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The effects of manufacturer's organizational learning on distributor satisfaction and loyalty in industrial markets

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ABSTRACT

The main objective of this study is to examine the effects of organizational learning (OL) on satisfaction and loyalty in industrial markets. A conceptual model, in which the unit for analysis is the dyadic relationship between manufacturers and their main distributor, is proposed and tested. The empirical results showed that the manufacturer's OL is an antecedent of the relational outcomes achieved in business relationships. Specifically, increased OL in the manufacturer has a direct effect on the main distributor's degree of satisfaction and an indirect effect on his loyalty. It is also confirmed that the manufacturer's OL has a direct effect on the manufacturer's business performance. However, we found that links between OL and satisfaction and OL and loyalty are not changed by market turbulence.

1. Introduction

Since the early nineties, organizational learning (OL) has received an increasing attention from academics and practitioners (Bell, Menguc, & Widing, 2010), as it is considered a key strategic competency for improving an organizations' long-term competitiveness. Without expert knowledge it is difficult to develop products and services finely matched to the customers' demands. In business-to-business contexts, firms increasingly rely on social networks of organizational members who have a precise and applicable knowledge about the main trading partners, competitors, and the latest technology in order to enhance satisfaction and loyalty. In this regard, it is necessary for firms to develop a clear, constant vocation for continuous learning so that they can make a successful organizational response to changing market requirements. Indeed, different key changes in the markets have reinforced the relevance of OL to compete. Thus, the increasing in the intensity of competition, due to market globalization, is a continuous force compelling firms to develop a product offering that is capable of generating higher levels of satisfaction and loyalty than their rivals. In this process, consumers have access to a wider range of product offerings, and, thanks to the new opportunities provided by the information and communication technologies, the information asymmetries associated with purchasing decisions are reduced. As a result customers are better informed, they become more sophisticated, and their needs change faster (Leek, Naude, & Turnbull, 2003). Hence it is necessary for firms to have a thorough knowledge of the evolving market trends to keep pace with its market evolution (Farrell, 2003). OL should therefore be considered a fundamental building block in increasing an organization's stock of knowledge, which is vital for survival in the increasingly competitive industrial markets.

While the benefits of OL have been noted, for example, in service quality (e.g., Tucker, Nembhard, & Edmonson, 2007), retail store performance (e.g., Bell et al., 2010), market orientation (e.g., Santos, Sanzo, Alvarez, & Vazquez, 2005), the strategic supply process (e.g., Hult, Ketchen, & Slater, 2002), and new product development (e.g., Akgün, Lynn, & Yilmaz, 2006), remarkably little attention has been paid to the influence of OL on the satisfaction and loyalty of commercial partners in industrial markets. Our intention in this study was to attain a deeper knowledge of the relationship between OL and relational outcome variables such as satisfaction and loyalty. Although the buyer–seller relationship literature identifies many relational outcome variables, in this research the focus is on satisfaction and loyalty because of their marked relevance for both scholars and managers (Agustin & Singh, 2005). Satisfaction and loyalty are powerful mechanisms for guaranteeing long-term performance in business relationships (Ittner & Larcker, 2003). Firms working under this premise strive for excellence in developing customer relationships where both satisfaction and loyalty grow over time. For these firms it is not sufficient to look only at financial measures such as sales and profits, as those metrics can be regarded as snapshots of the present that may give an incomplete picture of customer relationships in the future (Narayandas, 2005).

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In assessing why firms support or inhibit the development of satisfaction and loyalty, we consider OL as a factor controllable by firms that may influence the aforementioned constructs. Understanding the effects of OL can help companies manage it successfully in order to improve satisfaction and loyalty in business-to-business contexts. The compelling nature of the case has attracted the attention of scholars such as Tax and Brown (1998) and Edmonson (2008) who have insisted on the need for empirical studies in this domain. This study contributes as well to the literature by examining the combined effect of OL and the relational outcomes variables (satisfaction and loyalty) on business performance. The study of these causal relationships is relevant: first, because it provides a better understanding of the role played by OL, satisfaction, and loyalty in business performance; and second, because these variables have an important influence on developing and maintaining successful relationships with a long-term orientation.

In order to deal with external business circumstances, this article explores too the moderating role that market turbulence plays in industrial markets. It is hypothesized that this environmental variable moderates both the learning-satisfaction and the learning-loyalty connections. The argument is that actions carried out by firms could differ in their impact on organizational outcomes when confronted with different market conditions and, therefore, examining these differences will facilitate both effective decision-making and employment of organizational resources. The paper is structured as follows. First, a theoretical model that connects OL, satisfaction, loyalty, and business performance is proposed. Then we present the results of research based on a sample of 181 manufacturing companies located in Spain. Finally, the conclusions are presented, and business implications as well as research directions are outlined.

2. The framework and hypotheses

In this research we adopt the resource-based view (RBV) perspective to develop a conceptual model with which we try to attain a deeper understanding of how satisfaction and loyalty can be enhanced in industrial markets (Wernerfelt, 1984; Palmatier, Dant, & Grewal, 2007). In accordance with this perspective, OL is regarded as a key strategic competency[3] for the success of a relationship in the long-term (Santos et al., 2005). Specifically, OL is considered to influence positively relational outcome variables such as satisfaction and loyalty (Morgan & Turnell, 2003). A commercial partner with a high level of OL is therefore expected to provide products and services finely matched to the needs of his counterpart in the dyad. Nevertheless, in spite of the relevance of this topic for gaining a greater understanding of buyer–seller relationship performance (Palmatier et al., 2007), the empirical evidence to date is limited (Lapre & Tsikriktsis, 2006)[4]. Fig. 1 shows the key factors and relationships examined in the study.

Additionally, we understand that an organization learns "if through its processing of information the range of its potential behaviors is changed" (Huber, 1991, p. 89). This is consistent with the process view of OL that considers that collective learning is grounded in the cognitive and behavioral capabilities of people who form part of an organization (Moorman, 1995). The process view claims that individual learning processes can be replicated at a higher level to the extent that, like individuals, organizations are able to learn when required (Bell, Whitwell, & Lukas, 2002). According to this view, OL is seen as a processing system involving the acquisition, distribution, and interpretation of information as well as organizational memory (Huber, 1991; Sinkula, 1994; Moorman, 1995). Hence a firm learns through the processing of information that allows the development of new knowledge and insights that help in sensing and acting upon events and trends in the marketplace (Tippins & Sohi, 2003). Furthermore, the development of valid measures of OL as a process, bearing in mind the latest advances in the literature, still is worthy of more consideration in the OL research agenda (Bapuji & Crossan, 2004) to expand our knowledge of its scope and consequences. In accordance with the process view of OL research we adopt here a four-dimensional construct of OL (López Sánchez, Santos Vijande, & Trespalacios Gutiérrez, 2010).

