Market orientation, learning orientation, and innovation capabilities in SMEs

An extended model

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Abstract

Purpose – The purpose of this paper is to examine the nomological relations among market-orientation, learning-orientation and innovativeness in medium-sized business (SMEs) of developing countries.

Design/methodology/approach – The study involves a questionnaire-based survey of managers from small-sized-firms operating in Turkey. A total of 157 usable questionnaires were received from managers. These were subjected to a structural equation modeling (SEM) analysis.

Findings – The results show that firm innovativeness positively affects firm performance; firm learning-orientation positively influences firm innovativeness; firm market-orientation positively impacts firm learning orientation; firm learning-orientation mediates the relationship between firm market-orientation and firm innovativeness; and firm market-orientation indirectly impacts firm performance via firm innovativeness and learning.

Practical implications – This study has implications for SEMs aiming at increasing their performance and innovativeness.

Originality/value – The interrelationships among a firm's market-orientation, learning-orientation, and innovativeness are an important research area for investigators in the literature of management, strategy, and marketing. However, most of the empirical studies were conducted in large-scale firms in developed countries and ignored small and medium-sized business (SMEs) in general, and in developing countries in particular. The results offer both theoretical and managerial implications.

Keywords Market orientation, Learning, Learning organizations, Innovation, Small to medium-sized enterprises, Turkey

Paper type Research paper

Introduction

Innovation is the name of the game for competition in the twenty-first century. Increased competition, ceaseless turbulence, change, and uncertainty have forced organizations to embrace innovation as an integral part of their corporate strategy. In this sense, how organizations enhance their innovativeness has long been a research question for scholars and practitioners. Even though extensive research has been conducted to address this issue, students of organizational behavior and marketing in general, and organizational learning in particular, have pointed out the direct influence of market- and learning-orientation on firm innovativeness (Farrell and Oczkowski, 2002; Sinkula and Baker, 1999; Slater and Narver, 1995). Studies indicated that market-orientation, learning-orientation, and innovativeness are highly correlated and have overlaps based on their definitions and practices (Calantone *et al.*, 2002; Hurley and Hult, 1998). In particular, definitions of innovation from Thompson (1965),

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Damanpour (1991), and Amabile *et al.* (1996) converge with the ontology of market-orientation and learning-orientation as indicated by Hurley and Hult (1998). Accordingly, there exists both empirical and theoretical studies investigating the linear or causal relationships among the market-orientation, learning-orientation, innovativeness, and, thereby, their combined impact on firm performance. Nevertheless, most of the empirical studies focused on the large-scale organizations in western/developed countries, while ignoring the SMEs in general, and SMEs in developing countries in particular. Specifically, studying the SMEs in developing countries contributes to the literature for three reasons:

(1) The majority of the market-orientation and learning-orientation studies were conducted in developed western countries, e.g. USA, UK, using the measure scales of Narver and Slater (1990), Kohli *et al.* (1993), Ruekert (1992), Calantone *et al.* (2002), and others. However, replication of the market-orientation, learning-orientation, and innovativeness studies is warranted, because if these constructs are reliable and valid, they should also be applicable in different environments and economies, such as Turkey.

(2) Market- and learning-orientation studies mostly investigated large firms having 250 or more employees. However, the applicability of market-orientation, learning-orientation, and innovativeness measures, and their research models, which were developed for large-scale firms, may have different meanings in a SME context. For instance, SMEs face particular problems in the formulation of their innovation strategies due to:

- their deficiencies arising from their limited resources and range of technological competencies;
- influence of their owners/managers on the decision-making;
- dependence on small numbers of customers and suppliers; and
- focus on the efficiency of current operations, to name just a few (Badger *et al.*, 2001).

Also, market- and learning-orientation are less formal, less structured, and less sequential in SMEs (Gibb, 1997; Peterson, 1988, Anderson and Boocock, 2002; Meziou, 1991). Specifically, organizational learning is reflected as work-place learning, which is a lower-level learning style involving the use of existing knowledge to enhance operation efficiency in SMEs (Badger *et al.*, 2001; Chaston *et al.*, 2001). For instance, Anderson and Boocock (2002) note that self-directed, work-based, and informal learning is dominant in small firms, as it allows increased flexibility and adaptability. In addition, SMEs are more reluctant than larger firms to embrace the marketing concept in their strategy formulations (Meziou, 1991). In fact, most small firms do not conduct market research, and do not have long-term market planning (Peterson, 1988; Meziou, 1991; Blankson and Stokes, 2002).

(3) Empirical studies on market-orientation, learning-orientation, and innovativeness in SMEs are fragmented or incomplete. For instance, studies exist that investigate relationships between:

- market-orientation and overall firm performance (Horng and Chen, 1998; Pelham, 2000), export performance (Hart and Tzokas, 1999), and financial performance (Dolinger, 1984);
- learning-orientation and firm growth and innovativeness (Sadler-Smith *et al.*, 2001), and firm performance (Choueke and Armstrong, 1998); and
- firm innovativeness and performance (Aharoni, 1994).

Yet there remains a gap in empirical research investigating the relations among the market-orientation, learning-orientation, firm innovativeness, and firm performance as an integrated model in SMEs.

The aim of this study is, therefore, to empirically test the nomological web of market-orientation, learning-orientation, firm innovativeness, and performance and to enhance the literature on organizational learning and marketing in SMEs.

