



The role of learning orientation in innovation and business performance: a case study in micro, small and medium firms in San Luis Potosí (Mexico)

*El papel de la orientación al aprendizaje en la innovación y el desempeño:
Un estudio en micro, pequeñas y medianas empresas en San Luis Potosí
(México)*

María del Pilar Pastor Pérez ^{1*}, Paola Isabel Rodríguez Gutiérrez ¹,
Jesús Collado Agudob ²

¹ Universidad Autónoma de San Luis Potosí, México

² Universidad de Cantabria, España

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Abstract

This paper presents the results of an empirical study that evaluates the role of learning orientation in business performance and innovation of micro, small and medium enterprises. In addition, it is analyzed if the age and size of the organization influence the relationship between learning and innovation. The empirical data were drawn from a sample of 253 companies in the industry, commerce and services sectors in Mexico, in the city of San Luis Potosí. A model of structural equations was estimated and the findings indicate that the learning orientation has a positive influence on performance and innovation orientation of the companies. It is also observed that the size of the company has a positive effect on innovation; however, no significant effect of the age of the organization on innovation is found. These conclusions contribute to increasing the evidence on the capabilities of smaller companies.

JEL Codes: M10, M 20, O30

Keywords: Learning orientation; Innovation; Firm performance.

*Corresponding author.

E-mail address: pilar.pastor@uaslp.mx (M. P. Pastor Pérez)

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Resumen

Este trabajo presenta los resultados de un estudio empírico en el que se evalúa el papel de la orientación al aprendizaje en el enfoque a la innovación y el desempeño de micro, pequeñas y medianas empresas. Además, se analiza si la edad y el tamaño de la organización influyen en la relación entre aprendizaje e innovación. El método utilizado para la recogida de datos fue el de encuesta a una muestra de 253 empresas de los sectores industria, comercio y servicios en México, en la ciudad de San Luis Potosí. Se estimó un modelo de ecuaciones estructurales y los hallazgos indican que la orientación al aprendizaje influye de manera positiva sobre el desempeño empresarial y el enfoque a la innovación de las empresas de la muestra. Se observa también que el tamaño de la empresa tiene un efecto positivo sobre el enfoque a la innovación; sin embargo, no se encuentra efecto significativo de la edad de la organización en la innovación. Estas conclusiones contribuyen a incrementar la evidencia sobre capacidades de las empresas de menor tamaño.

Códigos JEL: M10, M 20, O30

Palabras clave: Orientación al aprendizaje; Enfoque a la innovación; Desempeño empresarial.

Introduction

According to Teece, Pisano, and Shuen (1997), the distinctive skills and capacities of the organizations are grouped into three categories: particular resources or assets, trajectory of the organization, and organizational and management processes, among which learning stands out. Moreover, in increasingly changing environments, the theory of dynamic capabilities recognizes that companies need to renew their capabilities, and for this, adaptation, absorption, and innovation are essential factors (Wang and Ahmed, 2007). At the same time, being able to learn is key, especially for innovation, which is highly demanding in terms of knowledge generation and application (Senge, Roberts, Ross, Smith and Kleiner, 1994). In this logic, it can be expected that organizations that adequately manage the learning process, including knowledge acquisition, information distribution and interpretation, and organizational memory are able to develop competitive advantages (Huber, 1991) that impact on their performance indicators.

The empirical evidence on the relationship between dynamic capacities and performance depends on the type of observed capacities (generic or specific), on the inclusion in the models of variables coming from the environment, and on the measurement or analysis methods used (Pezeshkan, Fainshmidt, Nairn, Frazier and Markowski, 2016). However, positive relationships between learning, outcomes, and organizational survival, as well as with innovation, are often observed in more learning-oriented enterprises (Keskin, 2006; Alegre and Chiva, 2008, 2013; Torres and Jasso, 2009; Rhee, Park and Lee, 2010; Wang and Ellinger, 2011; Sok, O'Cass and Sok, 2013; Gomes and Wojahn, 2017; Liu, 2017; Tajeddini, Altinay and Ratten, 2017).

In Mexico, as in other emerging economies, the average results of innovation and business performance are not encouraging¹, and this situation is more critical among smaller companies.

¹ According to OECD (2017, 43), the labor productivity in Mexico in 2015 was the second lowest of the 39 countries compared, only higher than Costa Rica. In addition, its growth between 1995-2015 is the third lowest, after Italy and Spain. Approximately 95% of companies have fewer than five employees, while in the United States this indicator is around 40%. These companies employ up to 40% of the labor force and own 15% of the capital of the economy but generate little added value, so they have a very low productivity (Cavallo and Powell, 2018, 34). In terms of innovation,

The causes of this reality are multifaceted, but triggering learning processes in organizations should have positive impacts at the micro and macro levels.