Information acquisition. Information acquisition is the process whereby organizations search for and obtain information to support their decision-making (Huber, 1991; Slater & Narver, 1995). Information may be acquired, for example, from the founder/s of the company, whether they are individuals or organizations (Boeker, 1989). Firms may also acquire information by learning from experience. Examples include systematic, controlled implementation of experience leading to greater precision in feedback on the cause–effect relationships between organizational actions and outcomes (Spear, 2004). Acquiring information from experience also involves research and experimentation to identify new market spaces (Markides, 1999) and the learning taking place in an organization without planning, resulting in an unintentional process of progressive learning (Templeton et al., 2002). Firms may also acquire information and learn indirectly through the spontaneous analysis of the actions carried out by the competition (Zahra & Chaples, 1993). Other mechanisms of obtaining information may be the identification of key trends, and evaluating firm performance by comparing it with that of the competition (Dickson, Farris, & Verbeke, 2001). Finally, incorporating new personnel from other organizations, purchasing other organizations, and creating joint ventures may be sources of acquiring information from outside the firm (Simon, 1991).

Information distribution. Encouraging effective dissemination of information is decisive in OL because it may help in developing a shared understanding of tasks amongst the different functional areas of the organization and is also a determining factor in the existence and extent of the learning process (Slater & Narver, 1995). For example, inter-departmental meetings improve the access to information that may be difficult to communicate, providing new insights to organizational members (Schein, 1993). When organizations discuss their future needs, they also encourage the flow of information which helps in promoting the adoption of a shared vision about their future. Communicating the organization's general objectives to all the employees and the use of databases and organizational files (Bontis, Crossan, & Hulland, 2002) is also useful for effective information sharing. To ensure that information difficult to codify is disseminated, organizations also promote cross-training (Szarka, Grant, & Flannery, 2004). Organizations encourage information sharing by having individuals in charge of collecting employees' proposals to be afterwards collated and distributed internally (Pérez, Montes, & Vázquez, 2005). Finally, dissemination must be done as quickly as possible for information that is critical to the success of organizational actions (Marinova, 2004).

Information interpretation. This stage of OL is defined as the process giving meaning to the information and determining how firms should act with regard to their strategy in the future (Tippins & Sohi, 2003). Several elements are involved in the shared interpretation on the meaning of information. For example, interpretative schemes help organizations to try to make sense of the events taking place internally and externally (Picken & Dess, 1998). Information interpretation is also determined by the possibility that organizational

[3] In the present study OL may be identified as a competency, which, in turn, "may be considered as a resource" (Lambe, Spekman, & Hunt, 2002, p. 142). A competency may be defined as a "socially complex, interconnected combination of tangible basic resources (e.g., specific machinery, computer software and hardware) and intangible basic resources (e.g., specific organizational policies and procedures and skills, knowledge, and experience of specific employees) that fit together coherently in a synergistic manner to enable firms to produce efficiently and/or effectively valued market offerings" (Hunt, 2000, p. 188).

[4] In terms of efficiency, OL is considered a valuable, rare, and difficult to imitate resource that fosters effective manufacturer–distributor relationships. In terms of efficacy, OL can be of help in producing a desired result, i.e., to help shape managerial actions to attain desired performance outcomes.

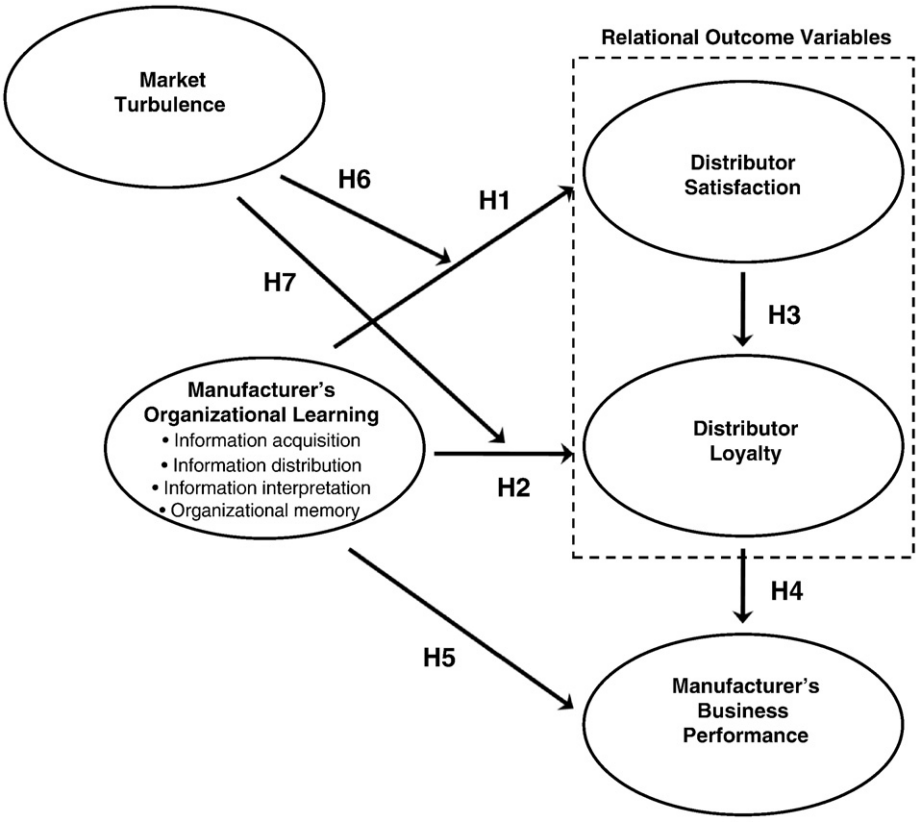

Fig. 1. Organizational learning, satisfaction, loyalty, and business performance.

members may choose from a wide range of communication tools (e.g., e-mail) to give a common meaning to the information (Treviño, Webster, & Stein, 2000). Effective shared interpretation may require too that there is no information overload. That is, that the information interpreted by the different organizational units does not exceed their capacity to carry out the activity successfully (Speier, Valacich, & Vessey, 1999). Unlearning has also been found to be critical for the success of information interpretation. In this regard, organizations stress the need to discard some of the knowledge gathered because it has become dated and may lead to errors in decision-making (De Holan & Philips, 2004).

Organizational memory. The focus of the present study is on active memory. The interest in the measurement of active memory is twofold. First, recent literature on organizational memory argues that passive memory, i.e., organizational memory based on computer-based information technologies, is a form of memory from which it is difficult to obtain maximal performance without active memory being sufficiently developed. Active memory[5] is the storing and retrieving of information associated with the memory based on individuals and social networks (Cross & Baird, 2000; Cross, Liedtka, & Weiss, 2005), and is regarded as dictating what information to acquire and conserve, so as to be retrieved later when needed. Also, active memory is considered to guide organizational actions. Hence it has a key role in organizations because it determines what has to be done with the knowledge stored from the past to create competitive advantages and obtain superior performance. Second, the interest in active memory is reinforced by the recognition that the empirical evidence measuring the construct is limited (Cross et al., 2005).

