

The Impact of Learning Orientation on Innovation and Performance in SME'S in México

MARÍA DEL CARMEN MARTÍNEZ SERNA

Universidad Autónoma de Aguascalientes-Centro de Ciencias Económicas y Administrativas

Departamento de Mercadotecnia

Email: mcmartin@correo.uaa.mx

Tel: +52(449)9107430

JAVIER EDUARDO VEGA MARTÍNEZ

Universidad Autónoma de Aguascalientes-Centro de Ciencias Empresariales

Departamento de Agronegocios

Email: jevega@correo.uaa.mx

Tel: +524491552002

JOAQUÍN VEGA MARTÍNEZ

Email: joaquin.vega@vegaguerrero.com

Abstract

Innovation has been identified in literature as a capacity that must be developed in order to ensure the best performance of the companies, in Mexico are few the empirical studies in order to know the strategic orientations that shall be developed in order to increase the innovation levels. This study used a sample of 350 small and medium companies, to which a poll was sent to its top management positions or owners, in order to identify if the learning orientation influences in obtaining better levels of innovation in the context of SMEs and that such influence impacts to its better performance. The results indicate that the learning orientation is a good predictor to improve the innovation and the performance of the company.

Key Words: *Learning Orientation, Innovation, Performance, Small and Medium Enterprises.*

Introduction

In several studies, innovation is considered as having a positive effect over the performance of the firms (Nybakk, 2012; Lin *et al.*, 2013; Chang *et al.*, 2014; Deniz and Neczan 2012; Filser and Eggers, 2014) or over the success of these (Kuster and Vila, 2011; Rapp *et al.*, 2008).

There are different definitions of innovation in literature, according Nybakk (2012:4), innovation is “the propensity of the firms to create and/or adopt new products, manufacturing processes and business models” it is noted that the emphasis is made over products, processes and managements systems that are new to the firm but not necessary new for the market. Innovation is considered also as a crucial factor in the firms’ performance, as result of the evolution of the competitive environment.

Currently it is recognized in the literature the impure of the innovation in the companies to obtain good results, in addition, it has been reported as a key and essential concept in the competitive advantage

competitive (Alegre and Chiva, 2013), for being precursor to possess a strong position in the market (Akman and Yilmaz, 2008).

Innovation is an important component for the economic development and the growth of the productivity, and therefore for the competitiveness in the regions and nations. Mexican states are increasing their regional innovation systems but such efforts should be refocused. Their accomplishments tend to highlight infrastructure and regulatory matters, putting less attention to the economy of knowledge factors (OECD, 2015).

Investment in México supporting innovation is also very slow. At the light of the current economic and financial crisis, since the innovation investment is pro-cyclical, efforts to ensure the continuity and growth in investment in the long term are still necessary. Research and development in Mexico as a percentage of Gross Domestic Product (GDP) is equal to 0.5% (where the research and development of the business plays a small part) compared to the OECD's average that is above 2% and where the following ranges are observed: Brazil (0.9%), the Russian Federation (1.1%) and China (1.3%), all significantly higher. Additionally, in Mexico are observed strong innovation barriers over the industrial organizational forms that allow learning and innovation processes (OECD, 2009).

It is important to develop more proactive efforts to integrate science, technology and innovations. Small and medium companies are an important resource for employment and the income generation, its political and economic importance is obvious (Filser and Eggers, 2014). "... small business and specially the new created business, can be of very high performance". New and small business can do important contributions to the creation of jobs and to the economic growth. Regardless of the fact that most of the small business alone have a more modest impact in the economy, together they make an important economic and social contribution (OECD, 2014). Therefore, it is necessary to support the small and medium company in Mexico, in its strategic decisions making processes, it is important to research the internal capacities as the organizational learning in order to promote the development in the companies and their increase in the performance levels.

There is also another study performed to business strategic units in various industries in Taiwan, in which the results indicate that the innovation is important in an emerging economy, its authors speculate whether if the same findings should be expected in the western countries (Lin *et al.*, 2013). Several of the studies show the question of the possibility of generalization of the results in other industries and countries (Hanvanich *et al.*, 2006), since it would offer valuable perspectives regarding the understanding of the relation of these relevant constructs. Calantone *et al.* (2002) appoint that it is urgent the study of the learning and innovation constructs in other cultures, since it is essential for the continued advance of the knowledge body over learning and innovation orientation. Many studies have been directed in the specific contexts, such as big companies in United States (Hult *et al.*, 2004), big technological companies (Calantone *et al.*, 2002), highlighting that it is important to make studies between different nations.

Studies found up to today regarding the relation between learning orientation over innovation have been performed in different contexts. Some of them have been focused on a particular industry, such is the case of the study performed to ceramic products in companies in Italy and Spain (Alegre and Chiva, 2013) and in the wood industry of Norway (Nybakk, 2012), in Spain in multinational companies (Jiménez *et al.*, 2014) these, a positive relation has been found between these constructs.

It is why that the principal objective of this study is to analyze the relation between learning orientation over innovation and the companies' performance. We suggest that learning orientation has a positive effect over innovation and on its side, innovation has a positive effect over the performance of the companies. By doing this, two contributions are expected: (1) Promote a more complete knowledge regarding the relation between learning orientation and innovation, and the relation between this last one and the performance of the small and medium companies. (2) Know if this empirical study finds a positive and significant relation

between the learning orientation and innovation; and performance in small and medium companies. (3) the hypothesis are tested over a data base in a western country that belongs to a emergent economy, as suggested in some previous studies.

Introduction in this paper is followed by the conceptual background that support the hypothesis concerning the relation between learning orientation and innovation, along with the relation between innovation and performance. The following section describes the methodology employed for the information and test of the hypothesis over the small and medium companies in México. An analysis of structural equations is made and presented in the last section, along with the results and principal conclusions are exposed.

Literature Review

Innovation consist of successful exploitation (Amabile *et al.*, 1996) of new ideas. According to Akman and Yilmaz (2008) the “capacity of innovation” is defined as an important factor that facilitate an innovation organizational culture, having as a characteristic the activities of internal promotion of innovation as well as the capacity of understand and respond correctly to an external environment.

The capacity of innovation is the application of relevant knowledge to understand the market and their successful implementation in order to develop new ideas within the organization (Zheng *et al.*, 2005). The innovation capacity has been defined as the ability of the organization to adopt or successfully apply new ideas, procedures or products (Hurley and Hult, 1998).

Innovativeness it's known as the organizational culture that impulse an open attitude to new ideas, however the innovation would reflect the output of the innovativeness procedure (Baker and Sinkula, 2009). Also, there are authors that make a difference between the innovation of the product or of the procedure (Camison-Zornoza *et al.*, 2004). The capacity of innovation is analysed from two different points of view, the first one as the rhythm of adoption of innovation of the corporation while the second as the disposition to the change (Hurt *et al.*, 1977). It is appointed as well that the concept of innovation includes the technology innovation and management methods innovation, the technology innovation refers to those changes on de products and the production procedure. The innovation in the management system refers to the changes on the organizational structure, is the implementation of new organizational methods in the businesses practices of the corporation, in the organization of the work or in the external relations (OCDE, 2005).

