

Knowledge Management and Entrepreneurial Orientation in Mexican Small Business

Sandra Yesenia Pinzón-Castro, Gonzalo Maldonado Guzman, Jose Felipe Soriano Suárez del Real
(Autonomous University of Aguascaliente, México)

Abstract: Knowledge management and entrepreneurial orientation are considered in the current literature of business and management sciences not only as two intangible resources valued by enterprises, especially by small and medium-size enterprises ones (SMEs), but also as two constructs that have a close bond. Therefore, when organizations increase significantly the level of knowledge management produced inside and outside, especially SMEs, there is usually also an improvement in the level of entrepreneurial orientation which enables them to have better results than other enterprises that do not have a good management of their knowledge. Hence, this empirical research aims to analyze the existing relation between knowledge management and entrepreneurial orientation by using a sample of 316 SMEs from Aguascalientes State (Mexico). The results obtained in this investigation show that knowledge management has a positive and significant influence in entrepreneurial orientation.

Key words: knowledge management; entrepreneurial orientation; small business

JEL codes: M10

1. Introduction

In a highly uncertain business environment in this 21st century, the competitive advantages of organizations, mainly small and medium-size enterprises ones (SMEs), are not in the business tangible actives and natural resources any more. Nowadays, they are rather in the effectiveness of knowledge management that enterprises have (Tien-Shang & Munir, 2007). Consequently, enterprises have to explore and acquire the existing information and knowledge constantly from the market in which they participate so this knowledge can be transformed inside the organization (Zahra & George, 2002), and produce not only a higher level of business performance (Rauch et al., 2009), but also a higher level of knowledge management (Wiklund & Shepherd, 2003; Fuentes-Fuentes et al., 2015).

Moreover, Wiklund and Shepherd (2003) concluded that the upcoming opportunities provided by the market can be used more efficiently if enterprises can combine knowledge management and entrepreneurial orientation because when these two constructs are mixed enterprises can achieve not only a higher level of efficiency and

Sandra Yesenia Pinzón-Castro, Ph.D., Autonomous University of Aguascalientes; research areas/interests: innovation, marketing, and market orientation. E-mail: sypinzon@correo.uaa.mx.

Gonzalo Maldonado-Guzman, Ph.D., Autonomous University of Aguascalientes; research areas/interests: innovation, marketing, and information technology. E-mail: gmaldona@correo.uaa.mx.

José Felipe Suárez del Real, Ph.D. Student, Autonomous University of Aguascalientes; research areas/interests: digital marketing, and market orientation. E-mail: jfsorianosuarezdelreal@gmail.com.

effectiveness in their organizational processes but also a higher level of innovation and development of new skills (Burstein et al., 2001). Similarly, an adequate knowledge management as a constant process will allow enterprises to identify their most basic needs as well as pinpoint, use and acquire the prevailing knowledge both in the market and inside the organization that will help for the development of new opportunities and to improve their level of entrepreneurial orientation (Quintas et al., 1997; Carrillo et al., 2004).

In this regard, knowledge has become recently in one of the most valuable intangible resources for the creation of competitive advantages in enterprises because the management and protection of knowledge does not only create value for the organization (Berry, 2000) but it also produces a higher level of entrepreneurial orientation by making innovations that are difficult to imitate by other enterprises (Tien-Shang & Munir, 2007). Correspondingly, Ireland and Hitt (1999) suggested that innovation is one of the most important factors that can allow enterprises to compete more efficiently in the market. That is why organizations have to focus their efforts in improving the level of innovation in order to be different from their main competitors (Tien-Shang & Munir, 2007). This can only be achieved with an effective knowledge management through the integration of the existing knowledge inside the enterprise which will help to develop new knowledge that may turn into new innovations (Pérez-Bustamante, 1999).

In this way, knowledge management is established as one of the most important factors for the creation of sustainable and competitive advantages in enterprises, particularly for SMEs, because knowledge is essentially too difficult to imitate and this will facilitate not only a sustainable differentiation (McEvily & Chakravarthy, 2002) but also a higher level of business orientation (Galunic & Eisenhardt, 1994; McGrath et al., 1996). Additionally, several researchers and scholars have analyzed empirically the effects of business orientation in business performance in the external environment (e.g., Zahra & Covin, 1995) but there is something that has been neglected: the analysis and discussion of the existing relation between knowledge management and entrepreneurial orientation (Tien-Shang & Munir, 2007; Fuentes-Fuentes et al., 2015), especially in SMEs (Wiklund & Shepherd, 2003).

