

The Relationship between Market Orientation, Entrepreneurial Orientation, and Innovation: Evidence from Mexican SMEs

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Abstract: The constant changes established in the new business environment, the high globalization of markets and the prominent level of competitiveness are forcing enterprises, especially the small and medium-size ones, to transform or modify their business strategies to adequate them to the market requirements. Within this new perspective, market orientation, entrepreneurial orientation and innovation are the three most important topics that are being considered nowadays by an increasing number of important companies for the development of strategies. Therefore, the aim of this research is to analyze the relationship between market orientation, entrepreneurial orientation and innovation by using a sample of 318 SMEs from Aguascalientes State (Mexico). The results obtained show that, on one hand, both market orientation and entrepreneurial orientation have significant positive effect in the innovation of SMEs. On the other hand, market orientation has a significant positive effect in entrepreneurial orientation.

Key words: market orientation; entrepreneurial orientation; innovation; small and medium-sized enterprises (SMEs)

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1. Introduction

The fast globalization of markets, the assertiveness in the level of competitiveness and the fast technological changes are elements that have characterized the first two decades of this century. They have brought, on one hand, a drive in market and entrepreneurial orientation as it has never been seen before (Kwak et al., 2013). On the other hand, there is the inevitable incorporation of innovation as an inexorable business strategy for firms (Reza & Tajeddini, 2011). Therefore, different researchers and academics consider that the depending on the skills developed by companies to take advantage of the opportunities given by the market will depend mostly on the levels of market and entrepreneurial orientation that their businesses achieve (Miles & Arnold, 1991; Zahra & Covin, 1995; Hurley & Hult, 1998; Wiklund, 1999; Atuahene-Gima & Ko, 2001; Matsuno et al., 2002; Kara et al., 2004; Kumar et al., 2011).

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In this regard, in the literature of business and management sciences, some researchers and academics have come to a conclusion on their papers about the need of companies to incorporate market and entrepreneurial orientation in order to achieve a higher return and level of innovation (Deshpandé et al., 1993; Atuahene-Gima & Ko, 2001; Hult et al., 2004; Bhuian et al., 2005). Thus, Deshpandé et al. (1993) proved that firms, which adopted and implemented a culture of market orientation and entrepreneurial orientation, obtained a better performance both inside and outside the organization than those that did not.

Similar results were also obtained by Atuahene-Gima and Ko (2001), who concluded in their research that the firms which incorporated a market orientation and an entrepreneurial orientation got a higher performance when compared to other organizations that haven't adopted these two business strategies. Similarly, Hult et al. (2004) established in their paper that the companies which considered market orientation and entrepreneurial orientation as business strategies improved significantly the activities related to business revenue as well as all the activities related to innovation.

In a similar trend, Bhuian et al. (2005) also stated that the firms which integrated market and entrepreneurial orientation as part of their daily activities achieved a higher business revenue and a higher level of innovation when compared to those business that did not considered them as their strategies. As a result, the literature has enough theoretical and empirical evidence that demonstrates the existence of a high relationship between market orientation, entrepreneurial orientation and innovation. However, most of the published papers that analyze the relationship among these three constructs have been carried out in developed countries (Hult et al., 2004; Tajeddini, 2010) and only a few have been applied in developing countries or countries with an emerging economy (Reza & Tajeddini, 2011). This is why it is necessary more research work in this type of countries.

With this view in mind, the main contribution of this empirical paper is the analysis of the existing relationship between market orientation, entrepreneurial orientation and innovation in small and medium-size enterprises (SMEs) in an emerging country, as it is the case of Mexico. A second contribution is the methodology that has been used in this research paper since it will apply a structural equations modeling of second order to analyze the proposed theoretical model as a whole, which will allow a deeper examination of the relationships among the three selected variables.

2. Literature Review

Different researchers, academics and professionals in the field of marketing consider that the current literature has given little attention to market orientation as a strategic and significant area in organizations (Cadogan et al., 2002; Kok et al., 2003; Li, 2005; Li et al., 2006; Schindehutte et al., 2008; Gopal, 2008), since market orientation does not only allow firms to achieve a higher level of revenue (Narver & Slater, 1990; Kohli & Jaworski, 1990; Deshpandé et al., 1993; Matsuno et al., 2002; Renko et al., 2009), but it also facilitates the integration and implementation of innovation activities (Deshpandé et al., 1993; Pelham & Wilson, 1996; Han et al., 1998; Lukas & Ferrell, 2000; Verhees & Meulenbergh, 2004; Kirca et al., 2005; Grinstein, 2008).

Similarly, there is a broad consensus among researchers and academics that have analyzed and debated market orientation. This construct is considered as a result of the implementation of the marketing philosophy of organizations, which pays special attention not only to customers and consumers but also to the main competitors (Kok et al., 2003). Thus, market orientation can be considered as a skill obtained by firms to analyze both the internal and external environment around them more accurately (Reza & Tajeddini, 2011).