There is a discussion in the scientific literature about the fact of the different definitions of innovation, innovativeness and innovative capability. However there is a concept that has been adopted all over the literature that defines innovation as “The generation, acceptance and implementation of new ideas, processes, products or services” (Calantone *et al.*, 2002; Baker and Sinkula, 2000). The emphasis is about new products, manufacture processes and business systems. Besides the emphasis about products, processes and businesses systems that are new for the firm but not necessary new for the market, includes the adoption and more radicals innovation (Nybakk, 2012; OECD, 2005; Kuster and Vila, 2011).

The innovation of the product includes the development of new products, improvements of the existent products and the adoption products, which is well known as an important factor for the manufacture firms. It is frequently defined as a novelty product level in relation to the firm and the market. The innovation on the processes of production is defined as the action that guide the processes of innovation and as the procedure by itself for example the technologies and the improvements used through the production, the procedures must be news, improved or renovated to become innovative. The innovation of the business systems include organizational innovations, that has relation with the use of news managements and concepts a work practices. (Nybakk, 2012; Van Auken *et al.*, 2008; Gálvez y García, 2012; Uc and Bastida, 2007; Vega, *et al.*, 2015)

Two big categories of innovation are mentioned by Baker and Sinkula (2002) the incremental innovation is referred to the quick improvements, while the radical innovation refers to changes in technology that means benefits in the central category of the product. According to the authors if only the clients and competitors are listened, probably the innovation that will be done within the firms will be incremental. This is within the existent technologic paradigms, but it is required for the development of radical innovations, to have the ability of asking the beliefs that has of the market and explore openly the potentials of new technologies in order to satisfy the existent necessities of single form (Baker and Sinkula, 1999).

What it has been observed all the studies of innovation in the corporations is an iterative continued learning, the precise pattern of internal and external learning networks will change according with the size of the corporation, however all the companies use external resources. The characteristic of the learning network change according with the kind of technology and the kind of innovation (product, process, service, radical, incremental), with the kind of industry and the country or innovation system. Equally there are different methods of learning (Freeman, 1998), for example Camison *et al.* (2004) there is a positive correlation between the organizational size and the innovative capacity, pointing out that the SMEs accentuate introducing technologies and organizational.

Regarding the role that those constructs play according with the size of the firm, we found that the researchers and scholars have argued that both, the orientation to the learning and the orientation to the market, are important antecedents of the innovation in the firms (Hurley and Hult, 1998, Lin *et al.*, 2013; Sinkula, 1994; Slater, 1995). The research regarding the relation between the orientation to learning and innovation has been centralized in big companies (Keskin, 2006). In other cases it has been argued that the innovative activity of the small corporation impulse the entry of companies of different sizes also show relatively more innovation per employee, and it is discussed the role of innovation on the size of the firm and in the dynamics inter/industry (Acs and Audretsch, 1990). Given the characteristics of the small corporations, regarding the advantages shown, as far the less bureaucracy, it derives a line of empirical studies that have showed the importance of the orientation to learning for the innovation between the small and medium corporations (Keskin, 2006).

It is also recognized that the small companies can be faster, more flexible and more sensitive to the dynamics of the environments, they work, probably as the result of having a simple organizational structure. The owners of the small corporation that have a faster increase and dynamic emerge and their principal motor is the innovation (Freeman *et al.*, 1982)

One of the main contribution from the neo-Shumpeterians is that the knowledge requires prosecution and modification to be successfully used. Without that assimilation and improvement, it is to be expected insufficient results, especially in those countries in development. An important aspect of the accumulation of knowledge is the development of abilities in the companies as a result of the combination of formal processes. (Freeman, 1998). Specifically the SME'S in developing countries has a bigger importance in sustaining the economy, as a consequence of its ability to compete in the market, its technological capacity and its innovative potential. These elements should be increase. It is as well necessary that its effectiveness improve in order to secure its continued contribution to the economy of emerging countries (Akman & Yilmaz, 2008).

According with economical censuses in Mexico (2015) in the 2013 95.4% of the business establishments are micro corporation, the 4.7% are small and 0.8% are medium, which together add the 35.9% of the gross production. In contrast with the big corporation (more than 251 employees) which represent the 0.2%, companies that in 2013 concentrated the 64.1% of the brute production, with the 71.2% of the people working in the micro, small and medium corporations, reaching the employment rate of 28.8%. Is for this that according the given characteristics that represent the small and medium companies in a developing country as Mexico it is useful to contribute in the knowledge of this relation between learning orientation - innovation-performance.

On the other hand we have the resources and capacities theory which implies that among the companies it is distinguished a kind of resources that are strategic or essential. Those resources satisfy the criteria of being valuable, rare and difficult to imitate or substitute, the fulfilment of this criteria is what made them difficult to replicate and implement the strategy to explore similar opportunities (Barney, 1991). However, the resources by their self don't generate competitive advantages, is the administrative and productive capacities as the operational and the forms in what the resources interact, integrate, organize and complement their organizational routines, the ones that achieve those competitive advantages (Grant, 2006).

Is for this that is important to point out that the knowledge is used in the organization to generate news ideas. This is why it must establish mechanisms in which the knowledge is shared through the organization, for being personal knowledge and difficult to define, express, transmit and share, this can be made it through the learning in the organization that allows the acquisition and creation of knowledge their prosecution and dissemination. The learning in theory of the organization it is considered as an asset and in the theory of resources and capacities is considered as an intangible resource (Huber, 1991; Jiménez & Sanz, 2006; García and Real, 2013). Consequently it is and antecedent to generate new ideas. Hurley and Hult (1998) found that the high level of innovation are associated with cultures that emphasise the learning, development and participation in the decision-making.

The organizational learning refers to the procedures of development new knowledge and ideas, derivate from normal experience of the people inside the organization (Huber, 1991; Slater and Narver, 1995), as the procedures through the ones the organization changes or modify their mental models, rules, procedures or knowledge that improve their performance (Dibella *et al.*, 1996). The organizational learning capability it's a factor that facilitate the procedures of organizational learning (Hult and Farrell, 1997) or the combination of practices that promotes the intra-organizational knowledge among the employees and partners with other organizations. It enables the spread of learning, and an open culture within the organization that promotes and maintains sharing of knowledge, this being seeing as the main ability of the organization (Lin *et al.*, 2013).

Pursuant Calantone *et al.* (2002), learning organization is defined as an organization with a learning orientation. This is a firm that creates and use knowledge to obtained a competitive advantage, especially if the processes involve obtaining and sharing information and is executed along all the organization. In the literature the experimentation factors are suggested, risk-taking, interaction with the environment, dialogue, and participation in the decision making to facilitate the learning capacity (Alegre, 2012), other are described such as organization culture, knowledge sharing and learning, inter-organizational partnering (Lin *et al.*, 2013).

