MARKET ORIENTATION, INNOVATION AND ORGANIZATIONAL COMMITMENT IN INDUSTRIAL FIRMS

TRŽIŠNA ORIJENTACIJA, INOVACIJE I ORGANIZACIJSKA PREDANOST U INDUSTRIJSKIM PODUZEĆIMA

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SAŽETAK

Glavna je svrha ovoga članka proučiti prethodnike (internu tržišnu orijentaciju) i posljedice (inovativnost, organizacijsku predanost i performanse) tržišne orijentacije u malim i srednjim industrijskim poduzećima.

Ovaj članak slijedi novi pristup, umjesto analiziranja odgovora izvršnih direktora prikupljenih putem upitnika, kontaktiralo se s upraviteljima komercijalne i marketinške funkcije. Posljedično, ovo je prva studija ovakve vrste koja obuhvaća one koji implementiraju marketinšku strategiju

Key words:
market orientation, internal market orientation, innovation, organizational commitment, performance, SME, Portugal

ABSTRACT

The main purpose of this article is to study the antecedents (internal market orientation) and the consequences (innovation, organizational commitment and performance) of market orientation in industrial SMEs.

This article follows a new approach: instead of analyzing the responses of CEOs to a questionnaire, commercial and marketing functional managers were addressed. Consequently, this is the first study of its kind involving industrial SMEs addressing those who implement the

umjesto onih koji je definiraju u industrijskim malim i srednjim poduzećima.

Na temelju 154 važeća odgovora može se zaključiti da na razini 1% signifikantnosti interna tržišna orijentacija pozitivno utječe na eksternu tržišnu orijentaciju, eksterna tržišna orijentacija utječe na inovacije, a one utječu na poslovne performanse. Osim toga, tržišna orijentacija i organizacijska predanost utječu na performanse samo na razini 5% signifikantnosti.

marketing strategy instead of those who define it.

Based on 154 valid answers, the conclusions are that, at a significant level of 1%, the internal market orientation influences positively the external market orientation, the external market orientation influences innovation and innovation, in its turn, influences business performance. Moreover, market orientation and organizational commitment only influence performance at a 5% significance level.

1. INTRODUCTION

Since 1990s, market orientation has become a topic of increasing interest among researchers, given the positive association between market orientation and performance (Jaworski & Kohli, 1993; Goldman & Grinstein, 2010; Liao, Chang, Wu & Katrichis, 2011; Narver & Slater, 1990; Panigyrakis & Theodoridis, 2007; Wood, Bhuian & Kiecker, 2000). To Kohli and Jaworski (1990), market orientation is related to the implementation of the marketing concept, i.e. it occurs within the firm that consistently applies the concept of marketing in its actions. To Narver and Slater (1990), market orientation occurs when a company develops a customer orientation culture as a priority mission, which provides a sustainable competitive advantage and above average returns also for small and medium enterprises (SMEs) (Raju, Lonial & Crum, 2011).

Several aspects that have been studied require further investigation in different contexts. One of them is how internal marketing is related to external market orientation and how performance is affected, especially in industrial SMEs. Most studies analyzing this relationship focus on service organizations and contacts with the end customer (Lings, 2004; Gounaris, 2006; Lings & Greenley, 2005, 2010; Tortosa, Sánchez & Moliner, 2010). For this reason, the aim of this study is to broaden the knowledge of how internal market orientation influences the level of market orientation of industrial SMEs, as they can also implement, on the one hand, a philosophy of market orientation (Beverland & Lindgreen, 2007) and, on the other hand, a philosophy of internal marketing orientation in order to increase the employee satisfaction, their relational skills and the firm's performance (Carter & Gray, 2007). Employees are expected to play a crucial role in the relationship between internal and external market orientation.

The organizational commitment influences the performance of employees, their absenteeism and their intention to quit which, in turn, influences business performance (Randall, 1990). There is some empirical inconsistency, as some argue that organizational commitment is a consequence of market orientation (Chang, Lu, Su, Lin & Chang, 2010; Jaworski & Kohli, 1993) while others argue that it is an antecedent of market orientation (Zhang, Sivaramakrishnan, Delbaere & Bruning, 2008). Organizational commitment has not been given a proper attention on market orientation studies (Liao et al., 2011; Gounaris, 2006). Thus, in this study, organizational commitment will be analyzed as a variable mediating the relationship between market orientation and performance, following Chang et al. (2010) and Jaworski and Kohli (1993).

Market orientation has been proven to influence the firm's innovation capacity (Jaworski & Kohli, 1993; Nasution, Mavondo, Matanda & Ndubisi, 2011; Dibrell, Craig & Hansen, 2011; Naidoo, 2010). Additionally, innovation influences organizational performance (Damanpour & Evan, 1984; Damanpour, Szabat & Evan, 1989; Naidoo, 2010). Existing research focuses primarily on business services and personal contact with the customer, addressing the top manager as a key respondent, especially in large enterprises. Clearly, SMEs are underrepresented. As such, this article addresses industrial SMEs and managers on commercial and marketing functional areas, due to their important roles in the implementation of the marketing philosophy.

