The link between learning orientation and knowledge generation to foster innovation in Mexican firms

Track: Strategies for Global Competitiveness

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Abstract

The overall aim of this paper is to identify the relationship of a learning orientated organization and the sources of knowledge generation in Mexican firms, services and manufacturing, and how these impact in their innovative capability. The innovative performance of organizations depends undoubtedly on how successful they are in the generation of knowledge and how efficient and committed in distributing this knowledge among their members. Organizations with a clear sense of direction and vision (focus) are able to search for new knowledge and facilitates the organization's change. To validate this phenomenon an explanatory study was designed

Introduction

A firm is a dynamic entity which actively interacts with its environment, and reshapes the environment, and even itself, through the process of knowledge creation is able to innovate in its processes, products or services (Nonaka and Takeuchi, 1995). If an organization wants to survive in and lead an industry, it must continuously differentiate itself from its competitors by creating competitive advantages through adaptive capabilities or innovative strategies (Reeves and Deimler, 2011). A firm's innovative performance depends on how successful it is in appropriating knowledge or ideas identified as useful in external sources, so that knowledge generation is fundamental to a company's development and to successfully building and sustaining a competitive advantage, since it is the base of innovation (Laursen and Salter, 2006).

Organizations have the capacity to learn and acquire new knowledge, which Kogut and Zander (1992) refer to as a company's *combinative capability* and Cohen and Levinthal (1990) articulate as *absorptive capacity.* Organizations are not just knowledge warehouses, their knowledge base can be produced and reproduced within a social framework. Knowledge generation is defined as the specific activities and initiatives undertaken by organizations to increase their organizational knowledge (Davenport and Prusak, 2001). These activities involve external acquisitions of knowledge and internal creation of this intangible resource being highly dependent upon the organization's culture and management style, in fact, a culture that promotes intensive communication, accepts new ideas, and is prepared to explore new processes and activities favors the generation of knowledge. It may be stimulated through non-hierarchical organizational structures, an active general management, and by motivating employees to innovate and learn lessons that allow them to obtain new and better knowledge (Zapata, Rialp and Rialp, 2009).

Knowledge generation is mainly an institutionalized activity, so each organization must be able to establish its own creative routines and human intervention to make this process possible, be learning oriented institution where having a share

vision, commitment to learn and open mindedness are key drivers (Griese, Pick and Kleinaltenkamp, 2012). The challenge is to build systems that collect the learning processes acquired during projects and ongoing activities, to capture that knowledge in a database or document, and then to spread it throughout the entire organization (Grant, 2000; Argote and Spektor, 2011) to be useful for innovation strategies.

In this sense, there are many studies discussing how knowledge management is positively related to innovation and performance (e.g. Nonaka and Takeuchi, 1995; Soo et al., 2002; Lee and Choi, 2003; Zelaya-Zamora and Senoo, 2013); but the impact of knowledge generation on the firm innovation capabilities is still unexplored (Griese, Pick and Kleinaltenkamp, 2012).

The overall aim and contribution of the present research is to identify the link between learning orientation and knowledge generation and the impact of this relationship in the innovation capacity of Mexican firms, specifically services and manufacturing. The study also sought explanation of how organizational factors and personal qualifications are relevant. This paper is structured as follows: Section 2 exposes the development of a conceptual framework related to learning orientation, knowledge generation and its impact in innovation capabilities; Section 3 presents the methods used to conduct the empirical study; Section 4 discusses several preliminary results and puts forward some conclusions.