The organizational learning occurs by detecting a misconnection form the obtained results and the expectations, which do not confirm the used theories. The concept of learning orientation is related to the learning capacity of the organization, to its culture and to its structure systems. At this point, it is argued that it is required for the firms to possess organizational learning capacities with the purpose of being learning oriented. Three fundamental values in organizations are identified (commitment to learning, shared vision, open-mindedness) (Sinkula *et al.*, 1997; Baker and Sinkula, 1999b).

The commitment to the learning means the level in which an organization values or promotes the learning, and in which it considers the learning as an important investment, crucial for surviving. The more the learning is valued, the more probable is this survival (Sinkula *et al.*, 1997).

Share the vision refers to an extended emphasis in learning, without a shared vision is difficult to know what to learn, since there are many creative ideas that need direction. Good ideas fail because different priorities exist within the organization; the compared vision coordinates the emphasis in different departments (Sinkula, *et al.*, 1997).

Open-mindedness is the willingness to critically evaluate the organization's operational routine and to accept new ideas, what has been learned in the past shall be questioned. This means past ways of doing things must be unlearned and renew the knowledge (Sinkula, *et al.*, 1997).

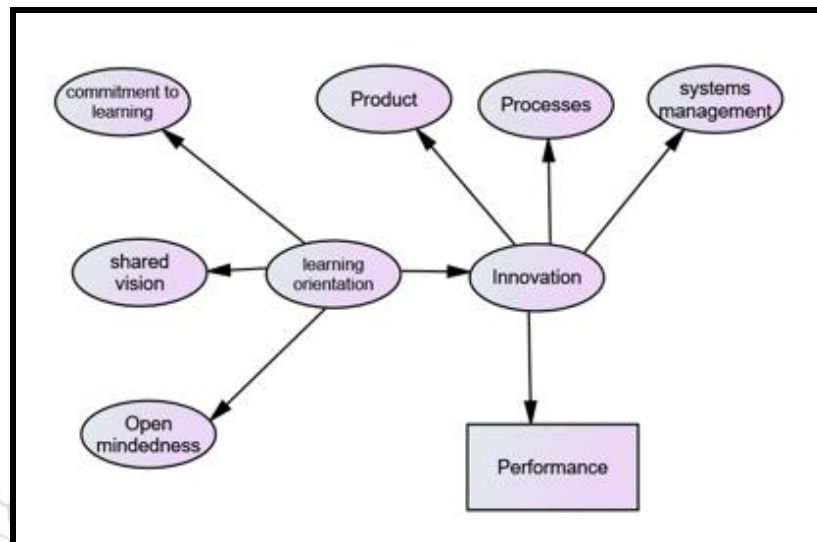


Fig. 1 A framework linking learning orientation to innovation and performance

Learning Orientation – Innovation

The learning orientation is a mechanism that directly affects firms' ability to challenge the old assumptions about the market and how a firm should be organized in order to direct it that makes innovation easier (Baker and Sinkula, 2002). Learning orientation prepares the firms to get into a stage in which they will be committed to systematically challenge the fundamental beliefs and practices that define by themselves the innovation processes (Baker and Sinkula, 1999a)

There a consensus in literature that says that learning produces new knowledge which is used by its employees on the development of innovations, and that if within the organization it is promoted high levels of innovational will be developed. Innovation and organizational learning are resources that produce competitive advantages and both affect firms' performance (Han, *et al.*, 1998; Hurley and Hult, 1998; Baker and Sinkula, 1999b; Jiménez and Sáenz, 2006; Lin, *et al.*, 2013). Some authors point out that the relation between organizational learning and innovation is still scarce, since the literature has been focused in the organizational learning effects about the firms' performance (Wang, 2008). Recently, however, the emphasis has been extended to consider innovation as having a moderator effect in relation to both variables (Keskin, 2006; Lin, *et al.*, 2012; Alegre and Chiva, 2013; Akguin, *et al.*, 2007).

On the other hand Liao *et al.* (2012), examine 23 bank and insurance industries, finding that the learning at the organization affects innovation. They assure that the organizational culture is the most important input to obtain an effective knowledge and learning management at the organization because corporative culture define values, beliefs and working systems that could either motivate or prevent both learning (knowledge creation) and knowledge exchange.

In the literature review it is suggested that the learning orientation is really related with knowledge creation and innovation. Some researchers have proposed that learning is truly important if promoting innovation in companies is desired. Literature has also studied how organizations promote learning and how organizational culture makes learning easier, for example Lin *et al.* (2013) suggests that learning ability has

an indirect impact over business performance to ease ambidextrous innovation (radical or incremental innovation), they examine this practices that develop learning ability analyzing 214 strategic business units (SBUs) information, and Jiménez show that reverse knowledge influences indirectly on innovation through its effect on the firms learning orientation.

H1: The higher the level of learning orientation greater the grade of the innovation on SMEs.

Innovation-Performance

There is a wide empirical evidence in the literature that demonstrate the positive relation of the innovation with the performance of firms as in the study of Calantone *et al.* (2002) which stresses the importance of innovative capacity for learning orientation and performance. With a study of 187 research and development companies, it was found that learning orientation has an impact on performance, and innovation has an impact on the performance of the firm. Aragón-Correa *et al.* (2007) in a study done in Spain 408 large companies found that innovation has a direct impact on performance. Organizational learning has a direct impact on innovation and organizational learning and performance are directly related.

On the other hand, Deniz and Neczan (2012) found that firms in the logistics sector in Turkey are market oriented, learning oriented and innovation oriented and this support the increase organizations` performance. It has also been thought that the learning orientation is an important precedent for innovation of the firm or to their innovative capacity (Alegre and Chiva, 2008; Calantone *et al.*, 2002; Slater, 1995; Wang, 2008), plus it can be linked to creativity (Amabile *et al.*, 1996).

Literature has deeply discussed the relation between firms` innovation and financial performance. Countless studies have been developed in various fields to investigate the relation between firms` innovation and their performance (Calantone *et al.*, 2002; Deshpande and Farley, 2004; Jaworski and Kohli 1993; Narver and Slater, 1990; Hurley and Hult, 1998; López-Mosquera and Sánchez, 2005); in the past several decades, researchers have increased their emphasis on innovation as a key factor in creating substantial competitive advantages.

Many researchers have found evidence of a relation between innovation and performance (Damanpour *et al.*, 1998; Hurley and Hult, 1998; Narver and Slater 1990; Sinkula *et al.*, 1997). Also in environments of low and high turbulent environment, learning orientation is related to performance and innovation (Hanvanich *et al.*, 2006). Keskin (2006) points out that the innovation of the firm affects positively the performance of firms and that learning orientation positively influences innovation.