Although SMEs play an important economic role in Europe, they have been understudied in what pertains to market orientation, innovation as well as organizational commitment. In order to overcome this gap, the main objectives of this article are:

- to measure the influence internal market orientation has on the firm's external market orientation;
- to investigate the relationship between market orientation and innovation;
- to investigate the relationship between market orientation and the organizational commitment of employees;

- to measure how market orientation, organizational commitment and innovation influence business performance.

The paper is organized as follows: after this introduction, Section 2 presents the literature review and Section 3 outlines the research methodology. The main results and conclusions are presented in Section 4. Finally, the implications and future perspectives are put forward in section 5.

2. LITERATURE REVIEW

2.1. Market orientation

Kohli and Jaworski (1990) and Narver and Slater (1990) were pioneers in the study of market orientation and were responsible for the preparation of the two scales used for measuring the level of market orientation: MKTOR (Narver & Slater, 1990) and MARKOR (Jaworski & Kohli, 1993). According to Kohli and Jaworski (1990), market orientation (MO) refers to the organization-wide generation of market intelligence pertaining to the current and future customer needs, dissemination of intelligence across departments and organization-wide responsiveness. Narver and Slater (1990) claim this philosophy represents a sustainable competitive advantage.

Kohli and Jaworski (1990) identified three major market intelligence factors: generation, dissemination and response. Narver and Slater (1990), in turn, suggest that market orientation consists of the following components: consumer orientation, competition orientation and inter-functional coordination. This study uses Jaworski and Kohli's (1993) construct since, as pointed out by Matsuno, Mentzer and Rentz (2005), it is a construct using a wider scope of market factors and more consistent measurement scales than those of Narver and Slater (1990).

After Kohli and Jaworski (1990) and Narver and Slater (1990), there have been several studies addressing the consequences and antecedents of market orientation (Liao et al., 2011). The antecedents are important for companies that want to implement a marketing philosophy. They include such factors as risk aversion, top management focus, conflict, interdepartmental connectivity, formalization, centralization, departmentalization and reward systems based on market factors (Jaworski & Kohli, 1993), cultural factors such as norms, values and assumptions (Sorjonen, 2011), corporate culture and internal market orientation (Lings & Greenley, 2005).

Regarding the consequences of market orientation, performance has studied extensively (Narver & Slater, 1990; Panigyrakis & Theodoridis, 2007; Wood et al., 2000). The following mediating and moderating variables have also been targeted (Baker & Sinkula, 1999; Han, Kim & Srivastava, 1998; Slater & Narver, 1994; Zhang et al., 2008): orientation to learning, competitive environment, innovation, relational commitment, organizational commitment and team spirit. In this research, internal market orientation is the antecedent analyzed, business performance is the output and organizational commitment and innovation are the mediating variables.

2.2. Internal market orientation

Internal marketing can be understood as the application of marketing tools to the employees inside the firm (Piercy, 1995). Lings (2004) formulated the concept of internal market orientation, which arises from a growing awareness that personal contact is vital for service companies and motivated, committed and satisfied frontline employees are essential for consumers to perceive the added value of the relationship. Internal market orientation is related to the understanding that employees, regardless of their organizational position or hierarchical power, can influence the value that the company's customers receive (Berry, 1981; Piercy, 1995).

The implementation of an internal market orientation policy consists in the generation of internal information, communication and response (Lings, 2004). The main antecedent of internal market orientation is company culture (Gounaris, 2008), in which a clan-type culture (promoting interpersonal cohesion and participation among all operations) and market-type culture (which emphasizes achieving goals and competitiveness) positively influence the adoption of market orientation. Another antecedent is the practice of internal marketing (Gounaris, 2008), which basically consists of the practices aimed at improving the employees' psychological strength, their involvement and formalization of communication in order to improve the employee satisfaction and commitment. Finally, relational competence relates to the characteristics of the individual that facilitate the acquisition, development and maintenance of mutual satisfactory relationships (Carter & Gray, 2007).

The main consequences of internal market orientation are (Lings, 2004; Lings & Greenley, 2005; Gounaris, 2008; Carter & Gray, 2007; Tortosa et al., 2010): job satisfaction, retention and commitment of employees, their psychological empowerment and participation in the decision-making process.

2.3. Internal market orientation and external market orientation

Over the years, most studies on the implementation of the marketing philosophy targeted external stakeholders, namely customers and competitors (Goldman & Grinstein, 2010; Liao et al., 2011). Such an approach has been questioned recently due to the importance of service marketing and face-to-face interaction (Lings 2004; Lings & Greenley, 2005).

A new broader perspective which also integrates the internal perspective of the firm, that is, the relationship marketing school, has sought to balance the internal and the external perspective (Gounaris, 2006; 2008; Mohr-Jackson, 1991).

Human resource management practices have influenced the level of external market orientation (Harris & Ogbonna, 2001), proving that company employees may have an essential role in implementing the concept of market orientation, and in adopting market-oriented behaviors (Schlosser & McNaughton, 2007).