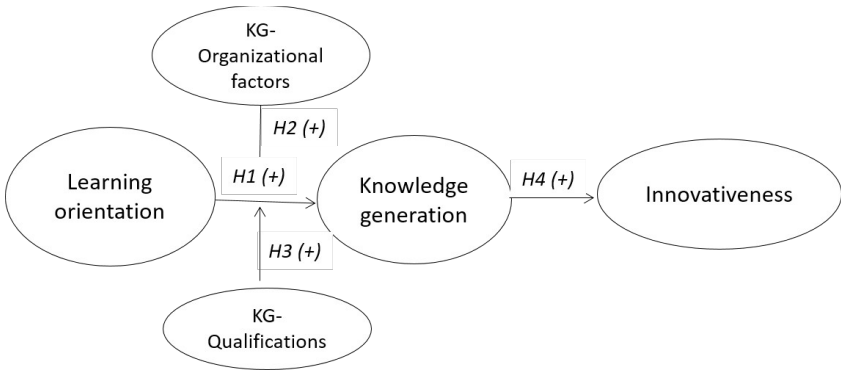
Conceptual background and hypothesis

The present study posits that learning-oriented organizations are highly willing to generate knowledge which will result in new products or services. Learning orientation has been described as the adoption of a basic learning process and linked to the development of new knowledge in the organization. This learning orientation is required to assimilate, adapt and exploit the transferred knowledge (Jiménez-Jiménez, Martínez-Costa and Sanz-Valle, 2014). Learning orientation is conceptualized as a basic attitude towards learning, i.e. the organizational and managerial characteristics that facilitate the organizational learning process (Real, Roldán and Leal, 2014). Hult, Hurley and Knight (2004) state that learning orientation occurs especially at the level of corporate culture and the relationship between learning orientation and firm performance can be mediated by other variables that would impact directly on business results.

Similarly, Suliyanto and Rahab (2012) demonstrate that the learning organization cannot directly improve the organization's performance but rather that it must pass through other variables that may intervene between organizational learning and business performance. In this study, the relationship of learning orientation and knowledge generation is moderated by organizational elements and individual skills. For knowledge acquisition process, organizations need to possess organizational capabilities to deploy resources (Dierickx and Cool, 1989, Teece et al., 1997). Zelaya-Zamora and

Senoo (2013:107) expose that knowledge creation capability is dependent on the combination of managerial influences and organizational resources. Figure 1 shows a conceptual model of these relationships.

Figure 1: The relationships of learning orientation, knowledge generation and innovativeness



Source: Own elaboration

Learning orientation and knowledge generation

Theorists argue that knowledge is the distinctive resource of the firm (Barney, 1991; Grant 1996; Davenport and Prusak, 2001). The strategic approach based on knowledge identifies the generation and application of knowledge as fundamental bases of the firm (Kogut and Zander 1992; Nonaka and Takeuchi, 1995; Foss, 1996; and Grant, 1996). The knowledge can be then retained so that it exhibits some persistence over time (Argote and Spektor, 2011). A clear sense of direction and vision (focus) helps the organization to search for new knowledge and improves the organization's change readiness when new learning occurs (Crossan, Lane and White, 1999). For the present study, learning orientation is a group of organizational values and norms that promote the creation of knowledge. Among these values are what Baker and Sinkula (1999) expose as the commitment that top management has to support a culture that fosters learning as one of its main values (Garvin, 2003). Another value is open-mindedness to assimilate new knowledge and adapt to new ways to do things. Finally, shared vision (Senge, 1990) which gives meaning to the firm's everyday tasks and defines the type of knowledge it must seek and create. Learning orientation, as a cultural value, is an antecedent to the organizational learning and knowledge-creation process that facilitates inventiveness (Cohen and Levinthal, 1990).

All successful organizations create and use knowledge as a fundamental tool as organizations interact with their environment, absorb information, make informed decisions and carry out actions based on the combination of this knowledge and their experiences, values and rules. All of these are activities that make up the knowledge generation process

in organizations (Nonaka and Toyama, 2005). For Grant (2000), knowledge generation involves three main activities: *a) Creation of internal knowledge,* knowledge is created through the dynamic interaction between individuals and/or between individuals and their environment, rather than an individual working alone (Nonaka, Tomaya and Nagata, 2000:3); *b) Learning through action*, all learning takes place in the human mind in an individual way: learning of its members or by the new members who have no prior knowledge of the organization (Grant, 1996:112), and *c) Acquisition of external knowledge,* this occurs when tacit knowledge is shared with suppliers and customers, where the company interacts with other organizations (Nonaka, 1994; Inkpen, 1996; Nonaka, Toyama, and Nagata, 2000), and when the employees attend courses and seminars (Zander and Zander, 2005).