Along this set of ideas and with the suggestions of Wiklund and Shepherd (2003), Tien-Shang and Munir (2007) as well as Fuentes-Fuentes et al. (2015), the main contribution of this empirical research is the existing analysis between knowledge management and entrepreneurial orientation in SMEs from a country with an emerging economy as it is the case of Mexico. Another contribution is the methodology used since it will work with a structural equation modelling to test the proposed theoretical model. The rest of the work has been organized in the following way: the second section examines the theoretical framework, the scarce empirical investigations previously published and the investigation hypotheses are established; the third section shows the methodology, the sample and the variables used; the fourth section analyzes the results obtained and, finally, the fifth section shows the main conclusions and the research discussion.

2. Literature Review

Recently, in the current literature of business and management sciences, there have several efforts to show empirically the existing link between knowledge management and entrepreneurial orientation (Wiklund & Shepherd, 2003; Tien-Shang & Munir, 2007; Fuentes-Fuentes et al., 2015). Likewise, it has been attempted to analyze in other investigations the most important resources that restrict the development of entrepreneurial orientation, as well as the ability of enterprises to identify the opportunities given by the market in which they

participate, and that are related to knowledge management such as the education of entrepreneurs, job experience, entrepreneurial experience (Davidsson & Honing, 2003; Ucbasaran et al., 2009), knowledge related to the enterprise (Shane, 2000), knowledge of customers' problems (Shepherd & DeTienne, 2005), and the creation of new knowledge (Corbett, 2005).

Hence, several published investigations in the current literature have focused in showing theoretically and empirically, that knowledge management plays an essential role in the adoption and implementation of entrepreneurial orientation in enterprises (Shane, 2000; Wiklund & Shepherd, 2003; West & Noel, 2009). However, there are also other researches that dismiss the results obtained from enterprises with entrepreneurial orientation, because in order to obtain positive results the organizations, especially SMEs, usually need the essential resources in the entrepreneurial process such as knowledge (Bolden & Nucci, 2000; Brush et al., 2002; Carter & Marlow, 2003; Coleman, 2002, 2007; Shaw et al., 2009). That is why the management and creation of new knowledge is fundamental in the process of entrepreneurial orientation (Dyer & Singh, 1998; Teng, 2007; West & Noel, 2009).

Similarly, some recently published investigations have provided theoretical and empirical evidence that proves that the acquisition of knowledge of the enterprises, their clients and suppliers can help SMEs to obtain the resources and skills for the adoption and implementation of entrepreneurial orientation as well as better results (Yli-Renko et al., 2001; Sullivan & Marvel, 2011). Henceforth, there is empirical evidence published in the literature that establishes that, in general, entrepreneurial investigations emphasize knowledge management as a positive and significant influence in entrepreneurial orientation (Fuentes-Fuentes et al., 2015), but particularly the acquisition of knowledge from enterprises from their clients, consumers and suppliers is essential not only to achieve a higher level of business performance, but also to improve the level of entrepreneurial orientation (Rosenbaum, 2013).

In this regard, organizations, especially SMEs, have to look for new business knowledge and the most relevant formal information (i.e., contacts with other business people), as well as informal (relatives and friends), in order to take better decisions that imply a significant improvement of their entrepreneurial orientation without forgetting the formal information of their clients and suppliers (Brüderl & Preisendörfer, 1998; Renzulli et al., 2000). Thus, the knowledge acquired from the different relations with other enterprises can improve significantly the process of entrepreneurial orientation of enterprises (Fuentes-Fuentes et al., 2015), although it is also important that business people collect as much information as possible, not only in the context of the industrial sector where their enterprise belongs but also information focused on the context of the enterprise itself (Coyle & Flannery, 2005).

Additionally, the knowledge acquired from different enterprises has to be as homogeneous as possible because if it has a high level of heterogeneity it could decrease considerably the potential and the level of entrepreneurial orientation of enterprises (Renzulli et al., 2000; Rodan & Galunic, 2004). From this perspective, the influence of the knowledge acquired from firms, particularly SMEs, may not be significant in the development of entrepreneurial orientation and the performance of the enterprise itself (Fuentes-Fuentes et al., 2015). Consequently, the acquisition and management of knowledge obtained through relations with other enterprises, client, consumer and supplier must be as homogeneous as possible so enterprises have more possibilities of achieving a bigger impact in entrepreneurial orientation (Fuentes-Fuentes et al., 2015).