The internal customer orientation and its positive influence on the level of external market orientation (EMO) have been empirically tested by Conduit and Mavondo (2001). They examined the antecedents of this internal customer orientation, namely the level of internal marketing practices (such as staff training and education, management support, internal communication, personnel management and the level of employee involvement in external communication) and organizational dynamics. The concept of internal market orientation (IMO) emerged in this way as perhaps the most complete of all, since it applies the components of external market orientation to internal customers (Conduit & Mavondo, 2001; Lings, 2004; Lings & Greenley, 2005; 2009; 2010).

However, most studies associating external and internal market orientation have been conducted primarily in the context of services marketing, where staff (or internal customers) in direct contact with customers have more influence on the level of external market orientation than do the employees of industrial firms (Tortosa et al., 2010). For example, despite studying the impact of internal market orientation on external market orientation in business services, Lings and Greenley (2010) refer that the practices of internal market orientation influence any employee, regardless of the level of contact with the customer. The study of the antecedents of external market orientation has received less attention than has the analysis of consequences (Kirca, Jayachandran & Bearden, 2005; Liao et al., 2011; Shoham, Rose & Kropp, 2005). Thus, the establishment of a relationship between IMO and EMO becomes important for helping managers implement market orientation. In this regard, the first hypothesis is proposed:

Hypothesis 1: Internal market orientation has a positive direct influence on external market orientation.

2.4. Market orientation and employee's organizational commitment

The EMO effects have been investigated extensively, although the major emphasis has been on the analysis of performance (Liao et al., 2011; Pulendran, Speed & Widing, 2000; Van Raaij & Stoelhorst, 2008). The analysis of the effects of EMO on organizational commitment and innovation needs to be deepened.

Organizational commitment is a psychological state that characterizes the employee-employer relationship and has implications in deciding to continue or to stop working for the company (Meyer & Allen, 1991). A market orientation philosophy leads to a greater sense of employee commitment, as well as a greater team spirit (Kohli & Jaworski, 1990). Siguaw, Brown and Widing (1994) state that market orientation influences organizational commitment, as employees can be proud of this orientation and, thus, more committed to customer satisfaction.

More recently, Kim, Leong and Lee (2005) have suggested that when a company operates in a customer-focused environment, its employees may consider future work prospects more seriously than they may immediate gains in salary and benefits. This tends to inspire a high degree of loyalty to the organization, motivating the employees to work hard, invest in their careers and achieve their future goals and aspirations.

Organizational commitment can be seen as an affective or emotional bond with the organization, reflecting the degree to which employees like the organization they work for, see their future tied to that organization and are willing to make personal sacrifices for it (Jaworski & Kohli, 1993). The arguments underlying the establishment of this relationship show that the adoption of this orientation tends to improve employee morale, job satisfaction and commitment to the organization because all departments work toward a common goal of external customer satisfaction (Kohli & Jaworski, 1990). Thus, the second hypothesis is proposed:

Hypothesis 2: External market orientation has a direct positive influence on organizational commitment.

2.5. Market orientation and innovation

Innovation can be seen as the capacity of an organization to improve manufacturing management systems and it is not only restricted to innovations on products or services (Tajeddini, Trueman & Larsen, 2006; Naidoo, 2010). Liao et al. (2011) and Tajeddini et al. (2006) found a positive relationship between market orientation and business innovation.

Successful innovations provide a competitive edge in changing the relative position of a firm within an industry (Kim & Pennings, 2009). According to Damanpour and Evan (1984), innovation is important for coping with environmental changes or introducing change within the firm. To do so, firms have to develop and/or introduce new technological applications in the organization, while also successfully integrating technical changes (product, process or organizational innovation or the operationalization of a service) or administrative innovation (related to procedural, structural or authority tasks), in order to improve their level of goal achievement (Damanpour et al., 1989; Damanpour & Evan, 1984).

Mavondo, Chimhanzi and Stewart (2005) and Han et al. (1998) conclude that market-oriented firms are necessarily more innovative, which leads to their better performance. This conclusion is explained by the fact that the concept of EMO is composed of three major components – intelligence generation, dissemination and response (Jaworski & Kohli, 1993; Kholi & Jaworski, 1990) – related to pervasive environmental changes that lead to new consumer preferences. That is to say, firms have to implement the necessary organizational, process and product innovations to meet the constant changes of the increasingly fickle competitive environment in order to meet present and future needs, identified by market intelligence. This assumption is also shared by Dibrell, Craig and Hansen (2011), who refer to the same situation but on the three components of market orientation from Narver and Slater (1990), namely: customer orientation, competitor orientation and inter-functional coordination. A market orientation philosophy aims at meeting customer needs but, as these are constantly changing, companies have to be innovative in order to be more successful in the market. Market-oriented companies have higher proneness to satisfying current and future customers and able to use their customer and competitors' knowledge in order to change products and processes, meet customer's needs, develop new products and identify potential new customers (Dibrell et al., 2011).

Liao et al. (2011) find a positive relationship between market orientation and business innovation. Aldas-Manzano, Küster and Vila (2005), although not proving the existence of a statistically significant relationship between EMO and innovation, conclude that these two are not isolated fields.

Based on studies of industrial firms, Søndergaard (2005) concludes that market orientation positively influences the development of new products. Dibrell et al. (2011) conclude that market orientation influences product innovation. Matear, Osborne, Garrett and Gray (2002), based on a research of service companies, analyzed the mediating effect of innovation on the relationship between EMO and business performance. Further, high-tech companies, when compared to low-tech companies, benefit most from greater market orientation (Laforet, 2008).