In this sense, research on the consequences of innovation learning in micro, small, and medium-sized Mexican companies is scarce, and some of them focus on economic sectors with very particular characteristics, as we can observe below.

Mendoza and Valenzuela (2014) analyze learning, innovation, and technological management in micro, small, and medium enterprises in the metalworking and information technology industries. The authors conclude that there is an intrinsic relationship between technical knowledge and its management; they affirm that, in a learning framework, this relationship generates technological innovation. Estrada and Dutrénit (2007) studied knowledge management in micro and small machining companies in two Mexican cities. They found that human capital, expressed through tacit and individual learning variables, has a positive influence on almost all innovation indicators. Therefore, they suggest that there is no process of change or improvement without the intervention of the skill, experience, and knowledge of human resources; in general, their results reaffirm the influence of intellectual capital on performance.

The works of Martínez Serna, Vega Martínez, and Vega Martínez (2016) and Martínez Serna, Vega Martínez, and Eternod Domenech (2018) on micro, small, and medium manufacturing, commercial, and services enterprises in the city of Aguascalientes explore the relationships between learning orientation, organizational commitment, innovation, and performance, concluding that learning orientation is a good predictor for improving innovation and business performance. However, they do not find a direct relationship between learning orientation and performance, but rather indirectly through innovation.

San Luis Potosí is one of the Mexican states whose growth in recent years is above the national average and its unemployment rate is lower. However, there are no works that analyze the innovation capacity of the productive plant focusing on learning and orientation to innovation of state enterprises².

Speaking of the performance of micro, small, and medium enterprises, Ndiaye, Razak, Nagayev, and Ng (2018) point out that, although research on the performance of these enterprises has increased, there is no consensus on the factors that drive them and emphasize that academic literature focuses disproportionately on developed economies.

Derived from the above, within the framework of the theory of dynamic capabilities, the underlying research question in this paper is: What is the role of learning orientation in innovation and the performance of micro, small, and medium-sized enterprises in the city of San Luis Potosí? The motivation of this is to increase the empirical evidence on the subject from the little explored context of an emerging economy like Mexico, and the smaller-sized enterprises of the commerce, industry, and services sectors.

Below, based on the review of the literature, the hypotheses and the proposed theoretical

investment in research and development remains among the lowest and in 2016 barely exceeded 0.5% of the GDP, while the OECD average was 2.35% (OECD, 2018); the number of patents per million inhabitants is lower than that observed, on average, in countries with the same range of GDP per capita (Cavallo and Powell, 2018, 36).

²Some of the works on the companies of the state of San Luis Potosí are the following: Pastor (2012) describes the innovation system of the state; Rodríguez, Fuentes, and Rodríguez (2013) study the strategic capabilities and performance of women-owned enterprises; Segura, Borjas, and Sifuentes (2014) evaluate the innovative environment; Rodríguez, Ramos, and Pastor (2015) analyze the market orientation of MSMEs; Pastor, Rodríguez, and Ramos (2017) explore the additionality generated in micro and small enterprises benefiting from public financing for innovation.

model are justified. Subsequently, the method used to give way to the results is explained. The last section sets out the conclusions and limitations.

Review of the literature and development of the hypothesis

Learning orientation and its dimensions

This research departs from the idea of learning as a fundamental process for the creation of knowledge, which becomes a fundamental asset for companies to create a superior value, complex to develop, and difficult to imitate in dynamic markets (Slater and Narver, 1995). Although DiBella, Nevis, and Gould (1996) affirm that organizations are social systems in which, by their very nature, one learns, whether or not there is a strategy for it, learning related to new specialized knowledge is a complex process in which the members of the organization must look for possible errors in the company, identify solutions, and implement corrective actions, sharing the knowledge so that it can be used by other people (Sinkula, Baker and Noordewier, 1997).

Learning oriented organizations have a need and curiosity to acquire and understand new ideas (Hurley and Hult, 1998). They must decide what information to collect, how it will be evaluated and interpreted, how it will be made available to company members, and who will have access to it. In other words, the learning orientation of a company is the ability to create knowledge, disseminate it, and use it (Liu, Luo and Shi, 2002). All of this implies that relevant learning is not generated if there is not a correct organizational system of shared information that flows correctly through all levels and that allows the review of past actions (Calantone, Cavusgil and Zhao, 2002). In this same sense, Dutrénit (2000) mentions that the active administration of dynamic learning includes specific mechanisms to manage tacit and codified knowledge and convert individual knowledge into organizational knowledge.