Zapata and Pineda (2015) in an exploratory study in Mexican firms identified that the internal creation of knowledge occurs primarily in meetings that take place within the company equally for firms operating in manufacturing and services sectors, followed by employee self-directed learning has been more popular for manufacturing firms. Attending courses is less relevant for the creation of knowledge by manufacturing firms. With respect to external knowledge acquisition, customer experience is the main source for knowledge generation in Mexican firms under study. Outsourcing and acquisition of information systems are others important activities to generate knowledge.

H1: A firm learning orientation positively influences knowledge generation

Organizational factors and individual qualifications

Sun and Anderson (2010) expose that although individuals may have differing cognitive abilities and processing speeds, the outcome of any individual learning for the organization is dependent on the organizational context where the learning takes place. In that sense knowledge generation is highly dependent upon the organization's culture and management style, in fact, a culture that promotes intensive communication, accepts new ideas, and is prepared to explore new processes and activities favors the generation of knowledge (Zapata, Rialp and Rialp, 2009). The literature also shows that employee motivation is essential to create new knowledge. Moreover, the opportunity to learn about issues of interest motivates employees to seek new ways of doing things leading to innovation (Zapata, Rialp and Rialp, 2009). A similar conclusion is presented by Zagarra and Garcia-Falcon (2003) who found that individual autonomy allows the employee to work autonomously, thus promoting the internal creation of knowledge.

In a previous study Zapata and Pineda (2015) found that firms need the presence of four key elements to generate knowledge: organizational culture, management style, personal motivation and learning opportunity that each employee has. Organizational culture is the most significant element that supports knowledge generation in services firms, employees are

motivated to improve or find new ways of doing their activities. In contrast, management style, personal motivation and opportunity to learn are the organizational elements that support this process for manufacturing firms. In these types of organizations, top management team is aware of how knowledge generation is relevant, providing with time and space to seek new ways of doing things and for increasing employees' knowledge through learning in action.

H2: Organizational factors will positively moderate the link between learning orientation and knowledge generation

Knowledge generation is a capability that all firms must have, but at the same time, is a consequence of individual characteristics and skills of firm members. Companies as social organizations are specialized in creating and transforming knowledge (Nonaka and Takeuchi, 1995), based on the assumption that knowledge cannot exist without human subjectivities and the context that surrounds humans (Nonaka and Toyama, 2005).

Since the beginning**,** researchers in organizational learning have defined learning as a change in cognition or a change in behavior, being nowadays acknowledge that can be manifest itself in changes in beliefs/cognitions or actions/behavior (Easterby-Smith, Crossan and Nicolini, 2000). In organizations, individuals are the mechanisms through which organizational learning generally occurs, the challenge for organizational learning to occur is tacit knowledge which have to be embedded in a repository. That is, the individual's knowledge would have to be embedded in the organization so that other members could access it, even if the individual left the organization.

To recognize and evaluate firm's relevant knowledge, employees need to hold some prior knowledge base (Cohen and Levinthal, 1990). This expertise and know-how enable employees to recognize the value of new knowledge and it's helpful to communicate and be cooperative sharing new knowledge (Griese, Pick and Kleinaltenkamp, 2012). Social interaction develops the ability for people to exchange and acquire knowledge that is tacit in nature.

Moreover, the dynamic environment in which nowadays organizations work provides a motivation for employees to create new knowledge and with the opportunity to learn. Employees feel they can learn from the work they perform and the experience gained in applying their knowledge. The literature shows that employee motivation is essential to create new knowledge (Zapata, Rialp and Rialp, 2009). Moreover, the opportunity to learn about issues of interest motivates employees to seek new ways of doing things leading to innovation. A similar conclusion is presented by Zagarra and Garcia-Falcon (2003) who found that individual autonomy allows the employee to work autonomously, thus promoting the internal creation of knowledge.

H3: Personal qualifications, professional and social, will positively moderate the link between learning orientation and knowledge generation

Innovation

In dynamic environments, innovation is a differentiate capability that provides to organizations with a sustained competitive advantage. A learning oriented culture, along with other factors, promotes receptivity to new ideas and innovation as part of an organization's culture (Mahmoud, Blankson, Owusu-Frimpong, Nwankwo, and Trang, 2016). This implies that organizations must transform their internal structures to be able to assimilate external knowledge and combine it with internal knowledge in order to create and deliver new products or services (Teece, Pisano and Shuen, 1997). Some studies have established the positive impact of organizational learning on new product development (e.g. Moorman and Miner 1997; Saban et al. 2000).