Low, Chapman and Sloan (2007) also note that innovation is positively correlated to EMO, which is more evident in small and medium-sized firms. Keskin (2006) states that market orientation, whether of industrial or services firms, has a direct impact on their innovation and that organizational learning mediates this relationship. Given this evidence, the following research hypothesis is proposed:

Hypothesis 3: External market orientation has a direct positive influence on innovation.

2.6. Market orientation and business performance

The relationship between market orientation and company performance is the most studied relationship regarding market orientation studies.

Narver and Slater (1990) were the first to empirically verify the effect of EMO on business performance, focusing exclusively on this relationship. Megich's and Warnaby (2008), in the retail sector, found a strong positive relationship between EMO and performance when analyzing the return on investment of the firm as well as customer retention in a three-year span. Ramaseshan, Caruana and Pang (2002) also found a strong positive influence between EMO and performance in developing new products/services in the industrial as well as in the service sectors. Haugland, Myrtveit and Nygaard (2007) found a strongly positive relationship in the hotel industry between market orientation and performance, with the return on assets, the perception of profitability compared to competitors and productivity as the indicators. Finally, Wood et al. (2000) also found a strong relationship between market orientation and business performance in public hospitals.

From another perspective, Lonial, Tarim, Tatoglu, Zaim and Zaim (2008) prove that there is a positive relationship between market orientation and the development of new services but no relationship between market orientation and financial performance. It is possible to conclude that EMO can influence the financial results through the development of new services (or products). Accordingly, the following hypothesis is proposed:

Hypothesis 4: Market orientation has a direct positive influence on business performance.

2.7. Organizational commitment and business performance

From Riketta's meta-analysis (2002) one can conclude that the organizational commitment of employees is correlated to the autonomy of the job. Moreover, the type of work, the workload and the health condition are moderating variables that can explain and change the organizational commitment-performance relationship.

According to Shaw, Celery and Abdulla (2003), in addition to the individual components, a sense of mutual aid and citizenship is needed, which are generally regarded as critical aspects of individual performance since they help to reduce friction and increase the efficiency of the organization. The organizational commitment-performance relationship is stronger when performance indicators are based on self-reporting than when they are reviewed by a supervisor or by objective performance indicators (Riketta, 2002). It should also be noted that, in terms of the organizational commitment-performance relationship, many studies lean on how job performance (Shaw et al., 2003; Tourigny, Baba, Han & Wang, 2013) contributes to the overall performance of the company, including the financial perspective (Dimitriades & Papalexandris, 2011). Thus, one can make the following hypothesis:

Hypothesis 5: Organizational commitment has a direct positive influence on business performance.

2.8. Innovation and business performance

Research relating to innovation and performance has found a positive relation to exist between the two (Brown & Eisenhard, 1995; Caves & Ghemawat, 1992; Damanpour & Evan, 1984; Damanpour et al., 1989; Roberts, 1999; Thornhill, 2006).

Literature conceptualizes innovation in a variety of ways (Damanpour & Gopalakrishnan, 1998; Damanpour et al., 1989; Wolfe, 1994); however, most definitions of innovation formulate it so that innovation implies the adoption of a new idea or behavior. Since the objective of this article is to analyze how innovation influences business performance, the present study adopts a broad concept of innovation that includes the adoption of any new product, process, marketing or organizational innovation.

Innovation helps the firm to deal with changes in the external environment and is one of the key drivers of the long-term success in business, especially in dynamic markets (Baker & Sinkula, 2002; Balkin, Markaman & Gómez-Mejia, 2000; Lyon & Ferrier, 2002; Wolfe, 1994). Accordingly, innovative firms are more capable of facing the challenges faster and exploiting new products and market opportunities better than non-innovative companies (Brown & Eisenhard, 1995).

Furthermore, it has been recognized that innovation contributes to business performance. Damanpour et al. (1989) were pioneers in associating innovation and organizational performance. They conclude that changes in the structure and their consequent innovations, either technical or administrative, contribute to a better performance.

Jiménez and Valle (2011) found that the innovation-performance relationship is stronger in larger firms, since they have more resources to invest on innovation. The age of the company also enhances innovation, mainly due to lack of organizational routines of new companies. Jiménez and Valle (2011) claim that the impact of innovation on performance is greater in industrial firms than in service companies. Given the support found on the innovation-performance, it can be concluded that innovation mediates the relationship between EMO and performance (Sandvik & Sandvik, 2003). Therefore, the last hypothesis is formulated as follows:

Hypothesis 6: Innovation has a direct positive influence on business performance.

3. RESEARCH METHODOLOGY

According to the objectives set out in Section 1, a quantitative approach was used. The instrument used was a survey. The process of data collection took place between September and October 2012. The target audience, unlike in previous studies, did not focus on CEOs or top managers, but rather on functional managers of commercial SMEs or on marketing staff of industrial SMEs in the Aveiro region, Portugal.