Calantone *et al.* (2002) state that there is no consensus on how to define and operationalize the learning orientation construct; they define it as the activity of the organization related to the creation and use of knowledge to enhance competitive advantage, and conceive it as composed of four dimensions: commitment to learning, shared vision, open mind, and shared intra-organizational knowledge. Each of these components is explained below, reflecting the values necessary for the organization to develop a learning capacity (Fraj, Matute and Melero, 2013).

Commitment to learning

The existence of a commitment to learning in the company depends on how important learning is to the company; if it is valued, it will surely not be promoted and will be scarce (Sinkula *et al.*, 1997). Otherwise, learning will be an indispensable investment for the company regarding its survival (Calantone *et al.*, 2002). According to Wang and Wei (2005), a commitment to learning “makes a company willing to learn, and learning increases its ability to explore the unknown and identify new solutions in uncertain contexts, which is essential for using market intelligence to gain a competitive advantage in turbulent business environments”. (p. 1164).

Shared vision

The shared vision materializes in the desire of the company to “increase the business excellence and overall quality that lead to customer satisfaction” (Wang and Wei, 2005, p.

1164). This value implies the arduous task of promoting the purpose, the desire to start the learning process and continue it until obtaining the desired results among the members of the organization. While commitment and open-mindedness affect the intensity of learning, the shared vision has more to do with the direction of learning, so that all members of the organization know the purpose of this process so that resources are used efficiently (Sinkula *et al.*, 1997).

Open mindedness

Ironically, in order to achieve learning it is necessary to “unlearn”, as this allows questioning the processes, theories, old assumptions, and beliefs used that may no longer be effective. Being willing to do so entails keeping an open mind to change and to new possibilities (Sinkula *et al.*, 1997). According to Wang and Wei (2005), an open mind “requires autonomy and flexibility at work to produce revolutionary ideas. Empowerment is crucial for shaping such a work environment that leads to the discovery of new product mastery or experimenting with unusual process designs.” (p. 1164). Rapid technological change is a good reason for individuals in an organization to develop the maturity necessary to evaluate and criticize customary routines and accept new ideas (Sinkula *et al.*, 1997; Calantone *et al.*, 2002).

Shared intra-organizational knowledge

Shared intra-organizational knowledge refers to the “set of behavioral beliefs or routines related to the diffusion of learning among the different units of the organization” (Keskin, 2006, p. 404). Knowledge is accumulated within each individual and sharing it generates organizational learning. In order to maintain it and not lose it, it is necessary to convey it, due to personnel changes, and store it as a company memory that can be consulted before future actions are taken (Calantone *et al.*, 2002).

Learning orientation and business performance

In the literature, the topic of the performance of companies that promote organizational learning stands out. DiBella *et al.* (1996) conceptualize learning orientation as the ability or process of an organization to maintain or improve its performance based on experience, involving the acquisition, dissemination, and use of knowledge. Such knowledge could potentially be the most productive resource of an organization and an indispensable factor in achieving sustainable competitive advantage (Barney, 1991; Day, 1994; Slater and Narver, 1995; Grant, 1996; Sinkula *et al.*, 1997; Hult, Snow and Kandemir, 2003; Wang and Wei, 2005). This is due to the fact that a learning-oriented organization adequately processes the information it receives from its clients, competitors, and distribution channels, creating a critical competition to improve performance and, thanks to the information gathered, it is able to foresee changes in the environment and the market, making the necessary adjustments in time (Calantone *et al.*, 2002).

Based on the above, the first hypothesis is presented:

H1: The learning orientation of a company positively influences its performance.

Learning orientation and focus on innovation

Hand in hand with the relationship between learning and the generation of new knowledge, the approach to innovation is conceptualized as the extent to which an organization shows

willingness to accept new concepts by changing the schemes it uses (Hurley and Hult, 1998). When called an approach to innovation it also refers to the set of values and beliefs that stimulate creativity (Walter, Auer and Ritter, 2006), invention (Hult *et al.*, 2003), and experimentation, promoting and supporting new ideas and openness towards them (Lumpkin and Dess, 2001; Keskin, 2006), often assisted by the use of new technological resources or resulting in new products, services, or processes (Lumpkin and Dess, 2001).