In the sections that follow, this study:

- explains the concept of market-orientation, learning-orientation, and firm innovativeness;
- proposes a model of market-orientation, learning-orientation, firm innovativeness, and performance based on prior scholarship of organizational learning, marketing, innovation;
- tests the model in Turkish SMEs, which employ 45 percent of the country's work force; and
- discusses the findings of the present study, explores insights gained from it, notes the limitations of the study, and provides suggestions for future research.

Background

Since, the seminal study of Kohli and Jaworski (1990), the term "market-orientation" found a broad appeal in the marketing literature. The literature describes market-orientation as a set of behaviors and processes (Kohli and Jaworski, 1990), or an aspect of culture (Narver and Slater, 1990) to create a superior customer value. For instance, Kohli and Jaworski (1990), by adapting a process approach, use the term market-orientation to mean the implementation of a marketing concept via market intelligence generation, intelligence dissemination, and responsiveness (implementing a marketing strategy). By using a cultural framework, Slater and Narver (1995) extended the boundary of the market-orientation concept by incorporating the development of information about competitors, and interfunctional collaboration. Ruekert (1992), influenced by Deshpande and Webster's (1989) cultural framework of marketing and adopting a strategic view, identified three components of market-orientation:

(1) obtaining and using customer information;

(2) developing a strategic plan based on such information; and

(3) implementing the plan to respond to customer needs.

Accordingly, market-orientation is a cognitive, behavioral, and cultural aspect of a firm's marketing concept that puts the customer at the center of the organization and its development (Deshpande and Webster, 1989). However, empirical studies on the effect of market-orientation on superior performance revealed inconsistent results

(Han *et al.*, 1998). For instance, Narver and Slater (1990) and Ruekert (1992) found a positive relationship, Hart and Diamantopoulos (1993) found no relationship, and Kohli and Jaworski (1993) found mixed results. Accordingly, scholars attempted to identify the mechanisms or factors that transform market-orientation behavior into firm performance in their theoretical and empirical models (Han *et al.*, 1998).

One of the most studied factors, which has synergy with market-orientation, is learning-orientation. Many researchers (e.g. Slater and Narver, 1995; Baker and Sinkula, 1999; Farrell, 2000), for instance, argued that market-orientation only enhances performance when it is combined with a learning-orientation. According to Baker and Sinkula (1999, p. 412), learning-orientation "...is a mechanism that directly affects a firm's ability to challenge old assumptions about market and how a firm should be organized to address it." Specifically, since market-oriented firms focus on customers and their feedback in the established markets, they ignore the emerging markets, technologies, and competitors. However, learning-orientation, embracing the commitment to learning, shared vision, open-mindedness and interorganizational knowledge sharing, fosters a set of knowledge-questioning and knowledge-enhancing values that leverage the adaptive behaviors provided by market-orientation to a higher-order learning that leads to the development of breakthrough products, services, and technologies, and the exploration of new markets (Farrell, 2000; Slater and Narver, 1995).

In addition, to learning-orientation, another mechanism emphasized by the management and marketing scholars is firm innovativeness, which refers to that portion of a firm's culture that promotes and supports novel ideas, experimentation, and openness to new ideas (Calantone *et al.*, 2002). For instance, Slater and Narver (1995) propose innovation as one of the core-value creating capabilities that drives the market-orientation and performance relationship. Kohli and Jaworski (1993) note that market-orientation provides something new or different in response to market conditions, which can be seen as a form of innovative behavior. Also, by investigating 134 banks, Han *et al.* (1998) found that innovativeness mediated the relationship between market-orientation and performance.

In short, scholars in general management and marketing literature support the interrelated relationships among market-orientation, learning-orientation, firm innovativeness, and their combined impact on firm performance in large firms. However, we know surprisingly little about the interrelationships among market-orientation, learning-orientation, innovativeness, and firm performance in SMEs. In particular, a systematic or holistic investigation of market-orientation, learning-orientation, innovativeness, and firm performance is required if SME managers and scholars are to uncover the nomological web of marketing, learning, innovation, and improved firm performance. To address this deficiency, the present study extends the model of Calantone *et al.* (2002) which addressed the role of learning-orientation in firm innovativeness and firm performance. By using 187 US firms, the authors found that learning-orientation has a positive influence on firm innovativeness and performance; further, that firm innovativeness has a positive impact on firm performance. However, Calantone *et al.* (2002, p. 523) noted that their study was limited, and that, "...the general outline can be applied to other types of activities, such as marketing, and their linkage with organizational learning." They also suggested the applicability of the learning and innovation constructs to other cultures and industries. In this vein, this study adapted the model of Calantone *et al.* (2002) by incorporating the market-orientation as a skeleton

for a model of market-orientation, learning-orientation, innovativeness, and firm performance in an SME context.

Research hypotheses

The purpose of this section is to explain the interactions of market and learning-orientation, innovation and firm performance in the context of a SME. Since, it is difficult to explain the interwoven relationships coherently in a holistic model, a backward hypothesis development method was used. Specifically:

- which factors impact firm performance;
- how market-orientation and learning-orientation affect firm innovativeness; and
- how market-orientation and learning-orientation are related was discussed in sequence.

The impact of market-orientation on firm performance has been investigated for over a decade in SME literature. Studies by Peterson (1989), Meziou (1991), Pelham and Wilson (1996), Horng and Chen (1998), especially, addressed the direct influence of market-orientation on firm performance and competitive advantage. According to Pelham (1997), a market-oriented firm, which has excellent market information gathering and processing abilities, is able to predict the requirements and changes in markets accurately and quickly, allowing them to respond quickly and appropriately. Thereby, they enhance their competitive advantage. In this regard, it has been asserted by scholars in the SME literature that market-orientation provides small firms with a potential competitive advantage over large firms, because SMEs:

- are closer to customers and able to exploit their needs and wants quickly and more flexibly;
- are able to transfer customer intelligence quickly, with less deterioration, due to their reduced organizational layers and bureaucracy; and
- can implement the marketing plan fast, because it is less formal.