In addition, organizations promoting the existence of an effective active memory may require, for example, the generation of experts (Simon, 1991; Grant, 1996). Active memory is further enhanced when personnel turnover is adequately managed (Cross & Baird, 2000). The creation of training programmes also facilitates significantly the generation of social networks, which are helpful in the development of active memory (Delaney & Huselid, 1996). It is possible as well to promote the development of active memory through the knowledge of other employees' skills, this being essential if at any time information is needed from other employees when making decisions (Borgatti & Cross, 2003). Finally, active memory can be reinforced by the commitment of the members of the organization who have the experience and knowledge needed to actively search for solutions to everyday events in the life of the company, and also by the presence of a working atmosphere that nurtures working relations in which trust and collaboration are essential mechanisms for reaching effective solutions in everyday activities (Borgatti & Cross, 2003).

2.1. Relationships between organizational learning and relational outcome variables

2.1.1. Satisfaction

Over the years, satisfaction in buyer–seller relationships has become a strategic necessity for most firms (Mittal & Kamakura, 2001). Satisfaction is a consequence of a business relationship that is essential to take into account, and it may have effects on both future actions and the long-term continuity of the trading partners (Gassenheimer & Ramsey, 1994). The tangible benefits of a relationship in which there is satisfaction are greater than those generated when this is not the case, because satisfaction increases morale and cooperation between the members of the channel. There is also a greater probability that litigation will be reduced (Mithas, Krishnan, & Fornell, 2005). In this study, satisfaction is "a positive affective state resulting from the appraisal of all aspects of a firm's working

[5] Active memory is not the same concept as tacit knowledge, i.e., the knowledge that resides in the individual and that is complicated to communicate to the rest of the organization. However, active memory can be considered an approach to the capture of tacit knowledge (e.g., experience, intuition, and beliefs) from organizational members in order to solve problems and enhance business performance.

relationship with another firm" (Anderson & Narus, 1984, p. 66). That is, we are working with an overall concept of satisfaction which covers the aggregate effect of all prior satisfactions based on a series of transactions (Homburg, Koschate, & Hoyer, 2005).

In this context, the literature shows that firms able to rapidly learn to alter their ways of doing business deals and their product and service portfolios perform well in customer satisfaction (Slater & Narver, 1995). OL may allow close and extensive relationships to be built among trading partners. Hence manufacturers with a high level of OL will be able to facilitate mutual adjustment with their distributors. It is reasonable to expect that the market offers and services developed within this context will meet distributors' expectations (Theoharakis & Hooley, 2003). OL may also help firms to anticipate changes in expressed and latent needs, and provide a product and service portfolio finely matched to the marketplace (Day, 1994). Manufacturing firms operating therefore as a learning organization will be able to discover and anticipate the latent and expressed needs that influence their distributors' overall evaluation of the products and services provided to date. They will be able to use this knowledge to develop and reconfigure their market offers and their working relationship with counterparts, and to scrutinize their service performance in order to take advantage of emergent opportunities and threats (Morgan & Turnell, 2003). The most likely consequence will be favorable in the sense of distributor satisfaction. The above allows us to posit the following research hypothesis:

H1. The manufacturer's OL has a positive effect on the main distributor's satisfaction with the manufacturer.

2.1.2. Loyalty

Loyalty in buyer–seller relationships is one of the top-priority goals in many firms' marketing strategies (Yi & Jeon, 2003). Loyal customers are more likely to seek benefits in the long-term and become involved in cooperative actions that will favor both trading partners (Agustin & Singh, 2005). Loyalty is also considered a source of competitive advantage whose consequences can be materialized in lower costs in obtaining a new customer (Reichheld, 2003), greater stability in sales growth (Mithas et al., 2005), and being able to count on customers that act as communicators and defenders of the firm (Reinartz & Kumar, 2002). Loyalty is defined as the intention to carry out a varied set of behaviors that manifest the motivation to maintain the exchange relationship, such as: repeated purchase, positive word-of-mouth, and price tolerance (Sirdeshmukh, Singh, & Sabol, 2002; Lam, Shankar, Erramilli, & Murthy, 2004). This definition views loyalty as a combination of both behavioral (repeated purchase) and attitudinal (positive word-of-mouth and price tolerance) aspects.

As was the case with satisfaction, OL can be associated with loyalty. When the manufacturer has a high level of OL he will be in a favorable position to design and execute effective solutions to maintain and even increase how long a customer stays with a company (Reichheld, 1996). It will be possible to identify those business practices that need to be fixed to strengthen the frequency and magnitude of relational exchanges (Tax & Brown, 1998; Kivetz & Simonson, 2003). Manufacturer's loyalty programmes, for example, have a relevant role to play in these circumstances because they help to develop and maintain distributor loyalty which, as stated above, has both behavioral and attitudinal aspects (Reinartz & Kumar, 2003). Hence it seems reasonable to expect that a manufacturer who acts as a learning organization will be able to establish rewards for repeated purchase by the distributor (Kumar & Shah, 2004). The manufacturer will also be able to adopt initiatives to improve the distributor's likelihood of generating positive word-of-mouth and of having greater price tolerance for the products he offers (Wallace, Giese, & Johnson, 2004). This leads us to suggest that:

H2. The manufacturer's OL has a positive effect on the main distributor's loyalty towards the manufacturer.

2.2. Relationships between relational outcome variables and business performance

There is ample recognition in the literature of the strong links between distributor satisfaction and distributor loyalty, so that they should be seen as complementary variables (Lam et al., 2004; Spiteri & Dion, 2004). Satisfaction has often been seen as an important antecedent for loyalty. When a manufacturer manages to satisfy a distributor in a series of transactions, the latter is very likely to want to continue in the relationship, especially if there has never been any cause for complaint (Gupta & Zeithaml, 2006). Additionally, the positive effect of satisfaction on loyalty in business-to-business contexts has been reported by several other scholars (Chandrashekaran, Rotte, Tax, & Grewal, 2007). The above allows us to posit the following research hypothesis:

H3. The main distributor's satisfaction with the manufacturer has a positive effect on the distributor's loyalty towards the manufacturer.

If the manufacturer notes that the distributor is loyal, acting as a commercial partner and showing behavior such as repeated purchases, the generation of positive word-of-mouth, and price tolerance, then an improvement in the manufacturer's business performance can be expected (Chaudhuri & Holbrok, 2001; Spiteri & Dion, 2004). Working with a distributor who shows such loyalty is a major factor in making the relationship long-term. This type of distributor can be expected to buy more over time, and may even increase his budget for purchases from the manufacturer if his profit rises (Reichheld, 2003). Distributors who are loyal are also prepared to issue favorable opinions and pay more for the manufacturer's products because they associate the latter with a unique value proposal which exceeds the value offered by the competition (Thiele & Mackay, 2001). All of this strengthens the manufacturer's reputation regarding his everyday activities, and this attracts the attention of new distributors with no concomitant increase in acquisition costs (Cretu & Brodie, 2007). Since confidence can be transmitted to the counterpart, it is even possible that there may be a reduction in transaction costs and opportunistic behavior, as well as more efficient use of the resources assigned to the relationship (Eberl & Schwaiger, 2005). These arguments lead to the following hypothesis:

H4. The main distributor's loyalty towards the manufacturer has a positive effect on the manufacturer's business performance.