This situation was chosen since previous studies of market orientation focused on CEOs and senior managers, using them as the only respondents. Since there may be a bias between the answers given by senior and functional managers of SMEs, it is important to analyze the perspective of the latter, who play an important role in the process of implementing a market orientation philosophy and are central players in industrial SMEs.

The industrial fabric of the Aveiro region includes a wide range of industrial sectors in which SMEs are very active: transport equipment, electronics, car manufacturers, shoe manufacturers, clothing and textiles, mold makers, metal-mechanic firms, plastic part manufacturers, furniture, lighting equipment, food and beverages and cork transformers.

Respondent firms were selected from a public database of the 1000 largest SMEs of the Aveiro region. As the focus of the present research is on industrial SMEs, service firms (consulting, banking, construction, health, transportation, hotel/leisure, real estate, finance, among others), commercial firms (food and beverages) as well as agriculture-related firms were set aside. As a result, only 446 firms were addressed in this study.

After selecting the firms, we used the Internet and LinkedIn to gather information about the contact person for each company. The firms were initially contacted by e-mail and the functional managers of commercial or marketing departments were invited to participate in the research. The questionnaire was placed in an online platform and made accessible to all respondents.

The questionnaire was presented to two academic colleagues and pre-tested on 15 companies. The final version of the questionnaire was sent to 446 companies, from which 154 valid responses were obtained. This corresponds to a 34.5% response rate. Three rounds of contacts were made, mainly by e-mail to those companies that had not yet responded. Data analysis was carried out by using SPSS and AMOS.

In the development of the scales, procedures suggested by the literature were followed. The five concepts, illustrated in Figure 1, were drawn from the scales based on a literature review. The EMO concept was operationalized from the MARKOR scale, developed by Jaworski and Kohli (1993). A five-point Likert scale was used. The IMO concept was operationalized from Lings and Greenley (2005) and a seven-point Likert scale was used.

The Innovation variable was prepared from a combination of scales of Aldas-Manzano et al. (2005), Masvondo et al. (2006) and Keskin (2006). The former is concerned primarily with product technological innovations, the latter focuses on innovation management. A five-point Likert scale was used. The concept of Organizational Commitment was operationalized from the scale used by Zhang et al. (2008). Seven items were used and the questionnaire was adapted to the perspective of the functional manager of an SME. A seven-point Likert scale was used.

The Performance concept was operationalized adapting the scale used by Jaworski and Kohli (1993) and by Rodrigues and Pinho (2010) in such a manner to measure business performance subjectively. Six items and a seven-point Likert scale was used.

After performing the pre-test, the initial questionnaire (with 75 items) was reduced to a final questionnaire with 49 items. To do this, in order to purify the initial measurements and ensure the homogeneity of the original scales, several item-by-item correlations were carried out. Some items were eliminated due to their low correlation.

Based on the above mentioned hypothesis, the conceptual model of this study is shown in Figure 1.

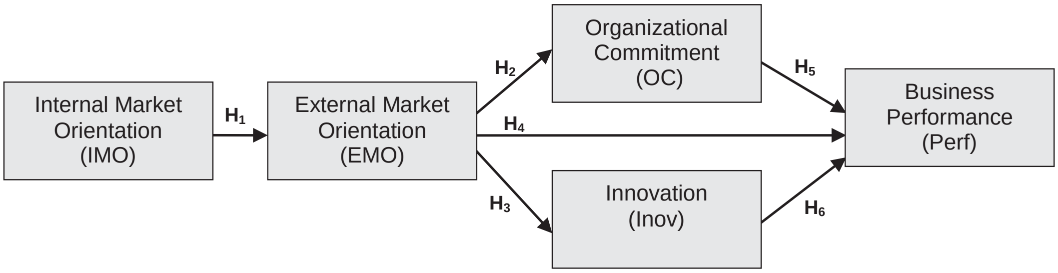
Before testing hypotheses, we engaged in a scale purification process following the basic descriptive statistical analysis (normality, skewness, kurtosis, means and standard deviation). We then subjected the purification data to the Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). In this analysis, items were grouped into *a priori* conceptualized scales. Modification indices, standardized residuals and fit statistics (CFI) drew our attention to potentially problematic items.

We then analyzed these items within the theoretical context of each scale and deleted certain items on substantive and statistical grounds (Anderson & Gerbing, 1988). As a result, from an initial pool of 49 items we eliminated 23 items. After the measurement analysis, we proceeded to the hypotheses testing using the refined scales. Then, regression analysis was used to test the hypotheses presented above.

4. RESULTS AND CONCLUSIONS

After a preliminary examination of the data, we conducted an analysis of the psychometric prop-

Figure 1: Conceptual Model



The sample is small, both in terms of structure and size, compared to what is desired using the structural equation modeling (SEM) technique. Kline (2005) states that it is possible to apply SEM techniques to samples ranging between 100 and 150, as long as a parsimonious model is used. Hair, Black, Babin, Anderson and Tatham (2006) demand samples above 200.

erties of the measurement scales used (namely, the reliability, validity and unidimensionality of the constructs) by means of specific statistical tests (Hair et al., 2006). Several item-to-item correlations were performed to ensure the homogeneity of the scale, from which several items were removed. To test the factor structure, a CFA was run for each measurement scale. It was further necessary to eliminate some items due to their weak convergence and low standardized coefficients. The results are presented in Table 1; as shown, the fit indices provided satisfactory results on all occasions (Bagozzi & Yi, 1988), suggesting the unidimensionality of the constructs. Internal consistency was tested through the alpha coefficient; again, all dimensions were shown to have an alpha close to the minimum cut-off of 0.7 (Nunnally, 1978), suggesting reasonable internal consistency of the scales used.