Based on the literature examined the effect of learning orientation on innovation of firms and the effect on performance, it is assumed that learning orientation has an indirect positive effect on performance through the firms` innovation. Baker and Sinkula (2009) find a positive impact of market orientation on performance, innovation and the latter on performance. Baker and Sinkula (2002) note that “the results of this research reinforce prior research and suggest that both learning orientation and market orientation are key to successful innovation-driven-performance.”

Learning orientation is expected to facilitate the type of higher-order learning (Baker and Sinkula, 2002). Frank *et al.* (2012) found in a study of 228 small and medium-sized Australian companies after analyzing in a context of dynamism and hostility the relationship between learning orientation of SMEs and their impact on performance, the results suggest a high level of organizational learning resulting in a high level of performance and Kuster and Vila (2011) found that innovation is related to success, both in international and non international firms.

H2: The higher level of learning orientation, the greater performance on SME´s

Methods

Data

Our data come from a survey applied to senior management executives or owners that was personally delivered, the instrument is composed by items that have been used in past researches on organizational learning, innovation and performance. The statistical Directory of Economic Unit (DENUE) of National Institute of Statistic and Geography (INEGI) was use of reference, 3586 SMEs was found in the state of Aguascalientes, Mexico. The sample was selected by simple random sampling leaving 350 small and medium enterprises with a maximum error +/- 5% and a confidence level of 95%. The survey was applied to manufacturing, commerce and services SMEs.

Measures

All variables were tested and measured using multiple items scales based on previous studies (as recommended in Churchill Jr., 1979). Innovation was measured as a second-order construct via three first-order indicators: product innovation, process innovation and business system innovation. Innovation scale was base on previous studies (García *et al.*, 2009; Naranjo *et al.*, 2008; Maldonado *et al.*, 2009; Van Auken *et al.*, 2008; AECA, 1995; Gálvez and García, 2012; Uc and Bastida, 2007; Vega, *et al.*, 2015). A five-point Likert scale was used to measure the second order indicators, which ranged from 1 (low importance) to 5 (strongly importance), it was previously ask whether the firm had innovation o not (AECA, 1995) that points put that innovation can be classified in technological and organizational. Technological innovations include the significant novelties in products and processes; the organizational innovation, on its side, corresponds to the introduced changes to the firms' administrative structure, to the commercialization, etc.

Learning orientation was measured as a second-order construct and was measured through three first-order indicators based on work by Sinkula *et al.*, (1997). The three under-dimensions were commitment to learning, share vision and open-mindedness. Each of the dimensions was measured using three items. We selected a five-point Likert scale was used to measure the first-order indicators; the scale ranged from 1 (strongly disagree) to 5 (strongly agree).

According with past researches, ours are self-explicated measures of performance. Prior researches have used such measures because of the consistent evidence showing that subjective and objective measures of performance are highly correlated (Dess and Robinson, 1984). Performance was measured as a first order construct and was measured with six items making an adaptation of past studies (Narver and Slater, 1990; Jaworski and Kohli, 1993; Baker and Sinkula, 1999; Calantone, *et al.*) in which it was included the perception of the senior manager and owners with respect to financial elements, operative elements, and of clients and employees satisfaction.

Analysis and Results

Measure Validation

The Fig. 1 show the proposed latent variable model, and illustrates all structural paths. In accordance with accepted practice (Churchill, 1979; Anderson and Gerbing, 1988) we assessed the properties of scales of unidimensionality, discriminant validity, and reliability. All analysis where made through the software EQS (Bentler, 2005; Brown, 2006; Byrne, 2006).

First-order factors

The first-order constructs are performance, commitment to learning, shared vision, open-mindedness, product innovation, process innovation and systems of management. The validity of the measures was

verified in first term by examining the reliability of the constructs through Alfa Cronbach (Nunnally and Bernstein, 1994). Items with a correlation of item-total <0.3 were deleted. Alpha values oscillate between 0.839 y 0.919 (See table 1) all exceed the value of 0.7 (Cronbach, 1951), and Complex Feasibility Index, which are established by Bagozzi and Yi (1988), the values of this index oscillate between 0.712 y 0.947. Next, the entire group of items was subjected to confirmatory factor analysis (CFA), using structural equation model, to verify unidimensionality. The standardized factorial charges and the goodness of adjustment indexes are also described in table 1. The adjustment indexes used were The Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), Incremental Fit Index (IFI), Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA), (Byrne, 1989; Bentler, 1990; Hair, et al., 1995). It is also noted that the values of these indexes oscillate between 0 and 1.00 and that the values close to one would indicate a good adjustment (Bryne, 1998). Additionally the error measurements should ideally be between 0.05 y 0.08 (Joreskog and Sorbom, 1986; Hair, 1995).

Table 1 represents the results obtained from the Confirmatory Factor Analysis (CFA), which indicate that has a good fit ($SBX^2=295.72$; $df=149$; $NFI=0.935$; $NNFI=0.957$; $CFI=0.966$; $RMSEA=0.050$). This is how we obtain that, all ítems from the related factors are significant ($p<0.01$), and the size of all standardized factor loads exceed 0.60 (Bagozzi and Yi, 1988). Cronbach's and IFC have a greater value of 0.70, and extracted variance index (EVI) has a value greater than 0.50 (Fornell and Larcker, 1981). Hence, it is confirmed that each variable contributes in a significant manner to the definition of the concept and, therefore, such convergent validity exist, and that the adjustment indicators suggest that the constructs are unidimensional and are adjusted to the data.

Table 1. Internal Consistency and Convergent Validity

Construct	Indicator	loading factor	T value robust	Cronbach's Alpha	CFI	EVI
Shared Vision (F1)	VIC1	0.753***	1.000 ^a	0.880	0.723	0.551
	VIC2	0.761***	26.270			
	VIC3	0.713***	20.890			
Commitment to learning (F2)	COA1	0.826***	1.000 ^a	0.897	0.748	0.567
	COA2	0.808***	28.520			
	COA3	0.606***	20.410			
Open Mindedness (F3)	MEA1	0.838***	1.000 ^a	0.860	0.712	0.537
	MEA3	0.699***	15.340			
	MEA6	0.648***	13.270			
Product Innovation (F4)	INPRD1	0.872***	1.000 ^a	0.839	0.905	0.725
	INPRD2	0.831***	21.080			
Processes Innovation (F5)	INPRC1	0.865***	1.000 ^a	0.868	0.934	0.767
	INPRC2	0.887***	30.20			
Management systems Innvation (F6)	INGST1	0.876***	1.000 ^a	0.919	0.947	0.790
	INGST2	0.883***	30.900			
	INGST3	0.908***	34.360			
Performance	PE1	0.518***	1.000 ^a	0.873	0.803	0.619
	PE4	0.740***	10.690			
	PE5	0.962***	10.480			
	PE6	0.858***	11.310			
$SBX^2=295.72$; $df=149$; $NFI=0.935$, $NNFI=0.957$; $CFI=0.966$, $RMSEA=0.050$						

^a= Parameters fixed to his value in the identification process

***= $p<0.01$

The discriminant validity, which consist in examining that the defined concept by a scale is sufficiently distinct to other concept to which it is being related. This analysis was performed in two different ways:

The first is the one proposed by Anderson & Gerbing (1988) has establishes confidence interval of 95% none of the individual elements from the latent factors correlation matrix has value of 1.0. The second is the method described by Fornell & Larcker (1981) that establishes that the extracted variance of each pair of constructs is higher than their corresponding EVI. The two carried out tests show evidence of discriminant validity, the results of those tests are shown in table 2.