2.3. Relationship between organizational learning and business performance

Previous research has supported the idea that the learning that occurs in a company contributes to organizational performance (Bontis et al., 2002; Tippins & Sohi, 2003; Pérez et al., 2005). Business performance here is defined as the achievement of organizational objectives with regard to sales, market share, profits, and ROI (Hult, Hurley, & Knight, 2004; Santos et al., 2005). In this regard, the resource-based view (RBV) theory of the firm helps to explain why the manufacturer's OL has a favorable effect on business performance (Slater & Narver, 1995).

Specifically, OL is a valuable competency because it contributes to the creation of market offerings that the manufacturer's distributors want and consider important (Hult et al., 2002). Furthermore, it is a scarce, complex, competency as it brings together "the knowledge and specific abilities developed over the course of time in the organization" (Santos, Sanzo, Alvarez, & Vazquez, 2002, p. 14). In other words, although the manufacturer's OL is regarded as a processing system involving the acquisition, distribution, and interpretation of information as well as organizational memory (Huber, 1991; Sinkula, 1994; Moorman, 1995), its implementation differs from one company to

another, especially if one considers that each organization is unique with regard to the resources it has at its disposal at any one time (Hunt & Morgan, 1995).

Additionally, the intangibility of the manufacturer's OL, together with the remaining characteristics of OL, make this competency difficult to imitate, so that it is difficult to substitute or transfer it from other organizations (Zahay & Handfield, 2004). This is because: (1) the learning process is specific to the particular circumstances and historical framework in which a company evolves, and (2) it interacts ambiguously with other resources (Collis & Montgomery, 1995). It can therefore be stated that "the markets for such resources are highly imperfect or simply do not exist" (Chi, 1994, p. 273), and that "the ability to learn may be the only and true source of competitive advantage in the long-term" (Zahay & Handfield, 2004, p. 628). Hence, the manufacturer's OL should lead to improved business performance. This leads us to suggest that:

H5. The manufacturer's OL has a positive effect on his business performance.

2.4. Moderating effects of market turbulence

The idea behind the analysis of the possible moderating effects of environmental factors is that the impact of organizational performance on the various organizational actions may be altered when the performance is subject to changing conditions in the environment. The advantage of selecting one organizational action over another may be affected by the characteristics of the business environment in which the firm works. It can therefore be argued that OL, being an organizational competency, may be more or less valuable depending on the market conditions in which the competency is to be used. The capacity of organizational resources to sustain a competitive advantage is also determined by the degree of fit or conformity with the requirements of market forces (Hunt & Morgan, 1995). The present study examines whether the relationships between the manufacturer's OL and the relational outcome variables (distributor satisfaction and distributor loyalty) depend on the degree of market turbulence. The objective is to examine the strength of these relationships at different levels of market turbulence. Turbulence is a variable representing the changes taking place "in the composition of customers and their preferences" in the markets in which the firms operate (Jaworski & Kohli, 1993, p. 57).

Although OL is seen as helping manufacturers develop and improve their product and service portfolio to satisfy their main distributors' needs while remaining in an advantageous position for generating and maintaining loyalty, in a highly turbulent market the manufacturer will have to be better at guaranteeing both greater satisfaction and loyalty in his main distributor. The aim is either to retain this main distributor or to attract the attention of others who may be more useful for his survival in the long-term. Manufacturers are therefore forced to make a continual effort, more so than in a situation of low market turbulence, to anticipate their distributors' changing preferences and/or the possibility that these may change substantially (Hunt & Morgan, 1995). In this context, the value of OL increases because it allows the manufacturer to analyze properly the dynamic evolution of the market and to develop any market offerings and/or institutional actions that will help maintain the relationship with the main distributor. This reasoning allows us to posit that:

H6. In highly turbulent markets, the positive relationship between the manufacturer's OL and the main distributor's satisfaction with the manufacturer is stronger.

H7. In highly turbulent markets, the positive relationship between the manufacturer's OL and the main distributor's loyalty towards the manufacturer is stronger.

Table 1
Research data.

Target population	Medium-size manufacturers in the following sectors: food (CNAE: 15), chemicals and plastics (24 and 25), iron and steel and metals (26, 27, and 28), other machinery (29), electrical, electronic, and optical machinery and equipment (30, 31, 32, and 33), and transport equipment (34 and 35).
Sample unit	General Manager or Sales Manager
Scope	Nationwide in Spain
Data collection method	Structured questionnaire sent to managers by e-mail or fax.
Population	1820
Sample size	181
Sample error	6.91%
Level of confidence	95%; $Z = 1.96$; $p = q = 0.5$
Sampling procedure	The sectors were chosen at discretion, and a total of 1820 manufacturers were contacted.
Date of fieldwork	March to June 2006

3. Methods

3.1. Sample

The SABI[6] database was used to establish a population of 1820 companies having the following characteristics: (a) manufacturing companies located in Spain, and (b) medium-size companies, according to the European Union (EU) criterion of 2003[7] (Table 1). Another essential aspect considered was the key informant in the companies. The General Manager or the Sales Manager were chosen because they could be expected to have information on a wide variety of areas within the company (Thorpe & Morgan, 2007), and detailed information on the main dyadic relationship (Walter, Ritter, & Gemunden, 2001).

The empirical research was based on a structured questionnaire sent out to all the key informants in the population being studied. The target population was contacted by telephone to determine who the key informant in each organization was, as well as his/her contact details. After the initial design of the questionnaire and before it was sent out to all the manufacturing companies, a pre-test was carried out in the form of in-depth interviews with five academic scholars and three senior managers who were aware of the subject under study and knowledgeable about the Spanish market. The information from this pre-test allowed us to adapt the wording of some of the items and to determine satisfactorily that the scales covered the domain of each of the corresponding latent variables under study.

At the end of the field work, there were a total of 181 valid responses, corresponding to a response rate of 9.95%. This response rate is similar to that obtained in other studies on related topics carried out in Spain (Santos et al., 2005). We also carried out a key informant competence test, taking into account the number of years of existence of the business relationship between the manufacturer and his main distributor, the number of years that the key informant had been working in the company, and his years of experience in his current position. The results showed the respondents' companies on average to have 8.2 years of relationship with their main distributor. The respondents on average had been employees of their company for 10.3 years, and also had working experience in their present position of 6 years. We tried to ensure that the respondent had the required knowledge of the issues under study and was capable of communicating this knowledge properly (Thorpe & Morgan, 2007). Finally, when studying the potential non-response bias, we followed the procedure suggested by Armstrong

[6] The "Sistema de Analisis de Balances Ibericos" (SABI) is a database of Spanish and Portuguese companies. It provides access to general information about more than 480 000 Spanish companies and 40 000 Portuguese companies.

[7] According to Recommendation 2003/361/European Commission (EC), medium-sized enterprises have 50–249 employees, and have either an annual turnover not exceeding 50 million Euros or an annual balance sheet total not exceeding 43 million Euros.

and Overton (1977). The results suggested that there were no statistically significant differences between early and late respondents.