On the other hand, one of the most influencing elements in the nature of knowledge in SMEs, is the personality that managers and/or owners have about small business (Atherton, 2003). With this, the knowledge

management carried out inside the organizations will be strongly influenced by the knowledge of their managers and the degree of entrepreneurship that they have (Politis, 2005). Consequently, managers of SMEs have to collect the most relevant information in order to create new knowledge inside the organization, that allows the improvement or creation of new products and services, or to improve their production and management process in a way that they can obtain, not only a higher level of entrepreneurial orientation, but also a better level of business performance (Zahra & George, 2002; Liao et al., 2003).

If SMEs are not able to create new knowledge from the information collected from the market, then they can serious problems in finding and taking advantage of the new business opportunities that markets offer (Wiklund & Shepherd, 2005). In this regard, Wiklund and Shepherd (2003) suggested that the knowledge about the market and technology, represent two essential elements that have to be managed accordingly in order to optimize the potential of enterprises, to the fullest and achieve a bigger impact in the level of entrepreneurial orientation of the organization itself. Moreover, Ozgen and Baron (2007) considered that the knowledge produced by enterprises does not create only a higher level of entrepreneurship, but it also identifies the opportunities given by the market which allows enterprises to increase their level of entrepreneurial orientation, as well as their level of business performance in a significant way (Markman et al., 2002).

Similar results were obtained by Wiklund and Shepherd (2003), who concluded that enterprises can be more innovative, proactive and take higher risks (entrepreneurial orientation), if they manage their knowledge more adequately which will also allow them to improve significantly their level of business performance. Hence, innovation refers to the tendency that enterprises have to adopt and implement novel activities, experiments, researches and development which generally have as a result the creation of new products or services, or the improvement of technological processes (Lumpkin & Dess, 1996; Kyrgidou & Spyropoulou, 2012). Furthermore, this is the researched and studied dimension of entrepreneurial orientation in the current literature (Leiponen, 2000; Hult et al., 2004), because it is generally the most defining dimension for the attainment or development of competitive advantages (Kyrgidou & Spyropoulou, 2012).

Regarding proactivity, it can be defined as the tendency that enterprises have to foresee and act in advance to future needs and opportunities demanded by the market in which they participate (Miller & Friesen, 1978; Lumpkin & Dess, 1996), in order to allow enterprises, especially SMEs, to increase significantly the acquisition of knowledge and the level of business performance (Fuentes-Fuentes et al., 2015). Finally, risk taking involves the commitment of the management to take advantage of all the available resources in the organization, to make use of the business opportunities that are in the market or for the design and implementation of business strategies, that produce better results in environment of business uncertainty (Keh et al., 2002). Thus, risk taking reflects the proactivity of enterprises to safeguard projects that provide enterprises with better results through the use of the market opportunities (Lumpkin & Dess, 1996).

Talking specifically about this aspect, it is possible to state that the entrepreneurial orientation reflects the strategic orientation and the attitudes that enterprises have, including SMEs, for the adoption and implementation of entrepreneurial actions and decisions (Lumpkin & Dess, 1996; Wiklund & Shepherd, 2003). As a result of this, it is common that the entrepreneurial orientation can be defined as "*the processes, practices and decision-making activities that lead to new entry*" (Lumpkin & Dess, 1996, p. 136). Moreover, most published investigations about entrepreneurial orientation in the literature have identified three components or dimensions through which it is possible to measure the entrepreneurial orientation: innovation, proactivity and risk taking, which have been widely accepted by several researchers and scholar (e.g., Covin & Slevin, 1989; Lumpkin & Dess, 1996; Rauch et

al., 2009).

Within this context, the entrepreneurial orientation possessed by enterprises will depend greatly of the integration and combination of different resources and types of knowledge (Yli-Renko et al., 2001). Thus, for example, the acquisition of technical knowledge that enterprises obtain can create a higher level of entrepreneurial orientation, because by sharing and combining the experience from the personnel of the enterprise it is possible to produce a technological improvement in the firm (Wiklund & Shepherd, 2003). Therefore, the management of the knowledge obtained by enterprises can increase significantly the level of business performance, as well as the identification and use of new opportunities given by the market for the creation and introduction of new products and/or services, or to participate in new markets (Shepherd & DeTienne, 2005).