Table 2 Discriminant validity

Constructs	VIC	COA	MEA	INPRD	INPRD	INGST	PE
VIC	0.551	0.224	0.361	0.198	0.173	0.094	0.011
COA	0.346-0.602	0.567	0.136	0.45	0.355	0.266	0.026
MEA	0.463-0.739	0.244-0.069	0.536	0.167	0.131	0.149	0.05
INPRD	0.261-0.629	0.467-0.875	0.215-0.603	0.725	0.39	0.252	0.047
INPRC	0.229-0.605	0.392-0.800	0.164-0.560	0.567-0.683	0.767	0.337	0.033
INGST	0.126-0.490	0.316-0.716	0.189-0.585	0.436-0.568	0.523-0.639	0.790	0.047
RE	0.046-0.166	0.095-0.232	0.148-0.300	0.113-0.325	0.078-0.286	0.111-0.326	0.619

The diagonal represents the extracted Variance Index (EVI) while above diagonal the variance part is shown. Below diagonal is the correlation estimation of factors with a confidence interval of 95%.

Second Order Factor

In the framework, learning orientation is a higher-order construct composed of commitment to learning, shared vision and open-mindedness. To establish that learning orientation is a single second factor, the null hypothesis that the first order factors converge to a single higher-order construct was tested. Table 3 presents the loadings, t values, and fit indexes from fitting this model to the data. As can be seen, the model fits the data quite well.

Table 3 Learning orientation second order Measurement Model

Constructs	Indicator	Factor Loading	t-value Robust	Cronbach's Alpha	CFI	EVI	
Shared vision	VIC1	0.756***	1.000 ^a	0.881	0.786	0.551	
	VIC3	0.762***	15.532				
	VIC5	0.709***	14.295				
Commitment to learning	COA1	0.817***	1.000 ^a	0.899	0.794	0.567	
	COA3	0.814***	14.241				
	COA6	0.861***	11.826				
Open Mindedness	MEA1	0.855***	1.000 ^a	0.867	0.774	0.538	
	MEA3	0.685***	15.808				
	MEA6	0.644***	13.663				
First Order Construct							
Learning Orientation	Shared Vision (F1)		0.984***	1.000 ^a	0.910	0.802	0.588
	Commitment learning (F2)		0.559***	5.680			
	Open Mindedness (F3)		0.696***	6.992			
$SBX^2 = 42.32$ GL=21; P=.003; NFI= 0.962 ; NNFI=0.966; CFI: 0.980; RMSEA= 0.050							

^a= Parameters fixed to his value in the identification process

***=p<0.01

There is evidence of convergence of the variable indicators with their corresponding first order factors (Commitment to learning, shared vision, open-mindedness) and of the convergence of the second order construct 's items' factors, learning orientation. Factor loadings range from .644 to .861 and are significant at $p < 0.01$. Factor loadings from first-order factors to the second-order factor range from .559 to .984 and are significant at $p < 0.01$. Measures of goodness of fit support the null hypothesis that the first-order factors converge to a single higher order construct.

The ratio of chi-square to degrees of freedom is 2.02, goodness-of-fit (NFI) is 0.962, and comparative fit index (CFI) is 0.980. Root means square error of approximation (RMSEA) is 0.050. The second-order construct explains 28%, 44%, 40% in variation of the first order factor (commitment to learning, shared vision, open mindedness). Consequently, to represent the learning orientation, the second order factor model is used.

Also Innovation is a single second factor, table 4 presents the loading, t values, and fit indices from fitting this model to the data. The model fits the data well. Factor loadings range from 0.840 to 0.905 and are significant at $p < .01$. Factor loadings from first-order factors to the second-order factor range from .779 to .982 and are significant at $p < .01$. Measures of goodness of fit support that the first order factors converge to a single higher order construct. The Ratio of chi square to degrees of freedom is 2.40, NFI is 0.988; NNFI is 0.987; CFI is 0.993 and RMSEA=0.059. The second order constructs explains 76%, 91%, 62% in variation of the first order factor (product innovation, process innovation, system management).

Table 4 Innovation second order Measurement Model

Construct	Indicator	Loading Factor	t-value Robust	Cronbach's Alpha	CFI	IVE
Product Innovation	V1	0.862***	1.000 ^a	0.703	0.840	0.724
	V2	0.840***	19.883			
Processes Innovation	V3	0.866***	1.000 ^a	0.640	0.868	0.767
	V4	0.886***	29.164			
Management system Innovation	V5	0.877***	1.000 ^a	0.644	0.918	0.789
	V6	0.884***	30.897			
	V7	0.905***	34.165			
First order construct						
Innovation	Product Innovation(F4)	0.852***	1.000 ^a	0.906	0.901	0.721
	Process Innovation(F5)	0.982***	14.291			
	Management system Innovation (F6)	0.779***	13.124			
SBX2= 26.42 GL=11; NFI= 0.988 ; NNFI=0.987; CFI= 0.993; RMSEA= 0.059						

^a= Parameters fixed to his value in the identification process

***= $p < 0.01$

The Results of Path Analysis

Once the scales have been validated, the test of the structural model shown in figure 1 is performed. The results are shown in table 5 and indicate a good model fit: The ratio of chi-square to degree of freedom is 2.083, CFI=.959; NFI=0.939; NNFI=0.967; RMSEA=0.052. All indexes are within the adequate ranges pursuant what is indicated by the theory and exceed the minimum indicated in the literature. All proposed paths are significant. The coefficient on the path from learning orientation to innovation is .418 ($t=5.99$, $P < .01$). With this result that indicates a positive relation, it is suggested that Hypothesis 1 is supported, learning orientation significantly affects innovation. The path coefficient from innovation to performance is .260 ($t=3.9364$, $P < .01$), which supports Hypothesis 2. Innovation significantly affects performance.