Learning orientation represents the desire of the organization for knowledge, and the focus on innovation emphasizes the search for change through new knowledge. Both capabilities are related because an organization committed to learning enhances its innovative potential since it is more likely to be committed to innovation, invest in cutting-edge technology and uses it to create and sell new products. In turn, learning organizations possess knowledge and skills to understand and anticipate consumer needs and also tend to develop greater innovative capacity than their competitors because they monitor and learn from their actions in the marketplace (Damanpour, 1991; Cahill *et al.*, 1996; Calantone *et al.*, 2002).

Slater and Narver (1995) suggest that the main link between innovation and learning is due to the fact that the values that promote learning orientation create in the company a tendency to go into a process of seeking knowledge and encourage the concern to break the status quo of the company to achieve better performance, encouraging the exploration of new markets and the development of new products, services, and technologies.

From the above, the following hypothesis is proposed:

H2: The learning orientation of a company positively influences its performance.

Differences associated to size and age of the company

Empirical works show interest in analyzing whether the age and size of the organization influence the relationship between learning and innovation. In most cases, it is observed that there are differences but it is not possible to generalize a conclusion on the matter, because this also depends on other factors such as the order in which companies enter the market, the economic sector, the diversity in the portfolio of research and development projects, the degree of competition in the market, the presence of economies of scale, the life cycle of the market, the degree of technological development, learning rates, or the network of contacts (Balasubramanian and Lee, 2008; Bianchini, Krafft, Quatraro and Ravix, 2015; Ciriaci, Moncada-Paternó-Castelo and Voigt, 2012; Coad, Segarra and Teruel, 2016; Hansen, 1992; Rogers, 2004; Hui, Radzi, Jenatabadi, Kasim and Radu, 2013; Prajogo, McDermott and McDermott, 2013; Sirén, Hakala, Wincent and Grichnik, 2017; Swee Lin Tan, Smyrnios and Xiong, 2014; Torres and Jasso, 2009).

In this context, this work explores the following hypotheses.

H3: There are significant differences in the approach to innovation derived from the size of the company.

H4: There are significant differences in the approach to innovation derived from the age of the company.

Figure 1 shows the model that represents the relations presented in the hypotheses, as well as the four dimensions that comprise learning orientation.

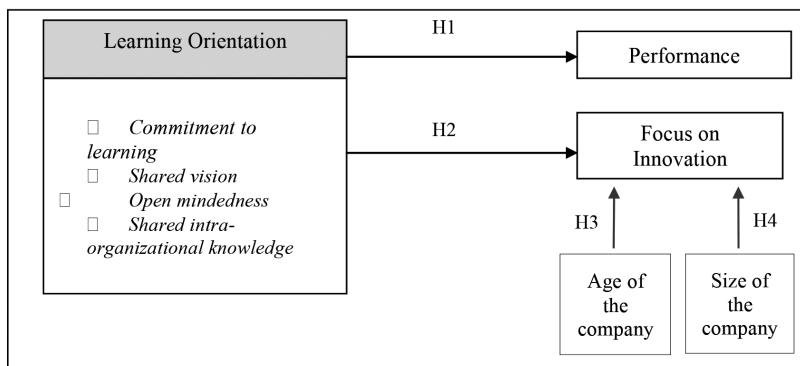


Figure 1. Hypothetical model

Source: Own elaboration.

Method

Data collection

In this research, micro, small, and medium-sized enterprises (MSMEs) were considered as the target population of study and, more specifically, empirical work was developed in enterprises located in the city of San Luis Potosí, Mexico, belonging to the industrial, commerce, and services sectors, with up to 100 employees in those of services or commerce and no more than 250 in industry. To obtain information on the population, the National Statistical Directory of Economic Units (DENUE for its acronym in Spanish) was consulted, which brings together the companies included in the Economic Censuses (National Institute of Statistics and Geography [INEGI], 2009).

The sampling was simple and random, and the sample size was of 253 companies with a 90% confidence interval and 5.1% accuracy. A quantitative and cross-sectional study was designed, in which data were collected during the months of September, October, and November 2012. The key informants were the entrepreneurs or, where appropriate, the person presiding over the company, and the questionnaire was applied face-to-face in order to obtain a large number of responses, clarify possible doubts, and avoid erroneous responses due to misinterpretation.

The total number of companies that participated in the study was 253, of which 14.2% belonged to the industrial sector (mainly to manufacturing and construction industry), 24.1% to commerce, and 61.7% to the services sector (in order of importance: restaurants and lodging services, education services, diverse services, professional services, transportation, communications, and medical services. In terms of the number of workers, 15% of the companies in the sample were micro, 62% small, and 23% medium. In terms of age, 37.5% had up to 15 years in the market, 42.7% between 16 and 30 years, and the rest (19.8%) more than 30 years.