Therefore, considering that SMEs may lack a long-range focus and strategic orientation that their customer orientation in general and market-orientation in particular are critical determinants of performance (Appiah-Adu and Singh, 1998), and consistent with SME literature, it is hypothesized that:

H1. Market-Orientation will positively lead to firm performance in SMEs.

Another well-known factor that impacts firm performance is firm innovativeness. The positive role of firm innovativeness on firm performance has been supported by many theoretical and empirical studies of new product developments, technology adoption and diffusion, process improvement, and innovation (Calantone *et al.*, 2002). Of particular importance to an SME's innovativeness is the reflection of the environmental uncertainty and the lack of technology competencies for new product development, cost effectiveness, operational efficiency, emerging market niches, and process innovation (Appiah-Adu and Singh, 1998). For instance, studies note that SMEs (Keizer *et al.*, 2002; Motwani *et al.*, 1999) should be innovative to get a competitive advantage due to their limited resources, vulnerability to uncertainty, turbulence in business environments, and the extensive powers of customers and

suppliers. Indeed, SMEs that follow a proactive business strategy foster innovativeness as a central part of corporate culture. SMEs can achieve leadership positions by applying aggressive innovation strategies in niche industries. High-tech SMEs, e.g. electronics, software, and biotechnology, for instance, demonstrate improved performance by generating new markets and industries due to their innovativeness (Romijn and Albaladejo, 2002).

Because innovativeness has long been associated with entrepreneurial behavior, and theoretically linked to a high tolerance for ambiguity, taking risk, and evaluating uncertain situations more favorably, it is therefore hypothesized that:

H2. Firm innovativeness will positively lead to firm performance in SMEs.

Noting the importance of innovativeness for firm performance, it is also important to mention the mechanisms that promote the firm innovativeness in order to investigate the relations in a holistic way. In their model, Calantone *et al.* (2002) demonstrated the direct impact of learning-orientation on firm innovativeness. According to Calantone *et al.* (2002), learning orientation influences firm innovativeness in three ways:

(1) since learning occurs through organizational observation and interaction with their environments, it is more likely to be committed to innovation;

(2) since learning organizations are linked with their environment, it has the knowledge and ability to understand and anticipate customer needs and emerging markets; and

(3) since organizations closely monitor the competitors' actions in the market, their strengths and weaknesses, and successes and failures, that environmental scanning contributes to firm innovativeness.

However, much of the theory on learning-orientation and firm innovativeness is based on empirical studies completed on large-based firms rather than SMEs. In this sense, there is a gap in the empirical investigation of learning-orientation and firm innovativeness in SME literature (Badger *et al.*, 2001).

Organizational learning studies in SMEs, for instance, note that learning in small firms is context sensitive, firm-specific, and work-based, which is, by nature, reactive and produces operational efficiency in the short-run – indicating adaptive rather than innovative behavior (Badger *et al.*, 2001). However, as indicated by cognitive psychology, exploitation of each bit of information and then utilizing such information in the workplace to advance new operational practices, in essence, develops new schemata or thinking ways, and knowledge for employees (Hurley and Hult, 1998). Consequently, people become more adaptive to different views, procedures, and ideas, and become proactive to enhance the quality of workplace and the operations of firms and customer satisfaction (Chaston *et al.*, 2001; Anderson and Boocock, 2002; Matlay, 2000). Therefore, it is hypothesized that:

H3. Learning-Orientation will positively lead to firm innovativeness in SMEs.

Even though market-orientation and learning-orientation are antecedents of innovation (Hurley and Hult, 1998), the effect of market-orientation on firm innovativeness is mediated by learning-orientation. Specifically, market-orientation fosters a knowledge-producing behavior – providing a source of ideas for change and

improvement by market information processing and marketing strategies. However, the knowledge generated by market-orientation has little benefit if not appreciated and implemented for firm innovation. For instance, Baker and Sinkula (1999) argue that market-orientation, representing the degree to which firms acquire, distribute, and use the market information, is an *input* for the innovation process. Nevertheless, learning-orientation, reflecting the degree to which firms are committed to challenge beliefs and practices, *defines* the innovation process itself. Also, since market-orientation breeds the rigidity and stickiness of the existing customer intelligence and plans, it may also hinder firm innovativeness, as indicated by organizational unlearning studies (Sinkula, 2002). In this regard, learning-orientation lays a foundation for a desire to assimilate new ideas, and leverages customer intelligence for firm innovativeness (Hurley and Hult, 1998; Celuch *et al.*, 2002). For example, Farrell (2000) investigated 200 organizations in Australia and found that market-orientation is related positively to a learning-orientation and that a learning-orientation has a stronger significant effect on business performance than does market-orientation. Also, by investigating 304 state-owned enterprises in China, Liu *et al.* (2002) found that learning-orientation mediates market-orientation and short-term outcomes – i.e. marketing program dynamism refers to the frequency with which an organization changes its mix of products/brands, sales, and promotion strategy. Therefore, in a SME context:

H4. Market-Orientation will positively lead to firm innovativeness via Learning-Orientation (Learning-Orientation will mediate the relationship between Market-Orientation and firm innovativeness) in SMEs.