Table 5 Results of path analysis

Paths	Standardized parameter estimate	t-value
<i>Learning Orientation</i> → <i>Innovation</i>	.418	5.999***
<i>Innovation</i> → <i>Performance</i>	.260	3.936***
Goodness of fit $SBX^2=318.77$, $df=153$ $p<0.000$; NFI=.939; CFI=.959; NNFI=.967; RMSEA=.052		
P<0.01		

Discussion and Conclusions

In a developing country as Mexico, where its regional systems of innovations has been increasing, is necessary to refocus the efforts, especially on the support of the small and medium enterprises. Especially in the actual context, where the investment on supporting innovation in the country still low. This is because the efforts have been focused in regulation issues and it has been investigated too few in matters of economies of knowledge. These last ones can impulse significant changes in the corporation, especially in the small and medium companies, which represent a very important sector in the economy of any country, because probably each one has by itself a medium impact; but together have a relevant contribution. In Mexico strong barriers of innovation are identified (OECD, 2009) and therefore the companies constantly take decisions in order to adapt to the necessities of the market. These decisions are made with the purpose having presence and to belong in the market, of course all the time they are searching strategies that improve their performance and advantages in relation with the competence. Using structural equation models it was inquired the influence that has the strategical learning orientation over the innovation of the enterprises and their effects in the performance of the SMEs, in one of the states of the Mexican Republic situated in the centre of the country.

Finally the study of the measure and structural model, allow to confirm the two proposed hypothesis. It could be proven that the small and medium companies that have a bigger learning orientation, develop higher levels of innovation (coefficient =0.39, $t=1.94$, $p<.05$), as it has been displayed by some authors in other contexts (Nybakk, 2012). In table 4 it is suggested that the learning orientation isn't directly related with the performance through the period of study, however there is an indirect effect via innovation that was significant, meaning that when is studied the direct effect of the orientation of learning over the innovation result positive and meaningful. In relation to the effect of learning orientation to with innovation it was possible to prove that the small and medium enterprises that are commit to learning try for understand the environment, what includes the clients, the competition, the new changes in the environment that affect the organization.

Calantone *et al.* (2002) showed that the innovation isn't just an important guide for the performance of the firm, rather is also an important mediator of the relation between learning orientation and business performance. The results of Nybakk (2012) showed that the direct effects of the learning orientation over the innovation could be dependent to the context studied. The results of both studies are consistent with the discoveries that we found in the present research, as the results (Hult *et al.*, 2004; Sinkula, 1994; Hurley and Hult, 1998; Deniz and Neczan; 2012; Alegre and Chiva; 2008; Lin, *et al.*, 2013). This indicate the importance of the learning orientation over innovation. In the empirical evaluation made to SMEs the results of this study are consistent with the ones from Keskin (2006) developed in Turkey. The fact that the corporation develops an learning environment where their employees constantly question the values and beliefs, with an open mindedness and a shared vision will influence positively in their ability to implement new products, procedures or management systems. Whether the time to expand the knowledge among the employees is conducive, and exist an interdepartmental integration for the employees learn and develop new capacities trough sharing the knowledge will influence also positively the grade of innovation.

We cannot assume that the learning orientation by itself will positively influence in the performance, since other studies in different context has found that just with innovation is possible to improve this relation. This direct relation of learning orientation without passing through innovation was not introduced to the model of this study, so interpretation of the results must be careful since Baker and Sinkula (1999b) have found a direct relation between learning orientation and performance, which are different of Nybakk's (2012).

On the other hand in this study we suggest as well that innovation should have a positive impact over the performance and the hypothesis was confirmed (H2; coefficient = 0.53, $p < 0.01$). This showed that there is evidence to suppose that one firm that develop an innovation capacity will have a better performance. These discoveries are consistent with the previous empirical studies. (Calantone *et al.*, 2002; Narver and Slater, 1990; Kohli and Jaworski, 1993; Nybakk, 2012; Kuster and Vila, 2011). Specifically in small and medium enterprises the results of Keskin (2006) who valued this empirical relation in Turkey, are consistent with the present study. The result suggest a better performance will be obtained as consequence of the understanding that the consistent learning will produce new ideas that will allow to make the necessary changes in the products, processes and management systems that respond to the competence movements and the necessities of the clients. The corporation without these attributions will have minor chance of survive in the more and more turbulent environments of the market.

Some of the results showed in these studies, contribute to verify the previous discoveries in big corporation or developed countries, few studies have been conducted in Latin America evaluating empirically the small and medium enterprises. Baker and Sinkula (1999b) pointed out that and strong learning orientation could be more important for the firm that and strong market orientation. They affirm that both are key for innovation to positively influence in the performance, so it's necessary to verify in future empirical studies in countries with emergent economies if both orientation support the increase in a higher measure the performance through innovation.

References

- Acs, Z.J., and Audretsch, B. D. (1990). Innovation in small firms. The MIT Press, Second Ed., Massachusetts Institute of technology, England.
- Asociación Española de contabilidad y Administración de Empresas (AECA). (1995). La innovación en la empresa: factor de supervivencia. Principios de organización y sistemas, Madrid, España: AECA.
- Akquin, A.E., Keskin, H., Byne, J.C., and Aren, S. (2007). Emotional and learning capability and their impact on product innovativeness and firm performance. *Technovation*, 27(9), 501-513.
- Akman, G., and Yilmaz, C. (2008). Innovate capability, innovation strategy and market orientation: an empirical analysis in Turkish software industry. *International Journal of Innovation Management*, 12(1), 69-111.
- Alas, R., and Vadi, M. (2003). The impacts of organizational culture on organizational learning at six Estonian hospitals. *Trames*, 7(57/52), 83-98.
- Alegre, J., and Chiva, R. (2008). Assessing the impact of organizational learning capability on product innovation performance: An empirical test, *Technovation*, 28(6), 315-326.
- Alegre, J. (2012). Aprendizaje organizativo, innovación y propensión exportadora, *Estudios Gerenciales*, (28), 41-56.
- Alegre, J., and Chiva, R. (2013). Linking entrepreneurial orientation and firms performance: The role of organizational learning capability and innovation performance. *Journal of Small Business Management*, 51(4), 491-507.
- Amabile, T.R., Conti, H., Coon, Lanzenby, J., and Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, 39, 1154-1184.
- Anderson, J.C., Gerbing, D.W. (1988). Structural equation modeling in practice: a review and recommended two-step approach. *Psychological Bulletin*, 103 (3), 411-423.