Variables

The scope of the research is descriptive and causal. There are three variables included in the model and in the questionnaire. The Calantone *et al.* (2002) questionnaire was adapted to

measure learning orientation. In the case of the innovation approach, two items based on Covin and Slevin (1989) were used. The performance section of the questionnaire included ten items that aimed to determine the extent to which the performance of the company is satisfactory and were adapted from Gupta and Govindarajan (1984); these authors, in their study of small businesses, chose subjective measures of performance because of the unwillingness of this business sector to disclose financial information. Table 1 identifies the latent variables, learning orientation and its dimensions, focus on innovation, and performance. The variables observed are the items that were coded for better identification.

Table 1
Operationalization of the variables

Latent variable (Source)	Latent variable (dimensions)	Variables observadas	
		Code	Item
(Adapted from Calantone <i>et al.</i> , 2002)	Learning orientation	OA1	Managers basically agree that the learning ability of our organization is the key to our competitive advantage.
		OA2	The core values of this organization include learning as a key to improving.
		OA3	The feeling in this company is that the learning of the employee is an investment, not an expense.
		OA4	Learning in my organization is seen as a necessary element to ensure the survival of the organization.
	Shared vision	OA5	There is a common purpose in my organization.
		OA6	There is total agreement of our organizational vision across all levels, functions, and divisions.
		OA7	All employees are committed to the goals of this organization.
		OA8	Our employees see themselves as partners in the planning of the direction that the organization will take.
Focus on innovation (Based on Covin and Slevin, 1989)	Open mindedness	OA9	We are not afraid to reflect critically on the shared assumptions we have made of our clients.
		OA10	The staff in this company realize that the way they perceive the market must be continuously questioned.
		OA11	We continually judge the quality of our decisions and activities.
	Shared intra-organizational knowledge	OA12	There is a good part of the organizational conversations that keep the lessons learned alive.
		OA13	We always analyze unsuccessful organizational efforts and communicate lessons learned widely.
Performance (Adapted from Gupta and Govindarajan, 1984)	Does not apply	OA14	We have specific mechanisms for sharing lessons learned in organizational activities, from one department to another (unit to unit, team to team).
		OA15	Senior management emphasizes the importance of knowledge sharing in our company.
		I1	In general, the management of my company favors a strong emphasis on research and development, technological leadership, and innovations.
	Does not apply	I2	My company has launched many new lines of products or services in the last five years.
		D1	Level of sales.
		D2	Sales growth rate.
		D3	Cash flow.

D4	Return on the capital of the shareholders.
D5	Percentage or gross profit margin (gross profit/sales).
D6	Net profit from operations (earnings before interest and taxes).
D7	Volume of the asset (Size of the investment).
D8	Growth in the number of employees.
D9	Return on investment
D10	Ability to finance the growth of the company from the profits obtained.

Source: Own elaboration.

The items of the three variables were graded on a Likert scale for their evaluation, ranging from 1 (totally disagreed or not at all satisfied) to 7 (totally agreed or very satisfied). The size and age of the companies were measured, respectively, by the number of employees and years in the market at the time of application of the questionnaire. The data collected were analyzed using the statistical application SPSS version 20 and Amos version 20.

As can be seen in Table 2, the measures used to establish convergent and discriminant validity of the scales were: composite reliability (CR) and average variance extracted (AVE). The composite reliability of the variables is well above the recommended level of 0.7. The variance extracted from the three variables exceeds the recommended level of 0.5, that is, more than half of the variance of the indicators is considered for the factor. Finally, it was found that the square root of the extracted variance (indicated in bold) is greater than the correlations of the learning orientation constructs and dimensions, indicating that there is discriminant validity.

Table 2 Convergent and discriminant validity of scales

	CR	AVE	CL	D	Inn	IKS
CL	0.894	0.738	0.859			
D	0.914	0.642	0.246	0.801		
Inn	0.712	0.562	0.448	0.189	0.750	
IKS	0.891	0.672	0.798	0.241	0.460	0.819

Fuente: Elaboración propia

Results analysis

Description of the sample

The owners or directors of the company were the key informants in the survey and their profile is as follows. Of the companies in the sample, 43.1% belong to women and 56.9% to men. Their average age is 43, with a minimum of 19 years of age and a maximum of 74 years. Of those surveyed, 67.2% have a completed professional career, 13% have postgraduate studies, and only 18.6% have an unfinished professional career or a lower level of education—the lowest being primary school (see Table 3).