This idea of market orientation demands from the organizations to monitor frequently the markets in which they participate in order to carry out the necessary changes based on the prediction of customers' needs, the likes and preferences of current and potential consumers and the capacity of the firm to bond with customers, suppliers and distributors (Schindehutte et al., 2008). For this reason, Hammond et al. (2006) considered that a high level of market orientation creates a high level of skills, partially or totally, of the organization, which will enable it to achieve the aims and goals established by the management.

Currently, the skill that needs to be increased more in firms, especially SMEs, is the one of innovation as it has become an essential business strategy as well as the vital energy that allows enterprises to survive in the market (Renko et al., 2009). Therefore, the integration and implementation of market orientation from firms will help in the development of innovation skills as there is enough empirical evidence in the literature, which matches market orientation and innovation in a positive, significant way (Pelham & Wilson, 1996; Lukas & Ferrell, 2000; Verhees & Meulenbergh, 2004; Kirca et al., 2005; Elg, 2005; Sen, 2006; Grinstein, 2008). Thus, by considering the information presented previously, at this point it can be established the following hypothesis:

H1: Higher level of market orientation, higher level of innovation

On one hand, the entrepreneurial orientation is considered in literature as a construct that enables firms to take advantage of the opportunities given by the market through their processes and operations regardless of their size and economic sector (Kemelgor, 2002). Similarly, Covin and Slevin (1991) considered that business orientation can be easily measured by three dimensions: *proactivity*, *risk-taking tendency* and *innovativeness*. Proactivity is the skill that enterprises develop to take initiative, especially in key moments (Kwak et al., 2013), besides the ability to anticipate opportunities provided by the market and the participation of such opportunities in emerging markets (Lumpkin & Dess, 1996; Dimitratos et al., 2004).

Risk-taking tendency is considered in literature as one of the most important operations in enterprises as it produces an appropriate environment for the integration and development of innovation activities (Hult et al., 2004). Lastly, innovativeness involves the implementation and development of creative, unusual activities or new solutions to problems and needs found in businesses which leads firms to integrate new ideas or methods that simplify the operation of the firms (Kwak et al., 2013). Hence, Hult et al. (2004) as well as Hurley and Hult (1998) considered in their corresponding papers that innovativeness is the notion that firms have about accepting new ideas provided by their workers and employees as well as the integration of a new organizational culture.

In this regard, entrepreneurial orientation has become nowadays in one of the most important business strategies in enterprises, mostly in SMEs, since it enables businesses to produce a trend in pioneering innovation activities ahead of their main competitor (Miller, 1983). With this perspective, entrepreneurial orientation does not only increase significantly the skills of organizations but it also provides technical knowledge so businesses create technical solutions to satisfy the preferences and needs of customers and current/potential consumers (Workman, 1993; Gatignon & Xuereb, 1997).

Similarly, the integration and implementation of entrepreneurial orientation of firms demands that they develop a probing nature and risk-taking which can be considered as essential mechanisms in the improvement of processes in products innovation (Miller, 1983; Slater & Narver, 1995; Lumpkin & Dess, 1996). Consequently, entrepreneurial orientation (defined as an organizational strategy) enables the implementation of effective and efficient actions even in those innovation activities of products or services that require a high level of risk and a high financial content (Atuahene-Gima & Ko, 2001).

Likewise, Zhou et al. (2005) came to the conclusion that entrepreneurial orientation has significant positive

effects in innovation. Similarly, Avlonitisa and Salavoub (2007) considered that firms which are entrepreneurial (and, logically, have adopted and implemented entrepreneurial orientation), are commonly identified by the high level of risk and by the proactive, competitive attitude that they take in the development and introduction of innovative products that are novel in the market in which the organizations participate. Therefore, considering the information portrayed earlier, the following hypothesis can be established:

H2: Higher level of entrepreneurial orientation, higher level of innovation

On the other hand, different researchers and academics consider that both market orientation and entrepreneurial orientation are two philosophical disciplines which are too similar (Hills & LaForge, 1992; Morris et al., 2002). Both of them have as a main goal to satisfy the needs of customers as well as to answer quickly the demands established by the external environment of businesses (Kwak et al., 2013). Furthermore, Webster (1981), Zeithaml and Zeithaml (1984) as well as Wiklund and Shepherd (2005), in their papers, came to the conclusion that entrepreneurial orientation can be considered as a proactive element of market orientation.

At the same time, Slater and Narver (1995) concluded that entrepreneurial orientation can be considered as an essential complement of market orientation since enterprises need the integration and implementation of both orientations in order to achieve a higher level of business revenue and innovation. Thus, Slater and Narver (1995) recommended that both market orientation and entrepreneurial orientation can provide a change in the firms' organizational culture, in a way that organizations can obtain a higher apprenticeship so they have better opportunities of getting a higher level of business revenue and, consequently, a higher additional value for their customers and consumers.