- Aragón-Correa, J.A., García-Morales, V.J., and Cordón-Pozo, E. (2007). Leadership and organizational learning's role on innovation and Performance: Lessons from Spain. *Industrial Marketing Management*, 36(3), 349-359.
- Argyris, C., and Schon, D. (1978). *Organizational Learning: A theory-in action perspective*. Reading, Massachusetts: Addison-Wesley Pub. Co.
- Bagozzi, R.P., and Yi, Y. (1988). On the evaluation of structural equation models. *Journal of Academy of Marketing Science*, 16 (1), 74-94.
- Baker, W., and Sinkula, J.M. (2002). Market orientation, learning orientation and product innovation: delving into the organizations black box. *Journal of Market focused Management*, 5, 5-23.
- Baker, W., and Sinkula, J.M. (1999a). Learning orientation, market orientation, and innovation: Integrating and extending models of organizational performance. *Journal of Market focused Management*, 4, 295-308.
- Baker, W.E., and Sinkula, J.M. (2009). The complementary effects of market orientation and entrepreneurial orientation on profitability in Small Businesses. *Journal of small business Management*, 2009, 47(4), 443-464.
- Baker, W.E., and Sinkula, J.M. (1999b). The synergistic effect of market orientation and learning orientation on organizational performance. *Journal of Academy of Marketing Science*, 27 (4), 411-427.
- Baker, W.E., and Sinkula, J.M. (2002). Market orientation, learning orientation and product innovation: Delving into the organization's black box. *Journal of Market-Focused Management*, (5), 5-23.
- Barney, J.B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17, 99-120.
- Bentler, P.M. (1990). Comparative fit Indexes in structural models. *Psychological Bulletin*, 107 (2), 238-246.
- Bentler, P.M. (2005). *EQS 6 structural equations program manual*. Encino, C.A: Multivariate Software.
- Bodlaj, M., Coenders, G., and Zabkar, V. (2012). Responsive and proactive market orientation and innovation success under market and technological turbulence. *Journal of Business Economics and Management*, 13 (4), 666-687.
- Brown, T. (2006). *Confirmatory factor analysis for applied research*. New York, N.Y: The Guilford Press.
- Byrne, B. (2006). *Structural equation modeling with EQS, basic concepts, applications and programming*. 2th Edition. London: LEA Publishers.
- Byrne, B.M. (1998). *Structural equation modeling with LISREL, PRELIS, and SIMPLIS: basic concepts, applications, and programming*. Mahwah, NJ: Erlbaum.
- Byrne, B.M. (1989). *A Primer of LISREL: Basic applications and programming for confirmatory factor analysis analytic models*. New York, N. Y: Springer.
- Calantone, R.J., Cavusgil, S.T., and Zhao, Y. (2002). Learning orientation, firm innovation capability and firm performance. *Industrial Marketing Management*, 31(6), 515-524.
- Camisón-Zornoza, C., La Piedra-Alcamí, R., Segarra-Ciprés, M., and Boronat-Navarro, M. (2004). A meta-analysis of innovation and organizational size. *Organization Studies*, 25(3), 331-361.
- Censos económicos (2015). *Censos económicos 2014*. Instituto Nacional de Geografía y Estadística.
- Chang, W., Franke, G.R., Butler, T.D., Musgrove, C.F., and Ellinger, A.E. (2014). Differential mediating effects of radical and incremental innovation on market orientation-performance relation: a meta-analysis. *Journal of Marketing Theory and Practice*, 22(3), 235-249.
- Churchill, G.A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16, 64-73.
- Covin, J.G., and Miles, M.P. (1999). Corporate entrepreneurship and the pursuit of competitive advantage. *Entrepreneurship, Theory and Practice*, 23(3), 47-64.
- Cronbach, L. (1951). Coefficient alpha and the internal structure of test. *Psychometrika*, (16), 297-334.
- Damanpour, F., and Gopalakrishnan, S. (1998). Theories of organizational structure and innovation adoption: The role of environmental change. *Journal of Engineering and Technology Management*, 15(1), 1-24.

- Deniz, E.E., and Neczan, O.T.O. (2012). The effect of market orientation, learning orientation and innovativeness on firm performance: A Research from Turkish Logistics Sector. *International Journal of Economic Sciences and Applied Research* 5(1): 77-108.
- Deshpandé, R., and Farley, J.U. (2004). Organizational culture, market orientation, innovativeness, and firm performance: An international research odyssey. *International Journal of Research in Marketing*, 21(1), 3.
- Dess, G.G., and Robinson, R.B. (1984). Measuring organizational performance in the absence of objective Measures: The case of the privately-held firm and conglomerate business unit. *Strategic Management Journal*, (5), 265-273.
- Dibella, A.J., Nevis, E.C., and Gould, J.M. (1996). Understanding organizational learning capability. *Journal of Management Studies*, 33(3), 361-379.
- Filser, M., and Eggers, F. (2014). Entrepreneurial orientation and firm performance: A comparative study of Austria, Liechtenstein and Switzerland. *South African Journal of Business Management*, 45(1), 55-65.
- Fornell, C., and Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, (18), 39-50.
- Frank, H., Kessler, A., Mitterer, G., and Wesmeier, S.D. (2012). Learning orientation of SMEs and its impact on firm performance. *Journal of Marketing Development and Competitiveness*, 6(3), 29-41.
- Freeman, C. (1982). Technological infra-structure and international competitiveness. Paris. OCDE.
- Freeman, C. (1991). A networks of innovations: a synthesis of research issues. *Research Policy*, 20(5), 499-514.
- Freeman, C. (1998). Schumpeter's 'Business Cycles' revisited, Schumpeter lectures 1998, Facoltà di Economia, Università della Tuscia, Italy.
- Gálvez, A.E.J., and García, G.P.L. (2012). Impacto de la Innovación sobre el rendimiento de la mipyme: Un estudio empírico en Colombia. *Estudios Gerenciales*. Universidad ICESI, Colombia.
- García, D., Martínez, M., and Maldonado, G. (2009). Innovación y Cultura Empresarial de la MiPyme del Estado de Aguascalientes. México, D.F., México: Universidad Autónoma de Aguascalientes.
- García, C.J., and Real, F.J.C. (2013). Confianza como consecuencia del compromiso percibido: Implicaciones sobre el aprendizaje y la innovación. *Cuadernos de Gestión*, 13(1), 95-124.
- Garvin, D. (1993). Building Learning Organization. *Harvard Business Review*, 78-89.
- Gatignon, H., and Xuereb, J-M. (1997). Strategic Orientation of the firm and new product performance. *Journal of Marketing Research*, (34) 77-90.
- Grant, R.M. (2006). Dirección Estratégica: Conceptos, Técnicas y Aplicaciones. Madrid. Civitas. 5ta Ed.
- Hair, J.F., Anderson, R.E., Tatham, R.L., and Black, W.C. (1995). *Multivariate data analysis with readings*. New York, NY: Prentice-Hall.
- Han, J.K., Kim, N., and Shrivastava, R.K. (1998). Market orientation and organizational performance: is innovation a missing link?, *Journal of Marketing*, 62(4), 30-45.
- Hanvanich, S., Sivakumar, K., and Hult, G. T. M. (2006). The relationship of learning and memory with organizational performance: The moderating role of turbulence. *Journal of the Academy of Marketing Science*, 34, 600–612.
- Huber, G.P. (1991). Organizational learning the contributing processes and the literatures. *Organization Science*, 2 (1), 88-115.
- Hult, G.T.M., and Farrell, O.C. (1997). Global organizational learning Capability in Purchasing: Construct and Measurement. *Journal of Business Research*, 40, 97-111.
- Hult, G.T.M., Hurley, R.F., and Knight, G.A. (2004). Innovativeness: Its antecedents and impact on business performance. *Industrial Marketing Management*, 33(5), 429-438.
- Hurley, R.E. and Hult, G.T.M. (1998). Innovation, market orientation and organizational learning: An integration and empirical examination. *Journal of Marketing*, 62, 42-54.
- Hurt, T.H., Joseph, K., and Cook, C.D. (1977). Scales for measurement of innovativeness. *Human Community Resources*, 4(1), 58-65.