Even if there is a common agreement about the relationship among learning-orientation, market-orientation, and innovativeness (e.g. learning-orientation → firm innovativeness), there is no clear agreement about the direction of the relationship between learning-orientation and market-orientation. For instance, Sinkula *et al.* (1997) demonstrated the impact of learning-orientation on market-orientation, whereas Slater and Narver addressed the influence of market-orientation on learning-orientation. However, it is important to note that studies promoting the relationship of learning-orientation → market-orientation, essentially investigated the *market information processing* rather than market-orientation. In fact, Farrell and Oczkowski (2002) found that by investigating 340 organizations, market-orientation is able to encompass learning-orientation, but learning-orientation is not able to encompass market-orientation. Also, Dickson (1996) notes that market-orientation describes a set of processes that enables the firm to learn. Further, Farrell (2000, p. 208) states that:

> Market-orientation firms are effective in producing knowledge and this culture of knowledge production, inevitably leads to knowledge-questioning values. In short, organizations that are able to appreciate the value of timely and relevant information (market-orientation), will also be intelligent enough to challenge existing assumptions about the way the market operates (learning-orientation).

The relationship between market-orientation and learning-orientation has also been investigated in SME literature. For instance, by studying 106 SMEs, Chaston *et al.* (1999) found a positive correlation between market-orientation and learning-orientation. However, they did not specify the direction of the relationship – causality. Since, small firms are closer to their customers, they are able to generate new knowledge and exploit the existing knowledge effectively. Specifically, they develop

intelligence about customers, from which they develop a set of knowledge-questioning values that promote innovative products, processes, and services. In fact, market intelligence generation constantly improves and updates organization – wide learning values and skills. Consistent with the work of Slater and Narver (1995, p. 67), since "...a market orientation is inherently a learning orientation...," in the context of an SME, it is, therefore, hypothesized that:

H5. Market-orientation will positively lead to learning-orientation in SMEs.

Research method

Sampling

To test the above hypotheses, multi-item scales were adopted from previous studies for the measurement of the constructs. All constructs were measured using 7-point Likert scales ranging from "strongly disagree" (1) to "strongly agree" (7). By using the parallel-translation method, items were first translated into Turkish by one person and then retranslated into English by a second person. The two translators then jointly reconciled all differences. The suitability of the Turkish version of the questionnaires was then pre-tested by eight part-time graduate students working in industry. After refining the questionnaire, based on interviews with the pre-test subjects, the questionnaires were distributed and collected by one of the authors, applying a "personally administrated questionnaire" method. The unit of analysis is the firm, with the managing director as the key informant. Firms, with less than 250 employees were selected as SMEs, as defined by the Ministry of Commerce and Trade and the Istanbul Chamber of Industry. The initial sample consisted of 300 firms in the industrial zone, near Istanbul, Turkey. Data were gathered from 157 firms (a 52 percent response rate).

Several industries were represented, including manufacturing (21 percent), construction (15 percent), materials (10 percent), textile (10 percent), food (9 percent), chemical (8 percent), service (8 percent), transportation (6 percent), electronics (5 percent), software (4 percent), and utility (4 percent). Twenty-seven percent of the firms had less than 50 employees and 73 percent of the firms had between 50 and 250 employees.

Measures

Market-orientation. There have been empirical measurements of market-orientation developed by a number of scholars from both the perspective of the organizational culture (MKTOR scales of Narver and Slater, 1990), and by using a set of processes and activities (MARKOR scales of Kohli *et al.*, 1993). However, as Hunt and Morgan (1995, p. 1) point out:

> Market-orientation should be conceptualized as i-) systematic gathering of information on customers and competitors (both present and potential), ii-) the systematic analysis of the information for the purpose of developing market knowledge, iii-) the systematic use of such knowledge to guide strategy, recognition, understanding, creation, selection, implementation and modification.

Therefore, in applying the market-orientation concept to SMEs, the authors drew upon the elements of Ruekert (1992)[1], viewing market-orientation as cultural and behavioral processes and the activities associated with creating and satisfying customers by continually assessing their needs and wants to increase business performance.

Learning-orientation. Learning-orientation scales were adapted from Calantone *et al.* (2002). According to Calantone *et al.* (2002), learning-orientation refers to the

organization-wide activity of creating and using knowledge to enhance competitive advantage, including four components (a second-order factor):

(1) *commitment to learning*; the degree to which an organization values that which promotes a learning culture;

(2) *shared vision*; an organization-wide focus on learning, or direction of learning;

(3) *open-mindedness*; willingness to critically evaluate the organization's operational routine and to accept new ideas; and

(4) *intraorganizational knowledge sharing*; collective beliefs or behavioral routines related to the spread of learning among different units within the organization.

Firm innovativeness. Firm innovativeness scales were adapted from Calantone *et al.* (2002). Calantone *et al.* (2002) defined firm innovativeness as openness to new ideas as an aspect of a firm's culture by a willingness to try out new ideas, seek out new ways to do things, be creative in its methods of operation and rate of product introduction.

Firm performance. Firm performance scales were adapted from Calantone *et al.* (2002) and Choi and Lee (2003). Because the present study used a multi-company and multi-industry sample, an attempt was made to control for performance differences in the nature of firms by using relative performance measures, such as market share, growth rate, and profitability.

Measure validity and reliability

After data collection, measures were subjected to a purification process to assess their reliability, unidimensionality, and discriminant and convergent validity (Anderson and Gerbing, 1988; Fornell and Larcker, 1981).