For this reason, the knowledge management can increase significantly the ability of enterprises to identify the existing opportunities in the market, and implement proactive actions that allow them to react in a timely manner to take advantage of such opportunities (Thorpe et al., 2005), which could produce a higher level of entrepreneurial orientation and get more benefits than the enterprises that are not involved in this type of activities (Fuentes-Fuentes et al., 2015). Thus, according to Quintas et al. (1997) and Carrillo et al. (2004), knowledge management can be considered as an essential process that allows enterprises to manage all the knowledge produced, both inside and outside the organization, to predict current and future needs as well as to identify the knowledge needed to take advantage of the opportunities in the market.

In this regard, the entrepreneurial orientation can be result of a combination of existing knowledge and the knowledge created by enterprises (Ahuja & Lampert, 2001). Therefore, enterprises, especially SMEs, have to identify and acquire the most relevant information for the creation of new knowledge (Teece, 2000; Zahra & George, 2002), not only to get more and better competitive advantages, but also to improve significantly their level of entrepreneurial orientation (Tien-Shang & Munir, 2007). Similarly, the higher the level of entrepreneurial orientation of SMEs is, they will be able to increase their skills and resources to transform their knowledge in new products or services, which will allow them to react immediately to the needs of their clients and consumers (Gold et al., 2001).

Nonetheless, in order to react immediately to the changes demanded by the market, it is necessary that enterprises apply and spread the existing knowledge in all the organization (Liao et al., 2003) since this could create not only more and better competences but also a higher level of entrepreneurial orientation (Tien-Shang & Munir, 2007). Likewise, it is possible to state that the level of entrepreneurial orientation of SMEs will be able to increase significantly if their level of knowledge management improves (Wiklund & Shepherd, 2003; Tien-Shang & Munir, 2007; Fuentes-Fuentes et al., 2015). Henceforth, in this moment it is possible to state the following hypothesis:

H₁: The higher knowledge management, higher entrepreneurial orientation

3. Methodology

In order to answer the research hypothesis proposed presented in this research paper, an empirical investigation was made in 318 SMEs of Aguascalientes State (Mexico) by taking into consideration the directory of the Sistema de Información Empresarial Mexicano (System of Mexican Business Information, or SIEM) for Aguascalientes State which had 5,194 enterprises registered in June 2015. For practical purposes of this research, the only companies selected were those that had from 5 to 250 employees which reduced the directory to 1,261

SMEs. The sample was selected randomly with a reliability level of 96% and a sampling with a maximum error of $\pm 4.5\%$ which resulted in a total of 368 enterprises. Accordingly, the questionnaire was applied as a personal interview to managers of a sample of the 368 SMEs selected. 318 enterprises replied from August to October 2015.

Likewise, the knowledge management was measured through 4 dimensions: 1) *employee training*, which was measured in a 5-item scale and adapted from Bontis (2000) and OECD (2003); 2) *policies and strategies of knowledge management*, which was measured through a 13-item scale adapted from Bozbura (2004; 2007); 3) *creation and acquisition of external knowledge*, which was measured through 5 items and was adapted from OECD (2003) and Bozbura (2007); and 4) *effects of the organizational culture*, which were measured through a 4-item scale adapted from OECD (2003) and Bozbura (2007). All items of the four dimensions were measured in a Likert 5-point scale where 1 = total disagreement to 5 = total agreement.

For the measurement of entrepreneurial orientation, a scale proposed by Miller (1983) was used with adaptations from Covin and Slevin (1991), Lumpkin and Dess (2001) as well as Dess and Lumpkin (2005) who established that this orientation can be measured in three dimensions: *innovation* measured by means of a six-item scale; *proactivity* measured by means of a six-item scale and; *risk-taking* measured by means of a six-item scale. All the items of the three dimensions of entrepreneurial orientation were measured in a Likert 5-point scale where 1 = total disagreement to 5 = total agreement as their limits. Accordingly, as a previous step to the analysis of the results of the research, the reliability and validity analysis of the scales of knowledge management and entrepreneurial orientation was carried out.

