

RESEARCH HYPOTHESES AND THE MODEL

The model explores the relationships between three components of market orientation and firm innovativeness, and innovation performance.

- H1.a)** Collection and use of market information is positively and significantly correlated with firm innovativeness
- H1.b)** Collection and use of market information is positively correlated with innovation performance
- H2.a)** Development of market-oriented strategy is positively associated with firm innovativeness
- H2.b)** Development of market-oriented strategy is positively associated with innovation performance
- H3.a)** Implementation of market-oriented strategy is positively correlated with firm innovativeness
- H3.b)** Implementation of market-oriented strategy is positively correlated with innovation performance
- H4)** Firm innovativeness is positively correlated with innovation performance
- H5)** Collection and use of market information, development of market-oriented strategy and implementation of market-oriented strategy are correlated.

Figure.1: The Theoretical model



A survey was conducted in order to evaluate the propositions listed above. The data has been gathered by using structured questionnaire forms distributed to and collected from executive managers of a sample of industrial firms in the Marmara Region. A total of 55 questionnaires out of 120 were returned and have been valid for the analysis. Likert-type scale was used, respectively anchored by (1) strongly disagree and (7) strongly agree.

The study utilized collection and use of market information, development of market-oriented strategy and implementation of market oriented-strategy scales of Gima (1995) with six, four and three questions respectively. Firm innovativeness was measured with four questions adopted from Hurt and Teigen (1977), Hollen-stein (1996). The measure of innovation performance was adopted from Mooneart et al. (1994) and Desphande et al (1993) including three questions.

The data were analyzed by using SPSS 10.0 statistical program and factor analysis, reliability and correlational analyses were utilized in order to evaluate the relationships between the variables.

RESEARCH FINDINGS

A factor analysis for the components of market orientation, firm innovativeness and innovation performance was held. The factor analysis results suggest that, as Table.1 indicates, all items load on their corresponding constructs and demonstrate adequate validity.

Table.2 presents the statistics in the form of mean and standard deviation for the three constructs of market orientation, firm innovativeness, and innovation performance used in this study. For each factor of the constructs, the measure was derived by taking the mean value of all the items listed under the factor. As shown in Table.2: collection and use of market information (5.57), development of market-oriented strategy (5.05), and implementation of market-oriented strategy (5.51) items represent mean values above the average. The mean value for items measuring firm innovativeness (4.79) is slightly lower than innovation performance (5.08). Firm innovativeness by definition includes successful implementation of creative ideas, whereas innovation performance is related to entry and penetration into markets with innovative products and gaining market share. In this study firms' innovation performance is found to be slightly higher than their innovative capacity.

The Cronbach's alpha coefficients of the factors/constructs surpassed the 0.70 threshold recommended by Nunnally (1978) for the test of scale reliability. The alpha values were as high as 0.89, 0.80, 0.94, 0.82 and 0.82,

respectively for market orientation components and firm innovativeness and innovation performance. The alpha values are shown in Table 2 together with the correlational analysis results.

Table 1: Results of factor analysis

| | 1 | 2 | 3 | 4 | 5 |
|--|------|------|------|------|------|
| Listens to opinions of customers | .803 | | | | |
| Uses customer information to improve quality of products and services | .796 | | | | |
| Company objectives are based mainly on customer needs | .668 | | | | |
| Obtains ideas from customers to improve products and services | .757 | | | | |
| Company personnel have adequate information about customers and competitors. | .605 | | | | |
| Values customer input in new product/service planning | .762 | | | | |
| Company values market position more than financial performance | | .626 | | | |
| Prices are determined by customer value | | .825 | | | |
| Focuses on markets in which we have competitive strength | | .687 | | | |
| Company planning is organized around markets rather than products or services. | | .793 | | | |
| Keeps promises made to customers | | | .854 | | |
| Responds to customer needs in writing sales contacts | | | .870 | | |
| Responds to customer needs in creating terms of trade | | | .743 | | |
| Our company frequently tries out new ideas. | | | | .841 | |
| Our company seeks out new ways to do things. | | | | .843 | |
| Our company is creative in its methods of operation | | | | .801 | |
| Our company is often the first to market with new products and services. | | | | .569 | |
| Relative to other products of our firm, this one has a better return on investment | | | | | .824 |
| Relative to our competitors' products, this one has a better return on investment. | | | | | .940 |
| This new product has succeeded in achieving its main objectives. | | | | | .841 |
| Eigenvalue | 3.26 | 3.28 | 3.64 | 2.59 | 2.27 |
| Cumulative (%) | 74 | 55 | 52 | 62 | 75 |