First, to asses the unidimensionality, measures were divided into three subsets of theoretically related variables: three dimensions of market-orientation (i.e. collection and use of market information, development of market-oriented strategy, and implementation of market-oriented strategy), four dimensions of learning-orientation (i.e. commitment to learning, shared vision, open-mindedness, and intraorganizational knowledge sharing), and two outcome measures (i.e. firm innovativeness and performance) as recommended by Bentler and Cho (1988). Tables I-III indicate that three models fit well.

To assess discriminant validity, a series of two-factor models, as recommended by Bagozzi *et al.* (1991), were estimated. In this estimation, individual factor correlations, considered individually, were restricted to unity. The fit of the restricted models was compared with that of the original model. χ^2 change ($\Delta\chi^2$) in all models, constrained and unconstrained, were significant ($p < 0.05$), confirming that the constructs demonstrated discriminant validity.

Following Calantone *et al.* (2002), learning-orientation was operationalized as a second-order construct with four dimensions. Table I denotes that the factor loadings from the measurement to the corresponding first-order constructs (part A), and factor loadings from first-order factors to the second-order factors (part B) are significant, providing evidence of convergent validity. In addition, results of second-order CFA suggest that the hypothesized model fits the data well, yielding acceptable fit indices ($\chi^2_{(86)} = 241.13$; comparative fit index (CFI) = 0.90; incremental fit index (IFI) = 0.90; RMSEA = 0.10). Hence, the second-order factor model was used to demonstrate a composite learning-orientation.

Table I.
Learning-orientation second-order measurement model

Standardized first-order loadings

Construct	Indicator (parameter)	Standardized loadings
Commitment to learning	Managers basically agree that our organization's ability to learn is the key to our competitive advantage	0.76[a]
	The basic values of this organization include learning as key to improvement	0.74 (9.3)[b]
	The sense around here is that employee learning is an investment, not an expense	0.86 (11.04)
	Learning in my organization is seen as a key commodity necessary to guarantee organizational survival	0.84 (10.75)
Shared vision	There is a commonality of purpose in my organization	0.67[a]
	There is a total agreement on our organizational vision across all levels, functions, and divisions	0.79 (8.88)
	All employees are committed to the goals of this organization	0.92 (9.94)
	Employees view themselves as partners in charting the direction of the organization	0.89 (9.71)
Open-mindedness	We are not afraid to reflect critically on the shared assumptions we have made about our customers	0.54[a]
	Personnel in this enterprise realize that the very way they perceive the marketplace must be continually questioned	0.70 (6.00)
Intraorganizational knowledge sharing	We continually judge the quality of our decisions and activities taken over time	0.74(6.15)
	There is a good deal of organization conversation that keeps alive the lessons learned from history	0.79[a]
	We always analyze unsuccessful organizational endeavors and communicate the lessons learned widely	0.83 (10.79)
	We have specific mechanisms for sharing lessons learned in organizational activities from department to department (unit to unit, team to team)	0.75 (9.65)
	We put little effort in sharing lessons and experiences	0.63 (7.98)

Standardized second-order loadings

First-order construct	*Learning-orientation*
Commitment to learning	0.87[a]
Shared vision	0.77 (6.60)
Open-mindedness	0.90 (5.72)
Intraorganizational knowledge sharing	0.93 (8.05)

Notes: CFI = 0.90; IFI = 0.90; $\chi^2_{(86)} = 241.13$; RMSEA – 0.10; $\chi^2/df = 2.80$; [a]fixed parameter; [b]t values from unstandardized solutions are shown in parentheses

Table II.
Market-orientation second-order measurement model

Standardized first-order loadings

Construct	Indicator (parameter)	Standardized loadings
Collection and use of market information	Listens to opinions of customers	0.68[a]
	Uses customer information to improve quality of products and services	0.73 (8.08)[b]
	Uses customer information to develop new products and services	0.79 (8.67)
	Uses market research data in segmenting markets	0.51 (5.78)
	Obtains ideas from customers to improve products and services	0.77 (8.51)
	Company personnel have adequate information about customers and competitors	0.55 (6.28)
	Values customer input in new product/service planning	0.75 (8.31)
Development of market-oriented strategy	Company values market position more than financial performance	0.56[a]
	Prices are determined by customer value	0.71 (5.99)
	Focuses on markets in which we have competitive strength	0.51 (4.89)
	Company planning around markets rather than product or services	0.76 (6.17)
Implementation of market-oriented strategy	Customer needs drive the development of our pricing and credit policies	0.59[a]
	Customer needs drive our binds or competition for contracts or projects	0.94 (7.53)
	Product and service delivery schedules and standards are based on customer needs	0.77 (7.34)

Standardized second-order loadings

First-order construct	*Market-orientation*
Collection and use of market information	0.66 (4.38)
Development of market-oriented strategy	0.88 (5.72)
Implementation of market- oriented strategy	0.73[a]

Notes: CFI = 0.88; IFI = 0.88; $\chi^2_{(74)} = 187.51$; RMSEA = 0.09; $\chi^2/\mathrm{df} = 2.53$; [a]fixed parameter; [b]t values from unstandardized solutions are shown in parentheses