- Jiménez-Jiménez, D., Martínez-Costa, M., and Sanz, R. (2014). Innovation, organizational learning orientation and reverse knowledge transfer in multinational companies. *Electronic Journal of Knowledge Management*, 12(1), 47-55.
- Jiménez, J.D., and Sáenz, V.R. (2006). Innovación, aprendizaje organizativo y resultados empresariales. Un estudio empírico. *Cuadernos de Economía y dirección de la Empresa*, 29, 31-55. Asociación Científica de Economía y Dirección de Empresas, Madrid, España.
- Joreskog, K.G., and Sorbom, D. (1986). *LISREL VI : Analysis of linear structural relations by maximum likelihood, instrumental variables and square methods*. Moorsville, I.N. Scientific Software.
- Jaworski, J.B., and Kohli, A.K. (1993). Market orientation: Antecedents and consequences. *Journal of Marketing*, 57, 53-70.
- Keskin, H. (2006). Market orientation, learning orientation, and innovation capabilities in SMEs. An extended model. *European Journal of Innovation Management*, 9(4), 396-417.
- Kuster, I., and Vila, N. (2011). The market orientation-innovation-success relation: The role of internationalization strategy. *Innovation: Management, Policy & Practice*, 13(1), 36-54.
- Lewrick, M., Omar, M., and Williams, R.L. (2011). Market Orientation and Innovator's Success: an exploration of the influence of customer and competitor orientation. *Journal of Technology Management & Innovation*, 6 (3), 48-61.
- Liao, S-H., Chang, W-J., Hu, D-CH. and Yueh, Y-L. (2012). Relations among organizational culture, knowledge acquisition, organizational learning, and organizational innovation un Taiwan's making and insurance industries. *The international Journal of Human Resource Management*, 23(1), 52-70.
- Lin, H., McDonough, E.F., Lin, S., and Lin, C.Y. (2013). Managing the Explanation/Exploration Paradox: The role of learning capability and innovation ambidexterity. *Journal Product Innovation Managing*, 30(2), 262-278.
- Liu, S. (2013). The role of service innovativeness in the relation between market orientation and innovative performance: moderator or mediator?. *The Service Industries Journal*, 33, 51-71.
- López-Mosquera, G.N., and Sánchez, G.M. (2005). Orientación al mercado, orientación emprendedora e innovación en el sector agroalimentario del Valle del Ebro. www.navarra.es
- Lukas, B., and Ferrell, O. (2000). The effect of market orientation on product innovation. *Journal of the Academy of Marketing Science*. 28(2), 239-247.
- Maldonado, G.G., Madrid, G., Martínez, M.C.S., and Aguilera, E.L.(2009). Los efectos de la Innovación en el rendimiento de las mipymes de Aguascalientes: Evidencia Empírica. Recuperado 25/6/2015 de [http:// www. Resvista.economía.uady.mx/2009/XXVI/73/02.pdf](http://www.Resvista.economía.uady.mx/2009/XXVI/73/02.pdf).
- Naranjo, J.C., Sanz, R., and Jiménez, D. (2008). Cultura organizacional e innovación: Cultura organizacional e innovación: un estudio empírico. El Pindado García, J. Estableciendo puentes en una economía global. España.
- Narver, J.C., and Slater, S.F. (1990). The effect of a market orientation on business profitability. *American Marketing Association*, 54(4), 20-35.
- Nibakk, E. (2012). Learning orientation, innovativeness and financial performance in traditional manufacturing firms: a higher-order structural equation model. *International Journal of Innovation Management*, 16(5), 1-28.
- Nunnally, J.C., and Bernstein, I.H. (1994): *Psychometric Theory*. Third Ed. New York, N.Y: Mc Graw Hill.
- OECD (2005). The measurement of scientific and technological activities. Oslo Manual. Guidelines for collecting and interpreting innovation data, OCDE EUROSTAT, Paris. 3a Ed.
- OECD (2009). Reviews of regional innovation: 15 Mexican states 2009. Assessment and recommendations. OECD Publishing, Paris.
- OECD (2014). "Small and medium sized enterprises", in OECD *Fact-book 2014, Economic, Environmental and social Statistics*, Publishing, Paris.
- OECD (2015). "Executive summary", in OECD Economic survey: México 2015, OECD Publishing, Paris.
- Rapp, A., Schillewaert, N., and Wei, A. (2008). The influence of market orientation on e-business innovation and performance: The role of the top management team. *Journal of Marketing and Practice*, 16(1), 3-25.

- Slater, S. F., and Narver, J.C. (1995). Market orientation and the learning Organization. *Journal of Marketing*, 59, (July), 63–74.
- Sinkula, J.M., Baker, W., and Noordewier, T.G. (1997). A framework for market-based organizational learning: linking values, knowledge and behavior. *Journal of the Academy of Marketing Science*, 25 (fall), 305-318.
- Sinkula, J.M., Baker, W.E., and Noordewier, T.A. (1999). Framework for market-based organizational learning: linking values, knowledge, and behavior. *Journal of Academy of Marketing Science*, 25 (4), 305-318.
- Sinkula, J.M. (1994). Market information processing and organizational learning. *Journal of Marketing*, 58 (1), 35-45.
- Uc, H.L.J., and Bastida, A.F.J. (2007). Sistemas de control de gestión e innovación: efecto sobre el rendimiento de las pymes. *Centro de Investigación en Gestión de empresas. (1-20)*. Valencia, España: Universidad Politécnica de Valencia.
- Van Auken, H., Madrid-Guijarro, A., and García, P.L.D. (2008). Innovation and performance in Spanish manufacturing SME´s. *International Journal Entrepreneurship and Innovation Management*, 8(1). 36-56.
- Vega, M.J.E., Maldonado, G.G., and Martínez, S.M.C. (2015). The impact of entrepreneurial orientation on the Innovation of SME´s in Mexico. *International Journal of Arts and Commerce*, 4(9), 161-172.
- Wang, C.L. (2008). Entrepreneurial orientation, learning orientation, and firm performance. *Entrepreneurship Theory and Practice*, 32(4), 635-657.
- Zhao, H.H., Tong, P.K., Wong and Zhu, J. (2005). Types of technology sourcing and innovative capability: An exploratory study of Singapore manufacturing firms. *Journal of High Technology Management Research*, 16, 209-224.
- Zheng, Z.K., Yim, CH.B., and Tse, D.K. (2005). The effects of strategic orientations on technology- and market-based breakthrough innovations. *Journal of Marketing*, 69, 42-60.