The innovation process requires a high degree of involvement from customers, who appear as key firm´s partners (Belkahla and Triki, 2011), and suppliers of higher levels of innovation in organizations (Laursen, 2011). Organizations that have strong customer knowledge are the first movers in the market with new products or services and (Weng and Huang, 2012), at the same time, are looking for new ways for doing things.

In a previous study, Zapata and Pineda (2015) found that being first movers in the market and looking for new ways to do things are activities that strongly impact in continuous innovation. Empirical evidence also suggests that a firm's innovative performance depends on how successful it is in appropriating knowledge or ideas identified as useful in external sources (Laursen and Salter, 2006), specifically in responding to customers' demands and needs (Taherparvar, Esmaeilpour and Dostar, 2014).

H4: A company's knowledge generation activities positively influence the innovativeness of the firm

3. Methods

Sample and measures

The present is an ongoing explicative study. The sample will comprise services and manufacturing Mexican firms. The rationale behind this choice is diverse being the mainly objective to study how learning orientation and knowledge generation varies from a dynamic or stable environment. The preliminary sample includes 114 participants and the profile is shown in table 1.

Table 1. Profile of the respondents

Demographic characteristics	
Firm	
Sector	
Manufacturing	34.3%
Service	65.7%
Size	
Small (0-49 employees)	14.3%
Medium (50-249 employees)	14.3%
Large (>249 employees)	71.4%
Participants	
Average age	32 years
Average work experience	7 years
Position	
Director	24.8%
General Manager	43.8%
Project Leader	31.4 %

Variables

For the present study, a questionnaire was designed making use of constructs identified in previous studies related to learning orientation, knowledge generation and innovativeness (Zeller and Carmines, 1980). These constructs were operationalized with different dimensions adapted from those studies and modified for use in the present research. All constructs and dimensions were measured using multiple items and a five-point, Likert-type scale (ranging from 1= strongly disagree to 5 = strongly agree). Table 2 shows a list that includes each construct together with its related dimension and items as well as the studies from which the constructs were derived.

Table 2. Constructs and items

Construct	*Dimension/variables*	*Indicators/items*
Learning orientation (Griese, Pick and Kleinaltenkamp, 2012)	Commitment to learning	CL1 Managers basically agree that our organization ‘s ability to learn is the key to our competitive advantage CL2 The basic values include learning as key to improvement CL3 The sense around here is that employee learning is an investment, not an expense CL4 Learning is seen as a key commodity necessary to guarantee organizational survival
	Open mindedness	OM1 We are not afraid to reflect critically on the shared assumptions we have made about the way we do business OM2 Managers do not want their ”view of the world“ to be questioned. (reverse coded)

		OM3 We place a high value on open-mindedness OM4 Managers encourage employees to think "outside of the box" OM5 Original ideas are highly valued
	Share vision	SH1 There is a well-expressed concept of who we are and where we are going as an organization SH2 There is a total agreement on our organizational vision across all levels, functions, and divisions SH3 All employees are committed to the goals of our organization SH4 Top leadership believes in sharing its vision for the organization with the lowest levels SH5 Employees view themselves as partners in charting the direction of the organization
Knowledge generation (Zapata, Rialp and Rialp, 2009)	Knowledge generation activities	KG1 In our organization, outsourcing is considered to offer better services to our customers KG2 It has a library and/or literature to support the development and execution of priority activities KG3 Customer experience is important for the improvement of our activities. KG4 It has collaborative agreements with other companies to offer better services to our customers KG5 Information systems are often acquired to support the activities and business processes KG6 Our organization encourages employee self-directed learning KG7 Attendance at refresher courses is encouraged among employees KG8 Meetings are held to solve problems or to seek solutions or improvements to an ongoing activity or process
Knowledge generation organizational factors (Zapata and Pineda, 2015)	Organizational Culture	OR1 The work environment makes it easy to approach the senior management as well as the rest of the members of the company. OR2 The senior management can be easily approached to give them points of view on an activity and/or process. OR3 An atmosphere of frankness and trust prevails in the organization.
	Management Style	MS1 Awareness of the relevance of knowledge generation. MS2 Facilitation of knowledge generation by holding meetings that foment the creation of new ways of doing things. MS3 Encouragement of the development of employees' initiative and creativity.
	Personal Motivation	PM1 Employees' opinions or suggestions