Concerning the organizations under study, the average age of the company is 22.3 years; there are companies that have been founded for less than a year and the maximum is 155 years. The industrial sector is represented by 14.2%, commerce with 24.1%, and services with 61.7%. 15% are micro-enterprises, 62% are small, and 23% are medium-sized.

Table 3
Characterization of the sample

Owners or directives of the company	Companies
Gender:	Age:
56.9% men	From 0 years
43.1% women	Until 155 years of age
	Average: 22.3 years
Age:	Sector:
Minimum age of 19 years	Services 61.7%
Maximum age of 74 years	Commerce 24.1%
Average: 43 years	Industrial 14.2%
Level of education completed:	Size:
14.2% postgraduate	Micro 15%
67.2% graduate	Small 62%
15.4% high school or technical career	Medium 23%
3.2% high school or middle school	
Size of the company: Micro: up to 10 employees. Small: up to 30 (commerce) and 50 employees (industry and services). Medium: up to 100 (trade and services) and 250 (industry).	
Source: own elaboration	

Measurement model and descriptive analysis of scales

The results of the measurement model, which used the maximum likelihood method, indicate that the model fitted well when performing the chi-squared test, $\chi^2(N= 253, df=84) = 132.724, p<.001$.

For the learning orientation, innovation focus, and performance constructs, the standardized items and loads are specified in Table 4. It can be observed that all of them are significant at the $p<.001$ level and are above 0.5, which indicates that latent variables are significantly represented by their respective observed variables. From the learning orientation construct, items OA1, OA5, OA6, OA7, OA8, OA9, OA10, and OA11 were eliminated because they had standardized loads lower than 0.5 and in some cases because they were redundant; thus, only the dimensions of commitment to learning and shared intra-organizational knowledge were represented. For the same reasons, in the case of performance, items D1, D5, D7, and D9 were also eliminated.

In the OA scale, it is observed that the highest means greater than 6 with a “strongly agreed” interpretation are for items OA4 and OA3, which refer to “Learning in your organization is seen as a necessary element to ensure the survival of the organization” and “The feeling in the company is that employee learning is an investment not an expense”. As well as OA15 and OA2 that mention that “The basic values of the organization include learning as a key to improvement” and “Top management emphasizes the importance of sharing knowledge in our company”. The rest of the OA items are placed in a mean that is interpreted as “agree”. This reflects that companies claim to be committed to learning and have it clear in the discourse, but the consensus diminishes when they value specific practices of developing collective knowledge capabilities that are essential for organizational survival.

In the innovation variable, the mean decreases, with the highest being of 5,091—interpreted as “in agreement”—for the item “In general, the management of my company favors a strong emphasis on research and development, technological leadership, and innovations”. On the other hand, the item “The company has launched to the market many new lines of products or services in the last five years” reaches an average interpreted as “neither agree nor disagree”.

Once again, it is observed that, faced with discourse, consensus decreases when it comes to implementation. Moreover, innovation reaches lower averages than learning; this can be explained by the greater complexity involved in innovating, which requires and produces learning, but the inverse relationship is not always true.

In terms of performance, it is shown that, with the exception of one item (D4), all have an average greater than 5 interpreted as “satisfied” with the aforementioned criterion. The indicator with the lowest average is the one referring to the return on capital of the partners. The reason could be that the key informants were owners or partners, so this question has more subjective connotations for them.

Table 4
 Estimated values of the measure model and descriptive analysis of the items

Route		Standardized load	T value	Sig.	Min.	Max.	Mean	Interpretation
OA2	<---	CL	0.839	*	*	1	7	6.281
OA3	<---	CL	0.897	17.395	p<.001	2	7	6.383
OA4	<---	CL	0.840	15.983	p<.001	2	7	6.399
OA12	<---	IKS	0.821	*	*	2	7	5.945
OA13	<---	IKS	0.873	16.229	p<.001	1	7	5.874
OA14	<---	IKS	0.777	13.846	p<.001	1	7	5.609
OA15		IKS	0.804	14.520	p<.001	3	7	6.287
I1	<---	Inn	0.880	*	*	1	7	5.091
I2	<---	Inn	0.591	5.084	p<.001	1	7	4.812
D2	<---	Des	0.778	14.238	p<.001	1	7	5.292
D3	<---	Des	0.876	16.970	p<.001	1	7	5.128
D4	<---	Des	0.771	14.054	p<.001	1	7	4.972
D6	<---	Des	0.893	17.477	p<.001	1	7	5.045
D8	<---	Des	0.641	10.996	p<.001	1	7	5.230
D10	<---	Des	0.824	*	*	1	7	5.182
Adjustment of the model								
$\chi^2=132.724$ df=84								
CFI=0.979 p=.001								
RMSEA=0.048								

Source: own elaboration.