Table 1: Items and statistics of the measurement of the constructs

Items per construct	Stand. Regression Weights	Statistics
External Market Orientation		
EMO1. In this company, we meet with our customers at least once a year to find out what products or services they will need in the future.	0.904	χ^2=13.818; CFI=0.989; NFI=0.970; SRMR= 0.0317; RMSEA=0,056; α=0.869;
EMO2. In this company, we do a lot of market research.	0.772	
EMO3. We investigate end users at least once a year to assess the quality of our products and services.	0.844	
EMO10. We periodically review our product development efforts to ensure that they are in line with what customers want.	0.618	
EMO14. Even if we had a great marketing plan, we probably would not be able to implement it within deadlines.	0.605	
EMO16. When we find that customers want us to modify a product or service, all departments involved make concerted efforts to this end.	0.633	
Internal Market Orientation		
IMO2. In this company, management meets with employees at least once a year to find out their expectations about the future of their work in the organization.	0.633	χ^2=19.306; CFI=0.989; NFI=0.970; SRMR=0.0317; RMSEA=0,056; α=0.805;
IMO4. In this company, top management asks employees at least once a year to assess the quality of employment.	0.461	
IMO6. When I am working top management tries to figure out what we, as company employees, expect from the company.	0.548	
IMO7. In this company, top management meets with all the staff regularly to communicate about issues throughout the organization.	0.913	
IMO8. In this company, top management has regular meetings with employees at all levels.	0.669	
IMO9. In this company, when the top management discovers what employment conditions the staff would like to see changed, top management makes concerted efforts to this end.	0.627	

Table 1. Continued

Items per construct	Stand. Regression Weights	Statistics
Innovation		
INOV1. The company reorganizes functions between departments according to market circumstances.	0.886	χ^2=8.851; CFI=1.000; NFI=0.977; SRMR=0.0297; RMSEA=0,000; α=0.844;
INOV3. The company changes its product range or services according to the changing needs of consumers.	0.755	
INOV6. In the last three years, no new lines of products/ services have been introduced.	0.558	
INOV8. Changes in our product lines have been reduced over the last 3 years.	0.626	
INOV9. We have made numerous changes over the last 3 years.	0.504	
INOV10. The company actively and enthusiastically adopts new policies that can contribute to improving business performance.	0.843	
Organizational Commitment		
OC1. I feel my future tied to this company.	0.825	χ^2=0.741(2); CFI=1.000; NFI=0.997; SRMR=0.0125; RMSEA = 0,000; α=0.737;
OC4. Overall, I feel proud to work for this company.	0.813	
OC6. My colleagues have little or no commitment to this company.	0.730	
OC7. It is perfectly clear that I like this company.	0.923	
Performance		
PERF1. I believe that the overall company performance is positive.	0.538	χ^2=4.284; CFI=0.984; NFI=0.972; SRMR=0.0423; RMSEA=0,086; α=0.698;
PERF2. I believe the performance compared to major competitors is positive.	1.082	
PERF5. I consider that the overall level of employee competence is positive.	0.435	
PERF6. I believe that the company's customers are generally satisfied.	0.465	

Table 2 presents a correlation matrix for the Pearson coefficients between the various variables. After analyzing the results, we can see that there are positive correlations among all variables in the level of $p<0.01$.

Table 2: Descriptive measures and correlations among scales

	Average	Standard deviation	IMO	EMO	INOV	OC	PERF
IMO	3.100	1.046	-				
EMO	3.658	1.537	0.601**	-			
INOV	3.127	1.120	0.596**	0.514**	-		
OC	4.275	1.699	0.732**	0.827**	0.576**	-	
PERF	4.295	1.631	0.534**	0.600**	0.501**	0.631**	-

Given the strong and positive correlation between Organizational Commitment and External Market Orientation, the VIF scores and tolerance were examined. Values below 4 and above 0.2 respectively are indicative of inconsequential multi-collinearity (Hair et al., 2006); therefore, the high correlation between OC and EMO has no effect on the regression analysis. We proceeded to the linear regression techniques to test the hypotheses. The values of β, r^2, F and p-value are shown in Table 3.

As can be seen in Table 3, Model I, IMO has a direct positive influence on EMO, which confirms Hypothesis 1. The findings provide additional evidence in support of previous literature that IMO has a positive effect on external market orientation (Lings & Greenley, 2009; 2010). The results confirm that the implementation of the internal marketing concept plays an important role in encouraging external market orientation behaviors in industrial SMEs. This is in line with certain studies (Conduit & Mavondo, 2001; Lings, 2004) and extends the reach of others (Tortosa et al., 2010), putting a greater emphasis on service companies. The ability of an organization to generate, spread and respond to information may be an essential capability of a company.

expectations from the company, and to communicate crucial issues or disseminate information throughout the organization. This study offers further evidence that, despite the conceptual similarities between internal and external market orientation, they are distinct constructs – both representing competences in generating, communication and responsiveness of the firm not only to employees, but customers as well.