Table 2: Results of reliability and correlational analyses

| | Mean | Std. Dev. | 1 | 2 | 3 | 4 | 5 |
|---|------|-----------|----------------|----------------|----------------|----------------|----------------|
| 1. Collection and use of market information | 5.57 | .9150 | $\alpha = .89$ | | | | |
| 2. Development of market oriented strategy | 5.05 | .9463 | .677** | $\alpha = .80$ | | | |
| 3. Implementation of market oriented strategy | 5.51 | 1.223 | .720** | .445* | $\alpha = .94$ | | |
| 4. Firm Innovativeness | 4.79 | .9676 | .431** | .371** | .216** | $\alpha = .82$ | |
| 5. Innovation Performance | 5.08 | 1.1011 | .395* | .549** | .265 | .506** | $\alpha = .82$ |

* $p < .05$, ** $p < .01$

Collection and use of market information is positively correlated with the development of market-oriented strategy and the implementation of market-oriented strategy. Furthermore, development of market-oriented strategy is positively correlated with the implementation of market-oriented strategy. This result is consistent with hypothesis 5.

The relationship between collection and use of market information and implementation of market oriented strategy is stronger than that of development of market-oriented strategy and collection and use of market information ($.720 > .677$). Similarly, relationship between the collection and use of market information, and the implementation of market-oriented strategy is stronger than the association between the development of market-oriented strategy and the implementation of market-oriented strategy ($.720 > .445$).

Correlational analysis also indicates that the collection and use of market information, development of market oriented strategy and implementation of market-oriented strategy are correlated with the firm innovativeness. The strongest relationship of the three exists between collection and use of market information and firm innovativeness. Therefore, hypotheses H1a, H2a and H3a are not rejected. Collection and use of market information and the development of market-oriented strategy are correlated positively with the innovation performance. Implementation of market-oriented strategy is not correlated with the innovation performance. Therefore, while hypotheses H1.b and H2.b are supported, H3.b is rejected. The analysis also indicates that firm innovativeness and innovation performance are correlated positively at 0.01 level, supporting H4 in the model.

PRACTICAL IMPLICATIONS AND CONCLUSIONS

Customers today are highly informed and more demanding than before. Responsiveness to customer needs and changing market conditions become important for the success of firms and calls for the introduction of new products and services together with innovation capacity for a firm.

Given the consistent interactions between the dimensions of market orientation and firm innovativeness and innovation performance, we would argue that efforts of firms to enhance the collection and use of market information and implementation of market oriented strategy is especially important to companies that want to gain competitive advantage. The findings suggest that market orientation can lead to firm innovativeness and increase innovation performance as consistent with the findings of Baker and Sinkula (1999), such that market orientation can lead to successful new product development activity.

Therefore, our results suggest that market orientation as a driver of organizational market information processing activity should be incorporated into conceptualizations of innovation process, since it exists on a continuum characterized by the degree to which firms acquire, disseminate and respond to information obtained from customers, channels and competitors (Jaworski and Kohli, 1993; Baker and Sinkula, 1999; Celuch *et al.*, 2000). Reacting to market feedback may allow firms to adapt successfully in the external environment which may be characterized both as dynamic or stable. Market orientation is a source of new ideas and motivation to respond to the environment and promotes innovativeness (Hurley and Hult, 1998).

Because of its external focus, market orientation is well positioned to appreciate the benefits of market-driven learning and entrepreneurial values (Slater and Narver, 1998). Cultivating a market-oriented strategy may indeed, become one of the primary means to maintain competitive advantage. Environmental dynamism and competition is an emerging economy force organizations to be innovative in their business development and to develop learning behavior. Managers in organizations will have to be willing to take risks, be proactive entrepreneurs and be market-oriented.