Note: *Values not calculated because the consideration was fixed at 1.00 to fix the variance of the construct.

Structural model

The results of the structural equation model, in which the maximum likelihood method was used, indicate that the model fitted well when performing the chi-squared test, $\chi^2(N= 253, df=112) = 159.149, p<.002$.

Additionally, in the case of the incremental goodness of fit indices (see Table 6) IFI, TLI, and CFI are all above 0.9 in a range of 0.976 to 0.980, which is considered acceptable. The same is true of the RMSEA, which has a value of 0.041 and is at a level below the recommended maximum of 0.08 (Hair *et al.*, 1999; Schumacker and Lomax, 2004; Pesämaa, Shoham, Wincent, and Ruvio, 2013). Likewise, the results indicate that the weights of the standardized regressions are significant for the test of the t value ($>=1.96, p<=.05$).

Since it is suggested in the literature that the size and age of the company could have an impact on innovation, these two variables were tested as control variables. No significant effect was found for the age of the company. However, there was a significant positive effect ($p<0.05$) for the size of the company on the approach to innovation and, considering the standardized

regression coefficient (0.182), it can be said that the effect is weak positive (see Table 5).

Beyond the fact that the sample has a great dispersion in the age of the companies measured in years, the reason for the foregoing has to do with the fact that the use of external factors and the development of organizational capacities, which facilitate innovation, are more feasible in larger companies and are less explained by the permanence in the market—time—(Torres and Jasso, 2009). That the relationship is weak could be due to the fact that the variable does not maintain the dimensions related to shared vision and open mindedness. In addition, a lack of systematization of learning practices is suspected, which undermines innovative results.

Table 5
Results of the structural model

Route		Standardized load	t value	sig.
Des	<---	OA	0.278	3.807 p<.001
IKS	<---	OA	0.911	8.125 p<.001
CL	<---	OA	0.876	* *
Inn	<---	OA	0.527	6.403 p<.001
OA2	<---	OA	0.840	* *
OA3	<---	OA	0.896	17.382 p<.001
OA4	<---	OA	0.841	16.000 p<.001
OA12	<---	OA	0.820	* *
OA13	<---	OA	0.873	16.218 p<.001
OA14	<---	OA	0.778	13.855 p<.001
OA15	<---	OA	0.804	14.516 p<.001
I1	<---	Inn	0.840	* *
I2	<---	Inn	0.619	5.787 p<.001
D2	<---	Des	0.778	14.233 p<.001
D3	<---	Des	0.876	16.975 p<.001
D4	<---	Des	0.771	14.054 p<.001
D6	<---	Des	0.893	17.464 p<.001
D8	<---	Des	0.641	10.997 p<.001
D10	<---	Des	0.824	* *
Inn	<---	Size	0.182	2.724 p<.050
Inn	<---	Age	0.042	0.635 n.s

Adjustment of the model
X2=159.149 df=112 p= 0.002
CFI=0.980
RMSEA=0.041

* Values not calculated because the weighting was set to 1.00 to fix the variance of the construct.

n.s.= not significant

Source: own elaboration.

Based on the previous analysis, the learning, innovation, and performance orientation model was obtained (see Figure 2). Learning orientation explains 8% of the variance of the dependent variable performance and 31% of the approach to innovation. This is due to the direct relationship between learning, knowledge, and innovation, while performance is influenced by many other factors both internal and external to the organization.

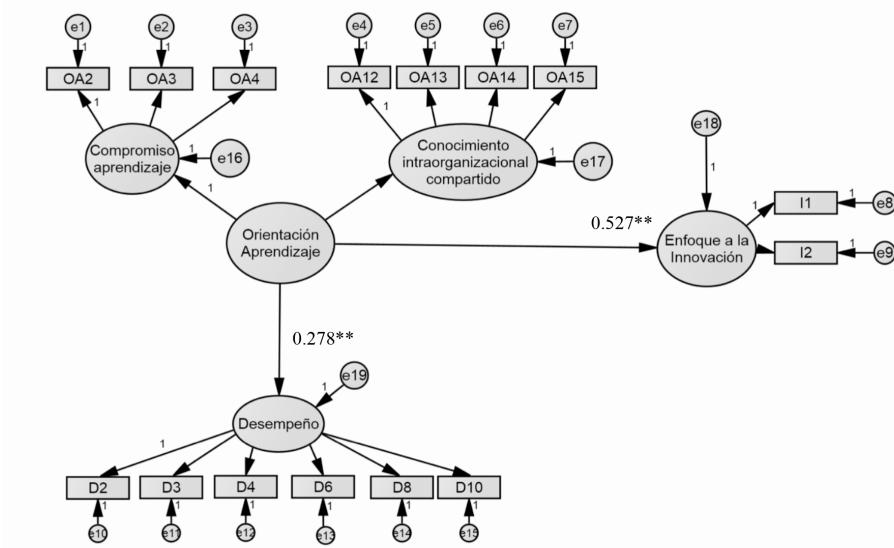


Figure 2. Results of the structural learning orientation, innovation and performance model.