		are taken into account. PM2 The activities carried out in the company allow employees to seek new ways of doing things. PM3 Employees like what they do.
	Learning Opportunity	LO1 The activities carried out within the company provide an opportunity for increasing employees' knowledge. LO2 The activities carried out within the company allow employees to learn how to use new tools. LO3 The activities carried out within the company allow employees to learn new ways of doing things.
Knowledge generation qualifications (Griese, Pick and Kleinaltenkamp, 2012)	Professional skils	PS1 Possess excellent market knowledge PS2 Possess excellent company knowledge (e.g. product range) PS3 Possess excellent knowledge about our strategic goals (e.g. business objectives) PS4 Possess excellent skills in analyzing information gained from single customers with regard to its utility for our company PS5 Possess excellent skills in evaluating information gained from single customers with regard to its utility for our company PS6 Possess excellent skills in preparing and documenting information gained from single customers with regard to future purpose
	Social skills	SS1 Is fully able to put themselves in the position of other people SS2 Is fully able to understand the behaviour of other people SS3 Is easily able to recognize and understand the demands and needs of other people SS4 Is able to recognize conflicts on time
Innovativeness (Griese, Pick and Kleinaltenkamp, 2012)	Innovativeness	IN1 Our company frequently tries out new ideas IN2 Our company seeks out new ways to do things IN3 Our company is creative in its methods of operation IN4 Our company is often the first to market with new products and services IN5 In our market, continuous innovation activities are of high relevance for our firm's success

Data analysis and results

To validate the hypothesis, a structural equation modeling (SEM) approach will utilized (Simonin, 1999; Yli-Renko, Autio and Sapienza, 2001). The SEM shows the interaction between the theory and the empirical data. In addition, it allows

us to test the causal relationships between constructs that feature multiple measurement items (Joreskög and Sorbom, 1996). The authors will build a two-stage model to apply SEM. First, it will design the measurement model to perform instrument validation, and then the structural model to test the hypotheses will be utilized.

Discussion and conclusions

When organizations learn from experience or other sources, new knowledge is built in the organization. The knowledge generated within the enterprise is especially valuable because it tends to be unique, specific and with a large tacit component. This is what makes it more difficult to be imitated by competitors, which is strategic for the organization. Organizations must be able to identify those knowledge generation activities: external and internal in order to foster innovation. The innovative performance of organizations depends undoubtedly on how successful they are in the appropriation of knowledge or ideas that have been identified as valuable and how efficient they are in distributing this knowledge among their members. Theoretical implications would be related to the effectiveness of innovative strategies not only depends on knowledge generation activities but also in how learning oriented organizations are, their level of commitment, and what organizational and personal elements are significant.

Regarding to managerial implications, managers have to be able to identify what particularly external and internal activities support knowledge generation process in their organization and what organizational elements and individual skills are crucial to innovation. In the present study will be able to identify how an organization learning-oriented is key to generate knowledge and how internal and external activities differ between services and manufacturing Mexican firms. The results will help to focus on the development of innovative strategies. Zander and Zander (2005) mention that for strategy and growth purposes firms are not necessarily locked into internally controlled skills and resources, but may draw upon external knowledge (e.g. customers) as sources of new ideas and problem-solving capabilities, and flexibility in the assimilation of new skills and resources. For instance, the innovation process requires a high degree of involvement from customers, who appear as key firm´s partners (Belkahla and Triki, 2011), and suppliers of higher levels of innovation in organizations (Laursen, 2011).

The main limitations of the study are that only Mexican firms have been analyzed being not possible to generalize the results to other contexts. Additionally, we have not identified if organizations participating in the study are Mexican born or global enterprises operating in Mexico. Could be significant to analyze if multinationals from others countries operating in Mexico are more learning committed to innovate than Mexican born firms and how different their knowledge generation activities are.

Future research efforts should also address the way in which generation of knowledge in organizations operating in dynamic environments provides a competitive advantage. We believe that the analysis of our model in other settings may raise the identification of other determinants that facilitate the generation of knowledge and contribute to the achievement of competitive advantage under study environment itself.

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