The study analyzes the effects of market orientation components on firm innovativeness and innovation performance. Collection and use of market information, development and implementation of market-oriented strategy are found to be related to firm innovativeness. Collection and use of market information and development of market-oriented strategy are found to be associated with innovation performance. Furthermore, findings indicate that firm innovativeness is related to innovation performance for the sample data. These findings support the predicted relationships between market orientation and innovation performance.

The study results suggest that firms will increase their innovative capacity by developing and implementing market-oriented strategies as consistent with the literature. The results suggest that a firm with a market – orientation is likely to improve its innovation capacity and performance. The three dimensions of market orientation, market intelligence generation, development of market oriented strategy and implementation of market oriented strategy are important for innovation performance.

The generalizability of the findings of this study is limited to the sample space used in the survey. The links between market-orientation and innovation need to be extended by considering other variables such as learning orientation, organizational structure, entrepreneurship and performance.

REFERENCES

- Amabile, T.M., Conti R., Coon H., Lazenby j., Herron, M., “Assessing The Work Environment for Creativity”, *Academy of Management Journal*, 1996, Vol. 39: 54-84.
- Bear, M., & Frese, M., “Innovation is not Enough: Climates for Initiative and Psychological Safety, Process Innovations and Firm Performance”, *Journal of Organizational Behavior*, 2002, Vol. 24: 45-68.
- Baker, W.E. & Sinkula, J.M., “The Synergistic Effect of Market Orientation and Learning Orientation on Organizational Performance”, *Journal of Academy of Marketing Science*, 1999, Vol. 27, No.4: 411-427.
- Calantone, R.J., Cavusgil, S.T., Zhao, Y. “Learning Orientation, Firm Innovation Capability, and Firm Performance.” *Industrial Marketing Management*, 2002, Vol. 31: 515-524.
- Celuch, K. G., Kasouf, C. J., Peruvemba, V., “The Effects of Perceived Market and Learning Orientation on Assessed Organizational Capabilities” , *Industrial Marketing Management*, 2002, Vol. 31: 545-554.
- Choe, J., “ The Effect of Environmental Uncertainty and Strategic Applications of IS on a Firm’s Performance” , *Information and Management* 2003, 1-12. Article in Press.
- Clark,D.N., “Implementation Issues in Core Competence Strategy Making”, *Strategic Change*, 2000, Vol. 9: 115-127.
- Day, G.S., “The Capabilities of Market-Driven Organizations” , *Journal of Marketing*, 1994, Vol. 58: 37-52.
- Deng S., Dart, J., “Measuring Market Orientation: a Multi-Factor, Multi-Item Approach”, *Journal of Marketing Management*, 1994, Vol. 10: 725-742.
- Desphande, R, Farley, J. U., Webster, F. E., , “Corporate Culture, Customer Orientation, and Innovativeness in Japanese Firms: A Quadred Analysis”, *Journal of Marketing*, 1993, Vol. 57: 23-27.
- Evangelista, R., Iammarino, S., Mastrostefano, V., Silvani, A., “Measuring the Regional Dimension of Innovation: Lessons from the Italian Innovation Survey”, *Technovation*, 2001, Vol. 21: 733-745.
- Gatignon, H., Xuereb, J.M., “Strategic Orientation of the Firm and New Product Performance.” *Journal of Marketing Research*, February 1997, Vol. 34: 77-90.
- Gima, K.A., “An Exploratory Analysis of the Impact of Market Orientation on New Product Performance”, *Journal of Product Innovation Management*, 1995, Vol.12: 275-293.
- Greenley, G.E., “Market Orientation and Company Performance: Emprical Evidence from UK Companies”, *Journal of Management*, 1995, Vol. 6: 1-14.
- Harmsen, H., Grunert, K.G., Declerck, F., “Why Did We Make That Cheese? An Emprically Based Framework for Understanding What Drives Innovation Activity”, *R&D Management*, 2000, Vol. 30: 151-166.
- Hollenstein, H. A., “A Composite Indicator of a Firm’s Innovativeness. An Emprical Analysis Based on Survey Data for Swiss Manufacturing”, *Research Policy*, 1996, Vol. 25: 633-645.