Also, Hypothesis 2 concerning the relationship between EMO and organizational commitment is confirmed, as shown in Model II, with an r^2 of 26%. This result confirms previous studies (Shoham et al., 2005; Siguaw et al., 1994). The confirmation of this relationship, involving functional managers of SMEs, underpins an important strategic conclusion: greater reliance on market orientation promotes a greater compromise of organizational values not only in services, but also in industrial SMEs.

In order to improve organizational commitment, SME's functional managers must be aware of the importance of creating a customer-focused environment to promote a greater degree of loyalty to the organization. Clearly, investing in the employee's carriers seems to be much more important than just providing salary and immediate benefits to them. Market orientation can be used to improve the company's organizational commitment and climate, thus improving the

Table 3: Regression analysis

	Model I EMO	**Model II** Commitment	**Model III** Innovation	**Model IV** Performance	Collinearity Statistics	
	Beta (sig.)	Beta (sig.)	Beta (sig.)	Beta (sig.)	VIF	Tolerance
IMO	0.601 (0.000)	-	-	-	-	-
EMO	-	0.514 (0.000)	0.827 (0.000)	0.224 (**0.041**)	3.179	0.315
COMM	-	-	-	0.193 (**0.011**)	1.507	0.664
INOV	-	-	-	0.334 (0.004)	3.500	0.286
R^2	0.362	0.264	0.683	0.443		
F	86.121	54.624	327.977	39.727		
Sig.	0.000	0.000	0.000	0.000		

In order to improve the market orientation of an organization, functional managers should meet with their employees on a regular basis to access the quality of employment, employee's employee-employer relationship. Finally, market-oriented behavior not only improves market research activities, but also enhances the employee's commitment to the organization.

The third hypothesis is also confirmed with an r^2 of 68%. The results support earlier work, suggesting that market orientation has an impact on the company's innovativeness (Liao et al., 2011; Aldas-Manzano et al., 2005; Low et al., 2007; Keskin, 2006; Dibrell et al., 2011; Han et al., 1998; Mavondo et al., 2005). The obtained results are also in line with Jaworski and Kohli (1993), finding that market orientation is an antecedent of innovation. Additionally, further support is provided to the suggestion in Sandvik and Sandvik (2003) that market orientation has a significant impact on product innovativeness. Although the study does not contradict Laforet (2008), this relationship clearly shows that both the size and the technological level of the company do not undermine this relationship.

Market orientation can be used as a way to implement a company's strategy to positively increase its innovativeness. That is to say, an organization seeking to improve its ability to innovate should be especially focused on increasing its market orientation in order to improve its competitiveness. For Baker and Sinkula (1999), innovativeness is driven by customer needs and, hence, may be impacted by market-oriented behaviors. Market-oriented firms focus on customer's needs, and that should encourage the development of new and innovative products. These results show that the firms which meet with their customers and engage in market research activities are more likely to change and develop new products to meets customer needs, while adopting new internal policies or adapting their departments according to market changes at the same time. Market orientation facilitates company innovativeness which, in turn, enhances the organizational performance. This study highlights the role of innovation in the relationship between market orientation and organizational performance: customer-oriented companies are more successful in identifying their customer's needs to create and develop superior value to them.

This study found no statistically significant effect of market orientation on performance at a significance level of 1%; however, it partially validates Hypothesis 4 as the relationship between market orientation and business performance was supported by a significance level of 5%. This relationship is not straightforward since there is a stronger effect of market orientation on performance when using innovation as a moderator. Han et al. (1998) found that market orientation makes a significant contribution to performance through innovation; Matear, Osborne, Garret and Gary (2002) also found market orientation to contribute to performance through innovation. Our results partially corroborate the works of Megicks and Warnaby (2008) and Kirca et al. (2005), who found a weak relationship between market orientation and performance. This research, as most others focusing on market orientation, use subjective measures to assess performance; this leaves unanswered the question of how different the results could have been if objective measures of business performance were used, as seen in Haugland, Myrveit and Nygaard (2007).

In order for functional managers to improve business performance, it is important that market orientation be focused on providing solid market research initiatives, fine-tuning the quality of products and services and defining an inter-functional coordination/connectivity.

Despite theoretical results, showing contradictory outcomes in market orientation-performance relationship (Liao et al., 2011), managers must be aware of the importance of deploying a market orientation philosophy in order to achieve a more consistent outward-oriented focus in their quest for a sustainable competitive advantage.

As in the previous case, at a 1% significance level, Hypothesis 5 should be rejected. However, at a level of significance of 5% there is statistical evidence to support the relationship between organizational commitment and business performance. This relationship is again somewhat complex since it involves top functional managers with responsibilities in SMEs. Therefore, a lack of support of this relationship at a significance level of 1% may be related, on the one hand, to the difficulty of creating and maintaining this attitudinal response for a diverse set of industrial sectors and, on the other hand, to the involvement of functional managers with diverse responsibilities in various types of SMEs.