Note: *** corresponds to $p < 0.001$; ** corresponds to $p < 0.05$

Source: own elaboration.

Finally, in sum, the findings allows to affirm that empirical evidence was found in favor of the positive relationship between learning orientation and performance and also with innovation; in addition, the latter is influenced by size, but not by the age of the company (see Table 6).

Tabla 6
 Resultados en relación con la hipótesis

Hypothesis	Findings
H1: The learning orientation of a company positively influences its performance.	Accepted
H2: The learning orientation of a company positively influences its performance.	Accepted
H3: There are significant differences in the approach to innovation derived from the size of the company.	Accepted
H4: There are significant differences in the approach to innovation derived from the age of the company.	Rejected

Fuente: Elaboración propia

Discussion and conclusions

This research was conducted in the context of an emerging economy, and with a sample of companies including a larger proportion of the service sector (61.7%), a high presence of companies with no more than 50 workers (77%), and an average age of 22.3 years, indicating that they are not young companies, according to the criteria used in the literature (Lin Tan *et al.*, 2014; Coad *et al.*, 2016; Sirén *et al.*, 2017).

The main result is that learning orientation explains 8% of the variance of performance

and 31% of the approach to innovation, which is in line with empirical literature that reports positive effects of learning on innovation and organizational outcomes (Calantone *et al.*, 2002; Jiménez-Jiménez and Sanz-Valle, 2011; Alegre and Chiva 2013; Martínez Serna *et al.*, 2016 and 2018). Considering the findings, it is also concluded that learning has a greater impact on the focus on innovation than on performance; in this sense, Gomes and Wojahn (2017) find that organizational learning capacity influences innovation but not performance.

In this model it should not be ignored that the size of the company, measured in number of employees, is significant at a level $p<.050$, which suggests that the greater the number of employees the greater the focus on innovation (Hui *et al.*, 2013). For its part, the work of Jiménez-Jiménez and Sanz-Valle (2011) reports that the positive effect of learning orientation on innovation and performance is greater in smaller companies and argues that larger companies have more resources to invest in innovation and this makes them less dependent on the learning approach when innovating. However, we believe that precisely the fact that they have more means facilitates their approach to innovation, which puts microenterprises at a disadvantage. In this sense, Torres and Jasso (2009) conclude that shortcomings in the development of internal factors related to innovation—such as training, research, and development—limit the survival and growth of SMEs.

According to Jasso (2004), the relationship between the technological trajectory of companies and their life cycle goes beyond technology and proposes to consider the market and production, analyzing management and organizational learning capabilities. The literature states that the life cycle does affect entrepreneurial skills (Bianchi *et al.*, 2015; Coad *et al.*, 2016; Sirén *et al.*, 2017), but in this work no significant differences have been found in the approach to innovation derived from the age of the company. This fact deserves further analysis in future research, which may include other variables of the business environment, in order to improve the understanding of the phenomenon of the approach to innovation.

Looking closer at the learning orientation, it can be observed that the commitment to learning, together with the tendency to share knowledge within the organization, encourages research and development actions, as well as the market launch of new products or services (standardized load of learning orientation towards the innovation approach 0.527). However, the dimensions of shared vision and open-mindedness are left out. This reflects the weaknesses in the strategic direction of these companies, which do not share expectations and resist change in a little innovative ecosystem that also does not encourage the need for change.

This study contributes to the literature by providing evidence of an emerging economy and of small businesses that have consolidated in their respective markets. In addition, the results have implications at the management level in the sense that these companies must commit to learning if they want to build better capabilities (Torres, 2006) and be more competitive, but they have to review the way in which they currently learn. In this sense, it is necessary that they promote a more innovative vision and implement internal capacity development actions related to the generation and application of knowledge and organizational learning.

With regard to the limitations of the study, its transactional design should be noted, thus care must be taken when interpreting causality in the relationships posed. Furthermore, in practice, the effect of learning on innovation and performance is usually observed with a delay, which is why longitudinal studies are suggested.

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