Moreover, Hult and Ketchen (2001) as well as Morris et al. (2002) came to the conclusion that market orientation and entrepreneurial orientation are essential resources in the organization. Also, both orientations contribute to get a higher level of financial revenue of the enterprise. Similarly, Atuahene-Gima and Ko (2001) concluded in their paper that both market orientation and entrepreneurial orientation give a better performance of the measurement of market participation, market access and the level of quality of the products made by the organization. This leads to the existence of a positive and significant relationship between both orientations.

In this regard, Gonzalez-Benito et al. (2009) showed empirically in their research carried out in Spanish firms the existing relationship between disciplines of market orientation and entrepreneurial orientation. These researchers found a positive, significant relationship between the two orientations up to a point that they concluded that a high degree of market orientation from the organizations implies a high degree of entrepreneurial orientation. This also proves that both orientations "*are two common elements that can easily complement one with the other*" (Gonzales-Benito et al., 2009, p. 516). Hence, considering the information showed previously, the following hypothesis can be established:

H3: Higher level of market orientation, higher level of entrepreneurial orientation

3. Methodology

In order to answer the three hypotheses presented in the theoretical framework about the existing relationship between market orientation, entrepreneurial orientation and innovation, an empirical study was carried out in 318 SMEs in Aguascalientes State (Mexico), by taking into account the directory of the Business Information System for Mexico in Aguascalientes State (Sistema de Información Empresarial de México, in spanish), which had 5,194 registered companies on June 2013. For practical purposes of this research, the only enterprises that were

considered were the ones that had between 5 and 250 employees, and for this reason the directory was reduced to 1,261 firms. The sample was selected randomly and considering a reliability level of 96% and a sampling error of $\pm 4.5\%$, which gives a total of 368 firms. Similarly, the recollection instrument of information was designed to be completed by the managers of SMEs; it was carried out as a personal interview to the 400 selected firms. From these, 318 were validated which is a response rate of 87% and were applied during from August to October 2013.

A scale proposed by Kohli and Jaworski (1990) was considered in order to measure market orientation. The scale establishes that market orientation can be measured in three dimensions: *customer orientation* measured by a six-item scale; *competitor orientation* measured by a four-item scale and; *interfunctional coordination* measured by a five-item scale. 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: *proactivity* measured by a six-item scale; *risk-taking* measured by a six-item scale and; *innovativeness* measured by a six-item scale. Finally, innovation was measured by a five-item scale and it was adapted from Baker and Sinkula (1999, 2009). All the items of the three scales used were measured by a five-point Likert scale (from 1 = Not very important to 5 = Very important as limits).

In order to evaluate the reliability and validity of the measurement scales used in this paper, a Confirmatory Factor Analysis (CFA) was carried out by using the method of maximum likelihood with the software EQS 6.1 (Bentler, 2005; Brown, 2006; Byrne, 2006). The reliability of the theoretical model was evaluated by Cronbach's alpha and the Composite Reliability Index (CRI) (Bagozzi & Yi, 1988). Additionally, the recommendations made by Chou, Bentler and Satorra (1991) and by Hu, Bentler and Kano (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 by using also the robust statistics which give a better statistical adjustment of data (Satorra & Bentler, 1988).

The CFI results are shown in Table 1 and they indicate that the relationship between market orientation, entrepreneurial orientation and innovation have a good adjustment ($S-BX^2 = 433.502$; $df = 394$; $p = 0.000$; $NFI = 0.883$; $NNFI = 0.987$; $CFI = 0.988$; $y RMSEA = 0.018$). Likewise, all the items of related factors are significant ($p < 0.001$). The size of all the standardized factorial loads are above the value 0.60 (Bagozzi & Yi, 1988). Cronbach's alpha and CRI have a value above 0.70 and the Average Variance Extracted (AVE) has a value above 0.50 (Fornell & Larcker, 1981). These values indicate that there is sufficient evidence of convergent validity and reliability, which justifies the internal reliability of the scales (Nunnally & Bernstein, 1994; Hair et al., 1995).