From the business performance point of view, managers must understand that although the concept of market orientation is important, innovation and organizational commitment should also be included in their daily business activities if the firm is to implement a truly market orientation philosophy, as they also mediate the market orientation-performance relationship.

Finally, at a significance level of 1%, Hypothesis 6 is accepted. The findings suggest that innovation has a positive and significant effect on performance, sustaining the idea that innovation is a key driver for a company's success (Damanpour et al., 1989; Jiménez & Valle, 2011). This finding provides additional evidence to support previous studies of market orientation and innovation (Mavondo, et al., 2005; Aldas-Manzano et al., 2005; Keskin, 2006; Laforet, 2008; Sandvik & Sandvik, 2003).

The results of this study suggest that innovation leads to better performance, which is particularly important for SMEs. Firms should promote the acquisition of new knowledge and practices and should invest in R&D to help develop new products and ideas. SMEs must also adopt a philosophy of knowledge dissemination by using mechanisms to share best practices among employees and promote changes in the departments. Moreover, if they are to obtain better performance results, it is important to promote and be up-to-date with adopting new organization policies or practices.

Finally, Table 4 presents a summary of the results obtained with regard to the abovementioned assumptions.

Table 4: Summary of hypotheses testing results

Hypotheses	Results
H1: Internal market orientation has a positive direct influence on external market orientation.	Confirmed
H2: External market orientation has a direct positive influence on organizational commitment.	Confirmed
H3: External market orientation has a direct positive influence on innovation.	Confirmed
H4: Market orientation has a direct positive influence on business performance.	Confirmed at 5%
H5: Organizational commitment has a direct positive influence on business performance.	Confirmed at 5%
H6: Innovation has a direct positive influence on business performance.	Confirmed

5. IMPLICATIONS AND FUTURE PERSPECTIVE

This study has several contributions to make to marketing theory development, as well as providing useful insights to SME managers.

Academically, this research has contributed to a better understanding of the interaction of the concepts of internal and external marketing orientation. As there is a strong empirical relationship between them, the first conclusion is that it is necessary to deepen both concepts in order to test valid scales for industrial as well as service firms, and for both large companies and small and medium-sized enterprises, as supported by several authors (Liao et al., 2011; Lings, 2004; Van Raaij & Stoelhorst, 2008). When it comes to its implications for managers, a greater investment is recommended not only into internal marketing strategies to support the companies' external market orientation and, in turn, strengthen their market position. It is also necessary to help broaden the market orientation-business performance relationship, since organizational commitment and innovation play important roles in harmonizing the organizational climate, and in integrating technical change so as to improve business performance.

The second contribution is related to the consequences of market orientation, namely its effect on organizational commitment and innovation involving under-researched situations: SMEs, and sales and marketing functional managers. Thus, earlier studies were complemented (Kirca et al., 2005; Mavondo et al., 2005) and doors were opened to conducting new research into the role of technological intensity (Laforet, 2008).

Organizational performance is influenced by market orientation, organizational commitment and innovation, although the findings are not very robust for the first two relations. Clearly, this study added to the previous studies, focusing on industrial SMEs and involving functional managers of SMEs who play a major role in management.

At the company level, the message is clear for the managers of SME: in their quest for a sustainable competitive advantage, market orientation is crucial to achieving greater levels of organizational commitment and innovation and, in turn, raising the level of business performance.

One of the most important contributions of this study, compared to previous ones, is that the respondents are functional managers of industrial SMEs, rather than top managers and CEOs in large companies. This has both advantages and disadvantages. The main advantage is that the analysis of market orientation was tested on those who really implement marketing or commercial activities. Put another way: market orientation will only be effective if employees conveniently apply it, not only because the top manager is aware of it. The disadvantage of the study is that commercial or marketing managers may not have a global vision of the firm.

Considering the objectives initially defined, the study includes a set of limitations that should be made explicit. The first one relates to the sample profile: respondents were staff members of industrial SMEs of the Aveiro district. For this reason, we cannot claim representativeness at a national or sectoral level. Any generalization should be performed with caution: firstly, it is a convenience sample, not based on any stratification technique; secondly, the number of responses (154 valid cases) is slightly reduced.

The small sample size prevented the use of the SEM technique, particularly due to model convergence and identification problems. Future research should include a broad range of industrial sectors in order to test the model by using the SEM technique, which would solve these two problems.

Another limitation stems from the subjectivity of some answers: the fact that this research involved functional managers may lead to a certain degree of subjectivity in some answers, especially with regard to the company's financial performance component. To bridge this gap, future studies should involve functional managers of other business areas, including finance, production/manufacturing, human resources and quality among others. Thus, functional areas may be tested as a moderating variable in future studies.

Another suggestion for future research is to analyze the real impact of market orientation on customer satisfaction and retention, as not much is known about what client firms think about their suppliers' market orientation, or whether their needs and expectations are really met.

Finally, knowing how firms learn from their market-oriented activities would open up new perspectives for both the academic and the business world. Accordingly, future research could address the following aspects: the way firms internalize knowledge and learn from their market oriented activities; the implications for organizational commitment of their staff; and the implications for the business and product innovativeness.

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