Standardized first-order loadings		
Construct	Indicator (parameter)	Standardized loadings
Firm performance	Overall success	0.70[a]
	Market share	0.89 (9.68)[b]
	Growth rate	0.72 (8.18)
	Profitability	0.63 (7.22)
	Business size	0.77 (8.72)
Firm innovativeness	Our is often the first to market with new products and services	0.63 [a]
	Our company frequently tries out new ideas	0.77 (3.69)
	Our company seeks out new ways to do things	0.79 (3.70)
	Our company is creative in its methods of operation	0.74 (3.67)
	Our new product/service introduction has increased over last five years	0.54 (2.29)

Notes: CFI = 0.89; IFI = 0.89; $\chi^2_{(34)} = 96.53$; RMSEA = 0.10; $\chi^2/df = 2.84$; [a]fixed parameter; [b]*t* values from unstandardized solutions are shown in parentheses

Table III.
Outcome measurement model

Following the suggestions of Hunt and Morgan (1995) and Uncles (2000), market-orientation was operationalized as a second-order construct with three dimensions. Although the market-orientation construct has been conceptualized into three distinctive behavioral and cultural components in the literature, the primary emphasis has been on the combined effect of the components in actual practice. For instance, Uncles (2000, p. V) states that:

> More conversely, perhaps the search for one-dimensional and internally consistent components within the market-orientation scales is misplaced. Should we not expect components of market-orientation to be multifaceted and interdependent and interconnected?

Table II shows that the factor loadings from the measurement to the corresponding first-order constructs (part A), and factor loadings from first-order factors to the second-order factors (part B) are significant, providing evidence of convergent validity. Also results of second-order CFA suggest that the hypothesized model fits the data well, thus yielding adequate fit indices, which are very close to threshold level ($\chi^2_{(74)} = 187.51$; CFI = 0.88; IFI = 0.88; RMSEA = 0.09). Hence, the second-order factor model was used to demonstrate a composite market-orientation.

The measures were subjected to further confirmatory factor analysis (CFA) using the analysis of moment structures program (AMOS 4.0). All nine factors were included in one CFA model. During the CFA analysis the subscales (or parcels) were used for the confirmatory factor analysis, rather than using individual items. Such an approach was recommended by Drasgrow and Kanfer (1985) and Schmit and Ryan (1993). These researchers noted that goodness-of-fit measures are affected when the number of items used to identify a small number of factors is relatively large. Consistent with this approach, two subscores for each scale were created, each consisting of a randomly divided subset of the items in the scale. The CFA produced a good fit with an IFI of 0.96, and a CFI of 0.95 ($\chi^2_{(99)} = 174.10$; RMSEA = 0.07). Table IV also shows the correlation among all nine variables. The relatively low to moderate correlations provide further evidence of discriminant validity.

	Variables	1	2	3	4	5	6	7	8	9
1	Firm performance	–								
2	Firm innovativeness	0.38***	–							
3	Commit.-to-learning	0.25***	0.52***	–						
4	Shared vision	0.21***	0.46***	0.65***	–					
5	Open-mindedness	0.34***	0.41***	0.59***	0.52***	–				
6	IntraOrg know. share	0.20**	0.48***	0.68***	0.63***	0.64***	–			
7	Coll & use of Mark. Inf	0.24***	0.40***	0.56***	0.41***	0.61***	0.59***	–		
8	Dev Mar.-Orien. Str	0.07	0.20**	0.34***	0.21**	0.34***	0.36***	0.49***	–	
9	Imp. Mar.-Orien. Str	0.17**	0.21***	0.32***	0.22***	0.21***	0.17**	0.42***	0.55***	–
	Mean	5.28	5.54	5.82	5.77	5.71	5.71	5.78	5.24	5.65
	Standard deviation	1.13	1.07	1.04	1.06	0.96	1.04	0.91	1.12	1.14
	Cronbach's α	0.86	0.68	0.87	0.88	0.71	0.83	0.85	0.73	0.78

Notes: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$

Table IV.
Descriptive scales and construct correlations, and reliability estimates

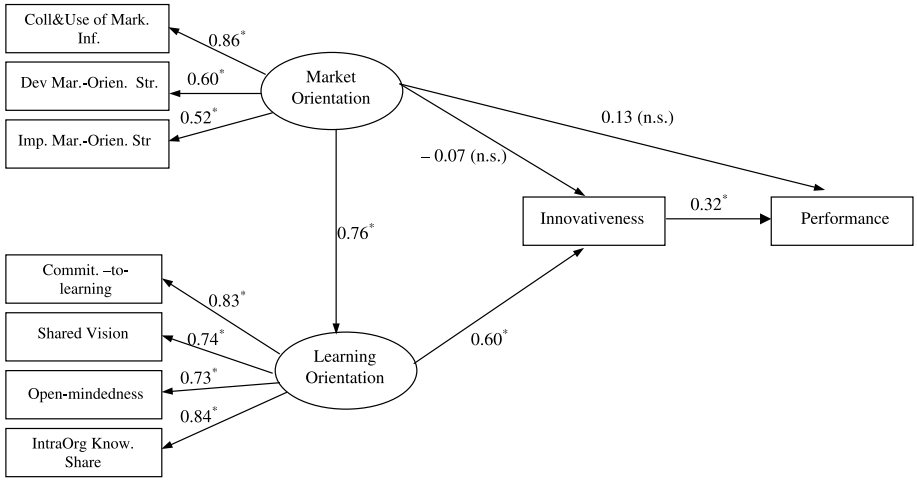
Analysis and results

Structural equation modeling (SEM) was performed using the maximum likelihood method to test the hypotheses. This procedure permitted an assessment of the integrity of the measures, as well as an evaluation of the degree to which the observed relations among variables fitted the hypothesized network of causal relationships, as shown in Figure 1. The model included two latent variables – learning-orientation and market-orientation, and two observed variables – firm innovativeness and performance.