3.2. Measurements

We used 7-point Likert type scales. All constructs were measured with reflective scales (see the Appendix for the complete set of measures). Concerning OL, this is considered as a processing system involving the acquisition, distribution, and interpretation of information as well as organizational memory (Huber, 1991; Sinkula, 1994; Moorman, 1995). We used an existing scale to measure this construct developed by López Sánchez et al. (2010). For information acquisition most of the items were new. Also, with the aim of not duplicating effort unless strictly necessary, three items were taken from Templeton, Lewis, and Snyder (2002). For information distribution, based on the premise that this activity is present in most firms, five studies were used in elaborating the different items: (a) Jaworski and Kohli (1993), (b) Kohli, Jaworski, and Kumar (1993), (c) Bontis et al. (2002), (d) Templeton et al. (2002), and (e) Pérez et al. (2005). For information interpretation, three of the items were new, while the remaining ones were taken from Templeton et al. (2002). For the last dimension of OL, organizational memory, we did not follow Huber's (1991) approach. This was because subsequent studies have shown the relevance for the creation of competitive advantage of the part of organizational memory that lies in the minds of individuals and social networks, i.e., active memory (Cross & Baird, 2000). To ensure the suitability of the content of the proposed scale of OL we carried out both a literature review and extensive discussions with academics and practitioners during the pre-test.

We also examined the rest of the scales during the pre-test. It was confirmed that the adapted items were adequate for our research setting. To measure the relational outcome variables (distributor satisfaction and distributor loyalty) modified versions of previously developed scales were used. The satisfaction of the main distributor as perceived by the manufacturer was evaluated as an overall, accumulative concept in which the manufacturer evaluates to what extent the relationship with the distributor has surpassed his expectations. This is a classic approach to the measurement of satisfaction because specification of satisfaction is identified with a positive affective state which is the result of a value judgment affecting all the aspects, both economic and non-economic, involved in a relational exchange. Specifically, an adaptation of the Cannon and Perreault (1999) five-item scale was used, which aims to capture the essence of the aforementioned satisfaction approach.

With respect to loyalty of the main distributor as perceived by the manufacturer, the aim is to measure that loyalty which combines aspects of behavior (repeated purchase) and attitude (positive word-of-mouth and price tolerance). With this conception, it is possible to avoid other types of loyalty that might arise in a commercial relationship such as spurious loyalty (Dick & Basu, 1994). Two items were therefore used for behavioral loyalty, Lo1 and Lo3, which refer to a purchase act repeated over time. The remaining items in the scale correspond to the attitudinal approach to loyalty. Thus the generation of positive word-of-mouth is represented by item Lo2, and price tolerance by item Lo5. Also included are two items, Lo4 and Lo6, of the general positive attitudinal approach which the distributor shows regarding his continuation in an existing relationship.

In the case of business performance, a scale was used in which the manufacturer assesses the growth of sales, market share, profits, and ROI over the last period (3 years). The items considered appear frequently in the literature: sales (Tippins & Sohi, 2003); market share (Hult et al., 2004); profits (Theoharakis & Hooley, 2003); and ROI, return on investment, understood as the ratio between profits before taxes and interest and the net total assets (Tippins & Sohi, 2003). Finally, to measure market turbulence, a scale developed by Jaworski and Kohli (1993) was selected and adapted to try to evaluate the degree to which the manufacturer perceives that the preferences and composition of distributors operating in his industry have changed over time.

4. Results

The empirical results were evaluated following published and recognized procedures. First, the psychometric properties (reliability, convergent validity, and discriminant validity) of the measures were examined following methodological recommendations by Churchill (1979), Gerbing and Anderson (1988), and Slater, Hult, and Olson (2010). Second, the hypotheses of the conceptual model were tested by means of a structural equation system.

4.1. Measurement analysis

In order to assess the measures, the indicators were subjected to a confirmatory factor analysis (CFA). The estimation procedure was robust maximum likelihood (ML) estimation to avoid problems of non-normality with the data (Bentler, 1995). The measures were divided into two subsets of variables: (a) the lower-order factors of the OL higher-order factor, i.e., direct information acquisition, indirect information acquisition, information distribution, information interpretation, and organizational memory; and (b) satisfaction, loyalty, business performance, and market turbulence. This approach was used in order not to exceed the recommendation of a five-to-one ratio of sample size to parameter estimates (Bentler & Cho, 1988). The fit of the measurement models was evaluated using: S–Bχ^2 (Satorra–Bentler's chi-squared), Bentler–Bonnett Non-Normed Fit Index (NNFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI), Standardized Root Mean Square Residual (SRMR), and Root Mean Square Error of Approximation (RMSEA) (Bentler, 1995).

Specifically, to verify the multi-dimensional nature of OL we conducted first-order, second-order, and third-order CFA models. The first-order CFA model (NNFI = 0.96, CFI = 0.97, IFI = 0.97, SRMR = 0.05, and RMSEA = 0.05) (Table 2) suggested the use of three indicators to measure direct information acquisition (Composite Reliability, CR = 0.85, and Average Variance Extracted, AVE = 0.67), three indicators to measure indirect information acquisition (CR = 0.83 and AVE = 0.61), four indicators to measure information distribution (CR = 0.88 and AVE = 0.66), four indicators to measure information interpretation (CR = 0.88 and AVE = 0.64), and four indicators to measure organizational memory (CR = 0.87 and AVE = 0.62). In the process of purification, we dropped indicators that performed poorly on their respective latent variables (Gerbing & Anderson, 1988). With respect to the second-order CFA model (NNFI = 0.96, CFI = 0.96, IFI = 0.96, SRMR = 0.05, and RMSEA = 0.05), we examined whether information acquisition was a higher-order factor affected by direct information acquisition and indirect information acquisition. In the third-order CFA model, the factors obtained in the second-order CFA, i.e., information acquisition, information distribution, information interpretation, and organizational memory were assumed to emanate from OL. The empirical results suggested that the aforementioned three CFA models fit well (Table 2). Furthermore, the third-order CFA model showed higher fit indices and lower comparative criteria – Akaike's Information Criterion (AIC) and the Consistent AIC (CAIC) (Steenkamp & Baumgartner, 1998) – than the first-order and the second-order CFA models. The aforementioned third-order CFA model resulted in NNFI (0.96), CFI (0.97), and IFI (0.97) all being above 0.95, SRMR = 0.05, and RMSEA = 0.05. Hence it was shown that OL is a higher-order factor. One additional test was run to examine the reflective or formative nature of OL: the vanishing tetrad test. In this regard, "the assumption underlying the reflective model is that the correlations between the error terms, δ_i, are zero. The vanishing tetrad test confirms whether or not this is true" (Coltman, Devinney, Midgley, & Venaik, 2008, p. 1254). To run the vanishing tetrad test the confirmatory tetrad analysis (CTA) within SmartPLS software application was employed (Ringle, Sven, & Alexander, 2005). The results of this test as a whole suggest, together

Table 2
CFA results.