The reliability and validity of the knowledge management and entrepreneurial orientation were evaluated with a Factorial Confirmatory Analysis of second order (FCA) by using the method of maximum likelihood with the software EQS 6.1 (Bentler, 2005; Brown, 2006; Byrne, 2006). Furthermore, the reliability was evaluated by means of Cronbach's alpha and the Composite Reliability Index (CRI) (Bagozzi & Yi, 1988), and the validity was evaluated by means of the Variance Extracted Index (VEI) (Fornell & Larcker, 1981). Accordingly, the recommendations made by Chou et al. (1991), and by Hu et al. (1992) were taken into consideration regarding the correction of statistics of the theoretical model when it is considered that the normalcy of data is present, as well as the robust statistics in order to provide a better statistical adjustment of the data (Satorra & Bentler, 1988).

Moreover, the adjustments indices used were the Index of Normalized Adjustment (NFIT), the Index of Not Normalized Adjustment (NNFIT), the Index of Comparative Adjustment (CFI) and the Root Mean Square of Error Approximation (RMSEA) (Bentler & Bonnet, 1980; Byrne, 1989; Bentler, 1990; Hair et al., 1995; Chau, 1997; Heck, 1998). Thus, Segars and Grover (1993) concluded that if the NFIT, NNFIT and CFI values are between 0.80 and 0.89, then it can be said that there is a reasonable adjustment of the theoretical model. Conversely, if the average of these three indices is equal or higher than 0.90, then it is an evidence of an excellent adjustment of the theoretical model (Jöreskog & Sörbom, 1986; Byrne, 1989; Papke-Shields et al., 2002). If the RMSEA value is lower than 0.080, it is considered as acceptable (Jöreskog & Sörbom, 1986, Hair et al., 1995).

The results of the FCA of second order are presented in Table 1 and they suggest that the theoretical model of knowledge management and entrepreneurial orientation has a good adjustment ($S-BX^2 = 1,545$; $df = 551$; $p = 0.000$; $NFI = 0.778$; $NNFI = 0.831$; $CFI = 0.844$; $RMSEA = 0.070$). All the items of the related factors are significant ($p < 0.001$), the size of all the standardized factorial loads are higher than 0.60 (Bagozzi & Yi, 1988), Cronbach's alpha and the CFI have a value higher than 0.70, and the IVE has a value higher than 0.50 (Fornell & Larcker, 1981). These values indicate that there is enough evidence of reliability and convergent validity which

justifies the internal reliability of the two scales used (Nunally & Bernstein, 1994; Hair et al., 1995).

Table 1 Internal consistence and Convergent Validity Evidence of the Theoretical Model

Variable	Indicator	Factorial Loading	Robust t-Value	Cronbach's Alpha	CRI	VEI
Employee Training (F1)	ET1	0.813***	1.000 ^a	0.881	0.882	0.600
	ET2	0.808***	23.551			
	ET3	0.769***	20.728			
	ET4	0.778***	19.300			
	ET5	0.699***	11.550			
Policies and Strategies (F2)	PS1	0.709***	1.000 ^a	0.861	0.862	0.510
	PS2	0.753***	19.678			
	PS3	0.715***	17.736			
	PS4	0.733***	19.716			
	PS5	0.674***	8.631			
	PS6	0.699***	9.638			
Creation and Acquisition (F3)	CA3	0.849***	1.000 ^a	0.912	0.913	0.778
	CA4	0.888***	28.087			
	CA5	0.907***	25.599			
Organizational Culture (F4)	OC1	0.899***	1.000 ^a	0.905	0.906	0.708
	OC2	0.921***	41.765			
	OC3	0.827***	20.443			
	OC4	0.701***	14.370			
Knowledge Management	F1	0.627***	7.443	0.902	0.903	0.706
	F2	0.756***	8.810			
	F3	0.961***	18.760			
	F4	0.967***	19.244			
Innovation (F5)	IN1	0.738***	1.000 ^a	0.874	0.875	0.541
	IN2	0.647***	15.625			
	IN3	0.803***	16.682			
	IN4	0.747***	12.685			
	IN5	0.819***	18.036			
	IN6	0.638***	10.776			
Proactive (F6)	PR1	0.738***	1.000 ^a	0.864	0.865	0.516
	PR2	0.676***	14.454			
	PR3	0.601***	13.284			
	PR4	0.799***	12.975			
	PR5	0.732***	13.307			
	PR6	0.759***	14.865			
Risk Taking (F7)	RT1	0.658***	1.000 ^a	0.848	0.849	0.530
	RT2	0.659***	8.673			
	RT4	0.796***	10.012			
	RT5	0.734***	11.179			
	RT6	0.781***	10.802			
Entrepreneurial Orientation	F5	0.876***	12.498	0.865	0.866	0.684
	F6	0.821***	11.857			
	F7	0.781***	9.859			