- Homburg, C., Krohmer, H., Workman, J. P., J.R., “A Strategy Implementation Perspective of Market Orientation”, *Journal Of Business Research*, In Press, Corrected Prof, Available Online May 2003.
- Hurley, R.F., Hult, G.T.M., “Innovation, Market Orientation and Organizational Learning: An Integration and Empirical Examination”, *Journal of Marketing*, 1998, Vol. 62: 42-54.
- Hurt, T.H., Teigen, C. W. , “The Development of a Measure of Perceived Organizational Innovativeness”, *Commun Yearb*, 1977, Vol.1: 377-385.
- Joseph, K., Cook, C. D., “Scales for the Measurement of Innovativeness”, *Hum Commun Res*, 1977, Vol. 4: 58-65.
- Jaworski, B.J., Kohli, A.K., “Market Orientation Antecedents and Consequences” *Journal of Marketing*, 1993, Vol.57 : 53-70.
- Jaworski, B. , Kohli, A., “Market Orientation: Review, Refinement and Roadmap” , *Journal of Market Focused Management*, 1, 2, 1996, 119-135.
- Kohli A., Jaworski B.J., “Market Orientation: The Construct, Research Propositions and Managerial Implications” *Journal of Marketing Research*, 1990, Vol. 54: 1-19.
- Liu, S.S., Luo, X., Shi, Y., “Integrating Customer Orientation in Organizations –in- Transition: An Empirical Study”, *International Journal of Research in Marketing*, 2002, Vol. 19: 367-382.
- Liu, S.S., Luo, X., Shi, Y., “Market-oriented organizations in an emerging economy: A study of missing links”, *Journal of Business Research*, , June 2003, Vol.56: 481-491.
- Lumpkin, G.T., Dess, G., “Clarifying the Entrepreneurial Orientation Construct and Linking it to Performance”, *Academy of Management Review*, 1996, Vol. 21: 135-172.
- Martin, J.H., Grbac, B., “Using Supply Chain Management to Leverage a Firm’s Market Orientation”, *Industrial Marketing Management*, 2003, Vol. 32: 25-38.
- Mata, F.J., Fuerst, W.L., Barney, J.B., “ Information Technology and Sustained Competitive Advantage: A Resource Based Analysis”, *MIS Quarterly*, 1995: 487-505.
- Matsuno, K., Mentzer, J. T., Rentz, J. O., “A Conceptual and Empirical Comparison of Three Market Orientation Scales” , *Journal of Business Research*, article in press, 2003.
- Mooneart, R.K., Souder, W.E, Meyer, A.D., Deschoolmeester, D., “R&D-Marketing Integration Mechanisms, Communication Flows, and Innovation Success”, *Journal of Product Innovation Management*, 1994, Vol. 11: 31-45.
- Narver, J.C., Slater, S.F., “The Effect of Market Orientation on Business Profitability”, *Journal of Marketing*, October 1990: 20-35.
- Piercy, N.F., Haris, L.C., Lane, N., “Market Orientation and Retail Operative’s Expectations”, *Journal of Business Research*, 2002, Vol. 55: 261-273.
- Robertson, P.L., Yu, T.F., “Firm Strategy Innovation and Consumer Demand: A Market Process Approach”, *Managerial and Decision Economics*, 2001, Vol. 22: 183-199.
- Rogers, E.M., *Diffusion of Innovations*, 4rd ed., Free Pres, NY, 1995.

Slater, S.F., Narver, J.C., “Market Oriented is More Than Being Customer-Led”, *Strategic Management Journal*, 2000, Vol: 20: 1165-8.

Tse, A. C. B., Sin, L. Y. M., Yau, O. H. M., Lee, J. S. S. , Chow, R., “Market Orientation and Business Performance in a Chinese Business Environment” , *Journal of Business Research*, 2003, Vol. 56: 227-239.

Tyler, B.B., “The Complementarity of Cooperative and Technological Competencies: A Resource Based Perspective”, *Journal of Eng. Technol. Management*, 2001, Vol. 18: 1-27.

Victor, B., Boynton, A., Stephens, J.T., “ The Effective Design of Work Under Total Quality Management”, *Organization Science*, 2000, Vol. 11: 102-117.

Webster, F.E., “The Changing Role of Marketing in the Corporation”, *Journal of Marketing*, 1992, Vol. 56: 1-17.