Measures	Standardized lambda	Robust *t*-value
First-order model		
Direct information acquisition → Ia1	0.83	14.03
Direct information acquisition → Ia2	0.79	9.83
Direct information acquisition → Ia3	0.81	10.57
Indirect information acquisition → Ia9	0.72	9.42
Indirect information acquisition → Ia10	0.84	13.33
Indirect information acquisition → Ia11	0.79	10.722
Information distribution → Id2	0.75	10.18
Information distribution → Id4	0.84	14.35
Information distribution → Id5	0.84	16.58
Information distribution → Id6	0.81	15.41
Information interpretation → Ii1	0.79	12.27
Information interpretation → Ii2	0.84	14.03
Information interpretation → Ii5	0.78	13.03
Information interpretation → Ii6	0.79	14.28
Organizational memory → Om4	0.80	12.53
Organizational memory → Om5	0.83	11.44
Organizational memory → Om6	0.77	9.30
Organizational memory → Om7	0.75	11.34
Second-order model		
Information acquisition → Direct IA	0.91	10.98
Information acquisition → Indirect IA	0.85	8.57
Third-order model		
Organizational learning → Information acquisition	0.94	10.43
Organizational learning → Information distribution	0.93	9.49
Organizational learning → Information interpretation	0.90	10.92
Organizational learning → Organizational memory	0.81	9.41

Fit statistics.
First-order model: S–B χ^2 (125) = 174.36, p = 0.00, NNFI = 0.96, CFI = 0.97, IFI = 0.97, SRMR = 0.05,
RMSEA = 0.05, AIC = −75.64 CAIC = −600.45.
Second-order model: S–B χ^2 (128) = 181.27, p = 0.00, NNFI = 0.96, CFI = 0.96, IFI = 0.96, SRMR = 0.05,
RMSEA = 0.05, AIC = −74.74, CAIC = −612.14.
Third-order model: S–B χ^2 (130) = 180.58, p = 0.00, NNFI = 0.96, CFI = 0.97, IFI = 0.97, SRMR = 0.05,
RMSEA = 0.05, AIC = −79.41, CAIC = −625.22.
Key: IA = Information acquisition.

with the theoretical and empirical considerations of Coltman et al. (2008), that OL is better measured reflectively.

With respect to the first-order CFA model with the other subset of variables, the measurement structure (Table 3) suggested the use of five indicators to measure satisfaction (CR = 0.96 and AVE = 0.82), the use of six indicators to measure loyalty (CR = 0.91 and AVE = 0.62), the use of three indicators to measure business performance (CR = 0.90 and AVE = 0.75), and two indicators to measure market turbulence (CR = 0.82 and AVE = 0.70). After dropping indicators that performed poorly, the fit indices of the model produced satisfactory results (NNFI = 0.97, CFI = 0.97, IFI = 0.97, SRMR = 0.05, and RMSEA = 0.05).

Table 3
CFA results.

Measures	Standardized lambda	Robust *t*-value
First-order model		
Satisfaction → Sa1	0.93	12.11
Satisfaction → Sa2	0.91	13.06
Satisfaction → Sa3	0.87	11.00
Satisfaction → Sa4	0.94	13.03
Satisfaction → Sa5	0.88	10.84
Loyalty → Lo1	0.80	14.36
Loyalty → Lo2	0.74	12.16
Loyalty → Lo3	0.82	12.86
Loyalty → Lo4	0.87	11.56
Loyalty → Lo5	0.73	11.92
Loyalty → Lo6	0.78	10.19
Business performance → Bp1	0.95	13.26
Business performance → Bp2	0.89	12.42
Business performance → Bp3	0.75	10.47
Market turbulence → Mt1	0.94	16.04
Market turbulence → Mt2	0.72	12.13

Fit statistics.
First-order model: S–B χ^2 (98) = 137.58, p = 0.01, NNFI = 0.97, CFI = 0.97, IFI = 0.97, SRMR = 0.05 RMSEA = 0.05.

Within all the aforementioned CFA models, convergent validity was confirmed by the standardized parameter estimates and their associated robust t-values all being above recommended thresholds (Churchill, 1979; Gerbing & Anderson, 1988; Slater et al., 2010). As a confirmation of discriminant validity, for every pair of latent variables the square root of AVE exceeded correlations between the latent variables (Fornell & Larcker, 1981). Additionally, we checked post-hoc for the likelihood of common method variance using (a) Harman's single-factor test, and (b) the latent variable approach controlling for the effects of a single unmeasured latent methods factor (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003). The results using the aforementioned techniques revealed that common method variance was not a problem in this study. Finally, all the measures were found to be reliable as they exceeded standards for acceptance. In Table 4, we present the correlation matrix, means, standard deviations, and Cronbach's alpha coefficients for the nine latent variables.

4.2. Structural model

After evaluating satisfactorily the measurement models of OL, satisfaction, loyalty, and business performance, we proceeded to analyze the paths of the structural model: H1–H7, given in Table 5. It was first necessary to verify the existence of discriminant validity. We therefore simplified the higher-order factor, i.e., OL, by taking the mean of the scores of the indicators of each of the lower-order factors. This is a published and recognized procedure that is employed when there are a large number of items and multidimensional measurement scales, so the number of parameters to estimate is appropriate for the sample size (Hibbard, Kumar, & Stern, 2001). The results of the first-order confirmatory factor analysis based on the aforementioned factors showed a good quality of fit. This thus corroborated the reliability and convergent validity of these factors, as well as their discriminant validity.

In view of the above results, we continued by evaluating under ideal conditions the structural model specified in this study. The results showed that the fit indices of the model as a whole were acceptable (Table 5). By analyzing the causal relationships proposed, we noted that the influence of the manufacturer's OL on distributor satisfaction was significant (H1). However, in the analysis of its effect on distributor loyalty the expected causal relationship was not significant (H2). This was so even though the literature argues that a sufficiently well-developed OL gives the manufacturer a competitive advantage in the design, communication, and delivery of attractive market offerings for the distributor which, in turn, lead to greater distributor loyalty. A possible explanation may be the mediating effect of distributor satisfaction:

Manufacturer's OL → Distributor satisfaction → Distributor loyalty ($0.28 \times 0.79 = 0.22$). That is, the manufacturer's OL enhances distributor satisfaction, which ultimately enhances distributor loyalty. The indirect effect is estimated at 0.22.

The well-known causal relationship between distributor satisfaction and distributor loyalty was also confirmed (H3). Distributor loyalty does also have a significant impact on business performance, so hypothesis H4 was accepted. Finally, it was confirmed that manufacturer's OL enhances his business performance (H5).

Within the same structural model we also assessed the moderating effect of market turbulence in the causal relationships proposed between the manufacturer's OL and the relational outcome variables (distributor satisfaction and distributor loyalty). We followed Ping's (1995) method for testing moderating effects. The empirical results showed that the model fits the data reasonably well (Table 5). In

Table 4
Correlations, means, standard deviations, and Cronbach's alpha coefficients.