$S-BX^2$ (df = 551) = 1,545.271; p < 0.000; NFI = 0.778; NNFI = 0.831; CFI = 0.844; RMSEA = 0.070

^a = Constrained parameters to such value in the identification process, *** = p < 0.01

Regarding the discriminant validity of the evidence is provided in two ways that can be observed in Table 2. Firstly, a *reliability interval test*, proposed by Anderson and Gerbing (1988), establishes that with an interval of 95% of reliability none of the individual latent elements of the matrix of correlation must have a value of 1.0. Secondly, the *extracted variance test*, proposed by Fornell and Larcker (1981), establishes that the extracted variance index between each pair of constructs must be higher than their corresponding square covariance. Therefore, based on the results obtained from both tests, it can be concluded that that both measurements provide enough evidence of discriminant validity of the theoretical model.

Table 2 Discriminant Validity Measuring of the Theoretical Model

Variables	Knowledge Management	Entrepreneurial Orientation
Knowledge Management	0.706	0.113
Entrepreneurial Orientation	0.212-0.460	0.684

The diagonal represents the Extracted Variance Index (EVI), whereas above the diagonal the variance is presented (squared correlation). Below diagonal, the estimated correlation of factors is presented with 95% confidence interval.

4. Results

In order to prove the hypothesis presented in the theoretical model, a structural equation modelling, with software EQS 6.1, was applied with the same variables used in the FCA (Bentler, 2005; Byrne, 2006; Brown, 2006). In it, the nomological validity of the theoretical model was examined through the Chi-square test which compared the results obtained between the theoretical model and the measurement model. Such results indicate that the differences between both models are not significant, which can offer an explanation of the relationships observed among the latent constructs (Anderson & Gerbing, 1988; Hatcher, 1994). Table 3 shows these results in a more detailed way.

Table 3 Structural Equation Modeling Results from the Theoretical Model

Hypothesis	Structural Relationship	Standardized Coefficient	Robust t-Value
H₁ : Higher knowledge management, higher entrepreneurial orientation.	Knowledge M. → Entrepreneurial O.	0.636***	9.580
<i>S-BX</i> ² (df = 550) = 1,528.650; p < 0.000; NFI = 0.780; NNFI = 0.833; CFI = 0.846; RMSEA = 0.070			

*** = P < 0.01

Table 3 shows the results obtained from the implementation of the structural equations model. Regarding the hypothesis **H₁** the results obtained, $\beta = 0.636$, $p < 0.01$, indicate that the knowledge management has positive, significant effects in the entrepreneurial orientation adopted by SMEs. Therefore, it is possible to conclude that the knowledge management creates a higher level of entrepreneurial orientation in small and medium size enterprises.

5. Conclusion and Discussion

The results obtained in this research paper can conclude three main aspects. Firstly, knowledge management has become one of the most valuable and important intangible actives for enterprises in this century, especially for SMEs since an efficient and effective management of knowledge created inside and outside can help to the creation of new knowledge which may turn into new products or services. Similarly, if small enterprises improve

significantly the activities that imply knowledge management then the possibilities for this type of enterprises will be higher, not only to increase their level of knowledge management but also to produce more and better knowledge.

Secondly, entrepreneurial orientation is getting more and more supporters among businessmen not only in Mexico but also around the world. It is also becoming one of the business strategies with more use and one of the most treasured and valued intangible actives. For this reason, if enterprises, particularly small business, adopt and implement activities that imply entrepreneurial orientation, they will have higher possibilities of achieving more and better results than the enterprises that do not do it as well as more and better competitive advantages which can be fundamental to survive in the markets where they participate.

Thirdly, it is possible to conclude that there is a close link between knowledge management and entrepreneurial orientation so depending on the fact that SMEs have a higher level of knowledge management they will increase their level of entrepreneurial orientation. Therefore, it is possible to conclude in a general way that SMEs can obtain a higher level of entrepreneurial orientation if these enterprises improve significantly all the activities and actions related to knowledge management. In other words, if SMEs want to obtain a higher level of entrepreneurial orientation, it is necessary, as a first step, that the executives improve their knowledge management.