Figure 1 shows the results. It shows that the conceptual model adequately fits the data. The IFI, goodness fit index (GFI), and CFI were equal or beyond 0.9, as suggested by Hatcher (1994). The ratio (χ^2/df) – the chi-squares per degrees of freedom, is 3.05, which is less than five, suggesting a reasonable fit. However, RMSEA is 0.11, beyond the suggested level of 0.05 or less, indicating a relatively poor fit, according to Browne and Cudeck (1993). This score is due to a small sample size ($N = 157$)[2], because RMSEA is appropriate to more confirmatory and large sample situations (see Rigdon, 1996 for comparison of CFI and RMSEA for SEM).

The findings illustrate that market-orientation has no direct influence on firm performance, declining to support H_1. Especially, it was not found that there was a direct impact of collection and use of market information, development of market-oriented strategy, and implementation of market-oriented strategy on firm financial, market and business performance. However, this does not mean that market-orientation is not important for firm performance. Essentially, market-orientation has an indirect effect on firm performance via learning-orientation and firm innovativeness, as discussed later.

The results demonstrate that firm innovativeness has a positive impact on firm performance in SMEs. Specifically, when firms frequently try new ideas, seek out new ways to do things, develop new product/services, and try to be creative in their methods of operations, they become more profitable, get higher market share, and growth rate, supporting H_2.



Notes: CFI = 0.92; IFI = 0.92; GFI = 0.91; $\chi^2_{(24)} = 73.28$; RMSEA= 0.11; Chi-square/df = 3.05

*$p < 0.01$, n.s. - non significant path coefficients are standardized

Figure 1. Results

Consistent with H_3, learning-orientation has a positive influence on firm innovativeness. It was found that a set of knowledge-questioning values via open-mindedness, shared vision, commitment, and knowledge sharing, facilitate firms to try out new ideas, seeks out new ways to do things, develop and launch new products/services, and be creative in its methods of operations. In fact:

- fostering organization-wide beliefs and values that learning is key to improvement and competitive advantage;
- embracing a totally agreed upon organizational vision across all levels by employees;
- continually judging the quality of decisions and activities taken and perceptions about marketplace; and
- having mechanisms for sharing lessons learned in organizational activities from department to department (unit to unit, team to team) is imperative for innovativeness in SMEs.

The results indicate that learning-orientation mediates the relationship between market-orientation and firm innovativeness, supporting H_4. The direct path between market-orientation and firm innovativeness was not significant, however, the paths between learning-orientation and firm innovativeness, and market-orientation and learning-orientation were significant, demonstrating the effect of market-orientation on firm innovativeness via learning-orientation. This finding demonstrates that generating customer information and knowledge, and developing and then implementing a marketing plan, and having a willingness to challenge assumptions, values, and beliefs positively impacts firm innovativeness (i.e. trying out new ideas, seeking out new ways to do things, developing and launching new product/services, and being creative).

Supporting H_5, market-orientation has a positive impact on learning-orientation in SMEs. Especially, collecting and using market information, developing, and then implementing a market-oriented strategy positively affect firm commitment to learning, shared vision, open-mindedness, and knowledge sharing. In particular, when firms listen to customers, put value on customer information, use customer information to improve processes and products, and put customers into the center of their marketing plans, they will:

- have a shared direction of learning;
- have a willingness to critically evaluate the organization's operational routine;
- accept new ideas, beliefs, and routines; and
- develop collective beliefs or behavioral routines related to the spread of learning among different units within the organization.

Finally, as reflected by the R^2, this model explained the 15 percent variance in firm performance and the 35 percent of the variance in firm innovativeness.

Discussion and implications

Most business philosophies, models, and tools are grounded and developed for large-based firms. However, SMEs also account for significant employment, innovation and social and economic growth in both developed and developing

countries (Lin, 1998). In this sense, enhancing SME theory, practice, and methodology is imperative for both academicians and practitioners.

In this study, the authors tested the interrelated relations among market-orientation, learning-orientation, firm innovativeness, and performance in SMEs of a developing country, Turkey. The findings revealed that the market-orientation, learning-orientation, and firm innovativeness scales developed in Western culture seem to be generalized to an emerging economy and a near-eastern culture, Turkey. Specifically, measures demonstrated high validity and reliability, and model results were consistent with the empirical studies completed in developed and western countries.

In addition, this study indicates the importance of learning-orientation for firm market-orientation in a SME context. It was found that learning-orientation translates marketing attitudes into effective behavior to facilitate innovation. Especially, firms operationalize their market-orientation behavior and discard limiting beliefs and assumptions about existing markets with learning-orientation, because market-orientation in SMEs, driven by the feedbacks of customers, is a mechanistic and narrow form of innovation – providing an operational efficiency by itself. Accordingly, firms move from adaptive learning that is reflected in cost and operational efficiency to a higher-order learning indicating radical innovations and the exploration of new markets and technology via learning-orientation. In this sense, learning-orientation is an eminent strategy to develop the full potential of market-orientation for SMEs so they can cope with globalization and the increased rate of competition, and changing markets and technologies. Interestingly, the conventional wisdom on "learning" in SMEs is dominated by workplace and action learning styles. In essence, learning is individual rather than organizational in most SMEs (Matlay, 2000; Chaston *et al.*, 2001). However, learning-orientation, which fosters the collective/organizational learning, is an organizational level phenomenon. Employee and management "learning" by education (training and seminars) is needed but not sufficient for firm innovativeness. Aggregating and disseminating employees' and management's learning throughout the organization, meshed with social and environmental factors, in essence, facilitates the development of a learning organization, which has the ability to:

- improve and use technology effectively;
- create a more labor efficient organizational structure;
- generate new markets; and
- become more competitive (Baker and Sinkula, 1999).