	Mean	S.D.	1	2	3	4	5	6	7	8	9
1. Direct I.A.	5.02	1.24	*0.85*								
2. Indirect I.A.	5.32	1.10	0.64	*0.82*							
3. Information distribution	4.74	1.33	0.69	0.68	*0.88*						
4. Information interpretation	4.97	1.08	0.62	0.69	0.73	*0.87*					
5. Organizational memory	5.54	0.90	0.55	0.62	0.64	0.68	*0.86*				
6. Satisfaction	5.31	1.11	0.17	0.21	0.21	0.23	0.30	*0.96*			
7. Loyalty	5.16	1.12	0.25	0.24	0.25	0.22	0.27	0.74	*0.89*		
8. Business performance	5.21	1.07	0.28	0.36	0.33	0.33	0.33	0.29	0.30	*0.89*	
9. Market turbulence	4.18	1.54	−0.07	−0.03	0.06	0.08	0.06	−0.03	−0.08	0.27	*0.84*

Key: S.D. = standard deviation, I.A. = information acquisition.
Cronbach's alpha coefficients are shown in italics on the diagonal. Correlations are shown below the diagonal.
In calculating correlation coefficients, we worked with the mean of the scores of the indicators that made up each of the latent variables.

analyzing the paths of the interaction term, it was noted that the interaction effects of OL and market turbulence on (a) satisfaction and (b) loyalty were not significant. Hence we reject the hypotheses in which it is suggested that market turbulence moderates the learning-satisfaction and learning-loyalty connections (H6 and H7)[8].

5. Discussion and conclusions

This study has examined the impact of OL on satisfaction and loyalty. This is a particularly relevant topic in business-to-business contexts in that it helps to explain why commercial relations are successful and long-lasting (Lapre & Tsikriktsis, 2006). A valid scale for the manufacturer's OL was drawn up after a detailed study of the literature. This measurement tool can be considered as exploratory because the research domain to which it corresponds is still in its infancy, i.e., measures of this type need to be developed because of the limited empirical contributions made so far.

The process of purifying the OL scale revealed that information acquisition (IA) was composed of two dimensions: (a) direct IA, which arises when the organization draws information from its direct experience; and (b) indirect IA, which is when information is gained from the experience of other entities (Huber, 1991; Slater & Narver, 1995). The existence of all the other dimensions in the OL scale was confirmed quantitatively. Information distribution captures the usefulness of effective dissemination of information for creating a shared understanding of the activities carried out in the organization. Information interpretation reflects how useful it is for a firm to have the broadest and most uniform possible understanding of the importance of information for achieving changes in potential behavior. For the final dimension, organizational memory, we worked with the type of memory that is based on individuals and social networks, i.e., active memory which facilitates the compiling, storage, and access to the organization's accumulated knowledge.

This research can be considered pioneering as it provides empirical evidence that the manufacturer's OL is a direct, positive antecedent for distributor satisfaction. It suggests that when OL is sufficiently well-developed in the manufacturer, he (the manufacturer) can gain precise knowledge about the expressed and latent needs of his commercial partner. This aspect is valuable for the manufacturer because it allows him to develop and improve his product range to satisfy the distributor. It was also shown that the manufacturer's OL is related indirectly and positively to the distributor's loyalty or, to be more precise, distributor loyalty is seen to be a consequence of the mediating effect of distributor satisfaction.

In this regard, in past research OL has been viewed as a potential factor for achieving satisfaction and loyalty (Theoharakis & Hooley, 2003; Kumar & Shah, 2004; Lapre & Tsikriktsis, 2006). Our findings provide empirical support for this view, and imply that OL is a key driver of the aforementioned variables. It is noted as well that the manufacturer's OL impacts on business performance directly and positively. This finding is consistent with the study of Tippins and Sohi (2003), which showed that OL would lead to higher levels of business performance as firms learn from customers as well as from competitors about how to have a better chance of offering products finely matched to the marketplace.

In addition, loyalty indeed has a significant influence on business performance. A reasonable explanation for this could be that, since the manufacturer devotes a major effort to learning and improving his daily operations with regard to his distributor in order to achieve the highest possible degree of loyalty in the latter, at the same time big attention is paid to the possibility of this effort being applied to business practice and materialized in the manufacturer's own business performance. If the manufacturer is aware of this circumstance, he may not fall into the trap of meeting all the demands of the trading partner without accepting, for example, that there is a point at which the cost of meeting such demands may no longer have a significant impact on the revenue coming from that partner (Grewal & Tansuhaj, 2001).

The main business implication is that it is reasonable for a manufacturer to invest in and allocate resources for improving and developing OL because this will have a favorable effect on the relationship with the distributor. A concern for learning in a firm will lead it to constantly seeking in-depth knowledge of existing and potential markets. This may improve the firm's responsiveness to the distributor's changing needs and its maintenance of a suitable balance between using the knowledge accumulated and exploring new market opportunities. Hence, when a manufacturing firm has a high level of OL, it will be more likely for the distributor to be satisfied, irrespective of market conditions, and the distributor will consider the manufacturer to be a safe, reliable trading partner with which it can maintain a relationship with a long-term orientation. Indeed, this would seem reasonable because the manufacturer is more likely to acknowledge any mistakes made and will be able to rectify any course of action when so required.

Another business implication is that although the manufacturer may have the resources needed for his OL to operate correctly, he

Table 5
Linear and interaction effects related to structural model results.

Paths specified	Model	
	Standardized coefficient	Robust t-value
H_1: Organizational learning → Satisfaction	0.28	2.83
H_2: Organizational learning → Loyalty	0.05	n.s.
H_3: Satisfaction → Loyalty	0.79	10.50
H_4: Loyalty → Business performance	0.25	2.66
H_5: Organizational learning → Business performance	0.35	4.05
H_6: Organizational learning × Market turbulence → Satisfaction	−0.136	n.s.
H_7: Organizational learning × Market turbulence → Loyalty	−0.015	n.s.

Summary statistics:
Model: S–B χ^2 (146) = 221.00, p = 0.00, NNFI = 0.91, CFI = 0.92, IFI = 0.92, SRMR = 0.06, RMSEA = 0.05.
Key: n.s.: not significant.

[8] Following the comments of one reviewer, we also tested whether market turbulence moderated the learning-performance connection. The empirical results revealed that this factor does not moderate the aforementioned connection.

should take into account a simple premise, namely, that OL should be developed specifying the type of learning that is most relevant for the organization. This means that OL should be promoted with a clear idea of the implications for the future relationship with the distributor. Otherwise, an organizational competency might be wasted and inefficiently allocated. Furthermore, the fact that the manufacturer has a learning organization mentality by no means guarantees his survival in the long-term. A firm with a high level of OL will not necessarily be responsive to situations of change. It would be wrong to consider OL as a panacea for successfully managing a commercial relationship. It can therefore be stated that this is a factor that has a positive influence on the progress of a relational exchange but does not fully explain why some relationships last and others do not.

6. Limitations and future research directions

An assessment of these empirical results should consider the limitations inherent to survey research. First, by working with cross-sectional data, the information collected refers to a single moment in time, so that it is impossible to be sure whether or not the causal relationships will change as time passes. Second, a single key informant was used in each organization, the General Manager or Sales Manager, as they could be expected to have information on a wide variety of business areas, and their information on the company's operations was likely to be up-to-date. Finally, although only one of the members of the dyadic relationship, the manufacturer, was asked about the variables being studied, it is true that measuring these variables on both sides of the dyad would lead to greater accuracy. However, bearing in mind how difficult it is to achieve a suitable response rate when using the procedure of paired surveys in the distribution channel, this procedure is not considered viable at present. In support of our analytical approach, there are studies that defend the presence of a significant correlation between the measurements that can be made simultaneously of a single construct at both ends of the dyad (Homburg, Krohmer, Cannon, & Kiedaisch, 2002).