On the other hand, this empirical research has several implications for both managers and organizations. The first one is that the executives of SMEs have to carry out the necessary actions to make possible the adoption and implementation of activities that demand knowledge management. In other words, the managers of enterprises have to create a favorable working environment not only to collect the necessary information from the market and the main competitors but also for the creation of new knowledge and its transfer into the development of new products or services. For this, it is necessary that they carry out actions leading to train the employees of the organization in knowledge management, in developing policies and strategies to improve their knowledge management, improve the creation and acquisition of external knowledge as well as to create an organizational culture that promotes the creation of new knowledge.

Accordingly, a second implication is that managers also have to carry out the necessary actions to adopt and implement activities that need entrepreneurial orientation. That is, they will have to be more proactive not only in the solution of the main problems of the organization but also collecting essential information of the SME's market and industry, their participation in the market and their main competitors, in the development of the innovation activities that the organization carries out and the decision making regarding the current knowledge and the knowledge that the enterprise needs to continue in the market since this will allow them not only to increase significantly their level of entrepreneurial orientation but also make their knowledge management more efficient.

Likewise, managers have to implement the necessary actions so SMEs have the necessary conditions to adopt and implement knowledge management and entrepreneurial orientation efficiently and effectively, that is, it is vital to create a training program for the organization staff in a way that the personnel has a clear knowledge of the type of information needed by the SME from both the market and their clients, suppliers and competitors since they will allow enterprises, on one hand, to know more deeply the preferences and needs of their current and potential clients. On the other hand, they will create new knowledge that is necessary for the development of new products or services demanded by the market which will help them to be ahead their main competitors and improve their market position. In a few words, it will allow SMEs to have a higher entrepreneurial orientation.

In this regard, if the executives carry out the necessary adjustments so SMEs have the necessary and sufficient conditions for the adoption and implementation of both knowledge management and entrepreneurial orientation, then enterprises will have higher possibilities of collecting the knowledge produced inside and outside the organization so new knowledge can be produced and transformed in innovations of new products and/or services required by their clients and consumers (current and potential) which will allow SMEs to have the least possible risks, be more proactive and make reasonable decisions so they can anticipate to the future requirements of the market and create an organization with a higher level of entrepreneurial orientation.

Furthermore, executives of SMEs will have to create a favorable working environment so both the workers and employees of the organization feel comfortable to express their ideas freely and propose alternatives to solve the main problems of the enterprise which will make SMEs more proactive than reactive to the adversities presented by the market environment and business environment. Accordingly, it is important that managers of SMEs also design and implement permanent training programs so all the staff develops the abilities of team working, share knowledge, experience and skills in a way that allows an effective and efficient integrations that enables the production of new knowledge inside the organization and, consequently, a higher level of entrepreneurial orientation.

Additionally, this empirical research also has some limitations that are necessary to show. The first one is related to the scales used to measure knowledge management and entrepreneurial orientation since only four dimensions or factors were considered to measure knowledge management and three dimensions or factors for the measurement of entrepreneurial orientation. Further investigations will need to incorporate other scales to verify the results obtained. A second limitation of this research is the information obtained by considering only qualitative variables for the measurement of both the knowledge management and the entrepreneurial orientation. Further researches will need to incorporate quantitative variables to verify if the same results are obtained to the ones in this research.

A third limitation is that the questionnaires were applied only to managers of SMEs in Aguascalientes State (Mexico). Consequently, the results obtained could be completely different if the questionnaire is used in a different population. Further investigations will need a different population like clients or suppliers to verify the results obtained. A fourth limitation in this research is that the only enterprises used for this research had from 5 to 250 workers at the moment of applying the questionnaire. Further investigations will need to consider all enterprises with less than five workers as they represent a little over 60% of all the enterprises in Aguascalientes State (Mexico).

A final limitation of this research paper is that most managers of SMEs in Aguascalientes State that were interviewed considered that the information requested in the instrument was classified as confidential so the data provided may not necessarily reflect the reality of enterprises regarding their knowledge management and entrepreneurial orientation. Finally, it is important to go beyond the results obtained in this empirical research and discussed more deeply the following: what results would be obtained if quantitative data were used for the measurement of knowledge management and entrepreneurial orientation? This question and many others that may arise will be possible to answer in a satisfactory way with future investigations that could start from this paper.

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