Accordingly, managers should leverage employee learning to a higher-level or gestalt, and advance knowledge management for organizational learning in SMEs.

Even though learning-orientation is imperative for firm innovativeness and performance, the indirect effect of market-orientation should not be ignored. In this study, it was found that market-orientation is the antecedent of a learning-orientation in SMEs. Consistent with the literature on large-based firms, market-orientation provides an input for firm innovativeness and performance via learning-orientation. In this sense, collecting and using customer information, developing and then implementing marketing plans, guides the learning and innovation of SMEs. Specifically, since market-orientation highlights the external focus on developing

information about costumers and competitors, firms can anticipate the needs of its customers, develop new knowledge, challenge the assumptions and values, and learn. In fact, market-oriented SMEs are inherently learning organizations. However, note that market-orientation is not bounded just by having strategic marketing plans in SMEs. Yet, from a methodological perspective, market-orientation is a multidimensional and multiphased construct, which includes collecting and using market information, developing a market plan, and then implementing that plan. To some extent, each firm has a market-orientation. For instance, the SME literature argues that most small firms do not have a strategic marketing plan due to their focus on day-to-day operations. However, most SMEs have an implicit marketing plan that is embedded in their operations and in the minds of their owners/managers. Also, Baker and Sinkula (1999) noted that market-orientation is not a dichotomous resource – it exists along a continuum. In this sense, managers in SMEs should highlight the marketing philosophy more explicitly to employees to enhance organizational learning and firm innovativeness.

Limitations and future research

There are some methodological and theoretical limitations in this study. Foremost among these is the fact that the study used single sourcing and self- and retrospective reporting. Because the key informants in firms, managing directors, who are most knowledgeable about the firm's operations, were used, key informant bias was not expected as a major limitation in this study. Nonetheless, scholars (Gupta and Beehr, 1982; Aviolo *et al.*, 1991) have argued that studies employing single-source methodology can be biased by artificially high intercorrelations produced by overall response tendency. Also, since retrospective reports were used, respondents' answers might have been influenced by memory distortion and halo effect.

In addition, to the nature of the data, the generalizability of sampling is another limitation of this study. This study was conducted in a specific national context, Turkish SMEs. For instance, Turkish culture is more collectivist (less individualistic) than most western cultures. However, it is still important to note that readers should be cautious when generalizing the results to different cultural contexts.

This study is based on a cross-sectional sample. Since, cross-sectional design does not help to infer causality among the constructs and inhibits common method bias, a longitudinal study could verify, complement, and extend the findings in this study.

Finally, the sample was collected from a variety of industries. However, a homogenous sample may provide deeper insights about the relations among market-orientation, learning-orientation, innovativeness and performance. In this vein, future studies may investigate specific industries in SMEs, such as manufacturing, service or textile.

The present model also investigated market-orientation and learning-orientation as antecedents of firm innovativeness and performance. However, entrepreneurial-orientation can also be included into the model for future studies. Further, the present model can be expanded by incorporating the antecedents of market-orientation identified by Kohli and Jaworski (1993), cultural constructs, power and trust, and organizational learning related factors, such as tacit knowledge transfers in workplaces, social knowledge networks, human connections, and shared memory and mental-models. Finally, how an organization's age, type of industry, size of the firm, market and technology dynamism,

managerial behavior, and/or entrepreneurial style, moderates the relations among the market and learning-orientation, innovation and firm performance can be investigated in future research.

Conclusion

This study contributed to the scholarship in three ways. First, it tested the combined effect of market-orientation and learning-orientation on firm innovativeness and performance in SMEs. The results showed that learning-orientation is eminent for firm innovativeness and performance. At the same time, market-orientation is needed for an effective learning-orientation in SMEs. In essence, it was found that market-orientation is appropriated with learning-orientation for firm innovativeness and firm performance. Second, this study was conducted in an emerging economy and near-eastern culture, Turkey. The market-orientation, learning-orientation, and innovation measures, developed with a western orientation, demonstrated reliability and validity in Turkish SMEs, indicating the generalizability of these constructs from a global perspective. Third, this study has explored new areas in SMEs including a social knowledge network, human connections for fostering innovation, organizational memory, culture, and trust in SMEs.

Notes

1. Since, Ruekert (1992) defines market orientation similarly with Narver and Slater (1990) and Kohli and Jaworski (1990), but adds an explicit focus on strategic planning and organizational strategy, we used his scales in this study.
2. Regarding sample size for SEM, the sample size is fair enough for the analysis. For instance, Oud *et al.* (1999, p. 286) mention that, "To obtain valid results in SEM, a sample size of $N \geq 400$ is often mentioned. Although $N \geq 400$ may be safe as a general recommendation, it depends, however, on the model, the kind of data collected, and the purpose of the analysis whether such a sample is necessary." Also Monte Carlo studies of Anderson and Gerbing (1984) and Gerbing and Anderson (1985) on effective sample size indicate that a sample size of 150 or more typically will be needed to obtain parameter estimates that have standard errors small enough to be of practical use. Also, composite scores of constructs were used rather than the individual items during the analysis.

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