This approach has also been used to assess how organizational resources are related to customers' marketing measures or performance indicators (Soteriou & Zenios, 1999; Theoharakis & Hooley, 2003). Sampled companies were also ISO 9001:2000 certified. Hence it can be guaranteed that the companies under study carry out reiterative procedures to evaluate their customers as is required by this certification. Diverse examples can be found in the literature where this methodological approach is used: (a) Baker, Simpson, and Siguaw (1999); (b) Gilliland and Bello (2002); and (c) Ryu, Min, and Zushi (2008). In addition, although common method variance was not a problem in this study, using more than one key informant per organization may improve the reliability of our measures (Podsakoff et al., 2003).

With regard to the suggestions for future research, first, determining the effects of OL on new product development has received scant attention. Identifying what is the minimum level of OL necessary to develop successful new products remains largely unexplored in the marketing domain. In addition to this, as OL may depreciate over time, keeping the required level of OL should be considered a priority to be successful in new product development. Studying the factors that may influence the rate at which OL depreciates and becomes less efficient in new product development may also be considered as a promising research avenue. Second, in examining the effects of OL on marketing strategy, significant work also remains to be done. Deepening our understanding of how OL enhances or inhibits the development of marketing strategy would be helpful to comprehend why some organizations are able to outperform competitors and others not. Analyzing, for example, the different profiles that companies may have when dealing with OL should be addressed in order to better understand interorganizational variations in the development of marketing strategies. Finally, further effort should be devoted as well to finding and examining any other factors having a moderating effect on the model proposed in this study. Additional studies could determine for example whether and, if so, how the innovative business culture plays a moderating role in the causal connections depicted in our study's conceptual framework.

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Appendix A. Measures

Organizational learning scale.

Cod.	Description of the item	Reference
Information acquisition		
Ia1	The employees are informed about how the firm was created and its philosophy of work.	New items
Ia2	We collect and use the information generated in the organizational changes carried out (for example, development of new products, modification in working methods, and development of innovative complementary services).	
Ia3	Interaction and participation by the employees are encouraged with the aim of collecting information about possible changes.	
Ia4	*We constantly evaluate the need to change even when there is optimal adaptation to the business environment.*	
Ia5	*The members of the organization use informal means to find out about recent events regarding the market or the environment.*	Templeton et al. (2002)
Ia6	*As a result of the experience acquired over time, employees are more efficient in exercising their responsibilities.*	New Items
Ia7	*We collect information about what our competitors do by different means (for example, consultants).*	
Ia8	*When we do not have the necessary specific knowledge we look for it and acquire it outside the organization.*	
Ia9	We check periodically that our strategy is appropriate for the business environment (for example, legislation).	Templeton et al. (2002)
Ia10	Problems are approached pro-actively, that is, we learn from other entities how to respond to problems before they arise.	
Ia11	We use formal and reiterative procedures to evaluate our results and compare them with those of the competition.	New item
Information distribution		
Id1	*We have a meeting schedule among departments to integrate the existing information.*	Jaworski and Kohli (1993), Kohli et al. (1993)
Id2	We devote time to discussions about the organization's future needs.	
Id3	*We use databases and organizational files to support our work.*	Bontis et al. (2002)
Id4	We communicate our general objectives throughout the organization.	Bontis et al. (2002), Pérez et al. (2005)
Id5	The company is interested in providing the employees with a global view of the company's operation, including personnel turnover.	Templeton et al. (2002)
Id6	There are people responsible for collecting the proposals made by the organization's members and distributing them internally.	Pérez et al. (2005)
Id7	*Vital information is transmitted quickly to all the employees.*	New item

Appendix A. *(continued)*

Cod.	Description of the item	Reference
Information interpretation (II)		
Ii1	We examine and systematically update our opinion about the business environment.	Templeton et al. (2002)
Ii2	We try to interpret the information which has significance for the organization as uniformly as possible.	New item
Ii3	*The employees have at their disposal a wide variety of communication tools (telephone, e-mail, fax, intranet, etc.).*	Templeton et al. (2002)
Ii4	*We generate concise reports to avoid excess information that may limit our capacity to interpret it properly.*	New item
Ii5	Before a decision is taken, the different alternatives are thoroughly analysed.	Templeton et al. (2002)
Ii6	We periodically review the information that is significant for the organization in case it is obsolete or may lead to error.	New item
Ii7	*We are not opposed to changing our way of doing things.*	Templeton et al. (2002)
Organizational memory		
Om1	*We have our own personnel who are experts on the most essential aspects of the organization's operation.*	New items
Om2	*Personnel turnover, that is, the rate at which employees leave the firm, does not place at risk our capacity to create new knowledge and solve problems.*	
Om3	*We carry out training programmes (workshops, seminars, etc.) for the members of the organization.*	
Om4	We are aware of which people have the specific abilities and the experience to know how to act when an opportunity or problem arises.	
Om5	Once we know who we have to contact within the organization, when an opportunity or problem arises we can access this person.	
Om6	The people contacted in the organization, who are helpful when an opportunity or problem arises, are actively committed to looking for possible solutions.	
Om7	There is an atmosphere of trust and collaboration among the personnel of the company leading to cooperation when an opportunity or problem that needs a solution arises.	

Relational outcome variables scales.

Cod.	Description of item	Reference
Distributor satisfaction		
It is very likely that our main distributor…		
Sa1	Is fully satisfied with our firm.	Cannon and Perreault (1999)
Sa2	Treats us in a suitable way.	
Sa3	If it had to restructure the channel, it would choose to continue working with our organization.	
Sa4	Is satisfied with the relationship with us.	
Sa5	Has always had good experience with our firm.	
Distributor loyalty		
It is very likely that our main distributor…		
Lo1	Will make most of its future purchases from our firm.	Sirdeshmukh et al. (2002)
Lo2	Will recommend our organization.	
Lo3	Will come to our firm the next time it needs to make a purchase.	
Lo4	Will remain with our firm in the future.	Caruana (2002)
Lo5	Will not make purchases from another manufacturer who sporadically offers better prices.	Zeithaml, Berry, and Parasuraman (1996)
Lo6	Feels happy with the relationship and not forced to maintain it.	Caruana (2002)

Market turbulence scale.

Cod.	Description of item	Reference
Market turbulence		
Mt1	In our market, distributors' product preferences change quite a lot over time.	Jaworski and Kohli (1993)
Mt2	Our distributors are always looking for new products.	
Mt3	*We are witnessing demand for our products from distributors who never bought them before.*	
Mt4	*New distributors tend to have product-related needs that are different from those of our existing distributors.*	
Mt5	*Our distributor base has remained quite stable over the last three years (R).*	

(R) This item has been coded inversely.
Note: the items that were eventually removed are in italics.

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