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

Variable	Indicator	Factor Loading	Robust t-value	Average Factor Loading	Cronbach's Alpha	CRI	AVE
Customer Orientation (F1)	OC1	0.767***	1.000 ^a	0.720	0.838	0.844	0.521
	OC2	0.772***	12.523				
	OC3	0.656***	10.300				
	OC4	0.659***	9.986				
	OC6	0.749***	9.154				
Competitor Orientation (F2)	OP1	0.732***	1.000 ^a	0.733	0.774	0.777	0.536
	OP3	0.757***	7.977				
	OP4	0.710***	8.800				
Interfunctional Coordination (F3)	CI2	0.735***	1.000 ^a	0.721	0.754	0.768	0.528
	CI3	0.827***	10.376				

(Table 1 to be continued)

(Table 1 continued)

	CI4	0.601***	8.047				
Market Orientation	F1	0.789***	11.563	0.783	0.830	0.831	0.627
	F2	0.919***	5.094				
	F3	0.642***	8.736				
Proactivity (F4)	PR1	0.687***	1.000 ^a	0.723	0.839	0.845	0.523
	PR2	0.724***	11.484				
	PR4	0.716***	11.979				
	PR5	0.735***	11.892				
	PR6	0.751***	12.378				
Risk-Taking (F5)	TR1	0.729***	1.000 ^a	0.736	0.819	0.826	0.543
	TR4	0.781***	8.248				
	TR5	0.744***	8.916				
	TR6	0.691***	8.784				
Innovativeness (F6)	IN1	0.725***	1.000 ^a	0.746	0.861	0.863	0.560
	IN2	0.640***	13.033				
	IN3	0.794***	13.076				
	IN4	0.756***	12.169				
	IN5	0.814***	15.477				
Entrepreneurial Orientation	F4	0.907***	10.318	0.827	0.867	0.868	0.688
	F5	0.780***	8.535				
	F6	0.795***	9.893				
Innovation	II1	0.683***	1.000 ^a	0.765	0.875	0.877	0.589
	II2	0.708***	10.593				
	II3	0.773***	9.857				
	II4	0.869***	10.982				
	II5	0.792***	10.247				

S-BX2 (df = 394) = 433.502; p < 0.000; NFI = 0.883; NNFI = 0.987; CFI = 0.988; RMSEA = 0.018

Note: a = Parameters constrained to the value in the identification process; *** = p < 0.01.

Regarding the discriminating validity of the theoretical model, the evidence is shown in two ways which can be observed in Table 2. Firstly, it can be seen the confidence interval test (proposed by Anderson & Gerbing, 1988), which establishes that, with an interval of 95% of reliability, none of the individual elements of the latent factors of the correlation matrix has the value of 1.0. Secondly, it can be seen the extracted variance test (proposed by Fornell & Larcker, 1981) which indicates that the variance extracted between each pair of constructs is higher than their corresponding AVE. Therefore, according to the results obtained from both tests, it can be concluded that both measurements show enough evidence of discriminating validity from the theoretical model.

Table 2 Discriminant Validity Measuring of the Theoretical Model

Variables	Market Orientation	Entrepreneurial Orientation	Innovation
Market Orientation	0.627	0.074	0.046
Entrepreneurial Orientation	0.228-0.316	0.688	0.066
Innovation	0.164-0.264	0.205-0.309	0.589

The diagonal represents the Average Variance Extracted (AVE), whereas above the diagonal part presents the Variance (the correlation squared). Below the diagonal, it is shown the correlation estimation of the factors with a confidence interval of 95%.

4. Results

In order to prove the hypotheses presented in the theoretical model, a structural equations modeling with software EQS 6.1 by means of CFA of second order was applied (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	Path	Standardized path coefficients	Robust t-Value
H₁ : Higher level of market orientation, higher level of innovation.	Market Orientation → Innovation	0.489***	3.119
H₂ : Higher level of entrepreneurial orientation, higher level of innovation.	Entrepreneurial O. → Innovation	0.445***	2.967
H₃ : Higher level of market orientation, higher level of entrepreneurial orientation.	Market. O. → Entrepreneurial O.	0.843***	5.417
<i>S-BX</i> ² (df = 395) = 574.249; p < 0.000; NFI = 0.845; NNFI = 0.940; CFI = 0.945; RMSEA = 0.038			

Note: *** = P < 0.01

Table 3 shows the results obtained from the implementation of the second order structural equations modeling and regarding to the hypothesis **H₁** the results obtained, $\beta = 0.489$, $p < 0.01$, indicate that market orientation has significant positive effects in the innovation of SMEs in Aguascalientes (Mexico). Regarding to the hypothesis **H₂** the results obtained, $\beta = 0.445$, $p < 0.01$, indicate that entrepreneurial orientation has significant positive effects in the innovation of SMEs. Regarding to the hypothesis **H₃** the results obtained, $\beta = 0.843$, $p < 0.01$, indicate that market orientation has a positive and significant impact in the entrepreneurial orientation of SMEs in Aguascalientes.

5. Conclusion and Discussion

The results obtained in this empirical study can conclude that, on one hand, both market orientation and entrepreneurial orientation have direct implications in the innovation of SMEs of Aguascalientes State (Mexico). If SMEs adopt and implement activities of market orientation and entrepreneurial orientation as business strategies or as daily activities, the innovation activities of enterprises will increase vastly. On the other hand, if more activities of market orientation are adopted by SMEs, the activities of entrepreneurial orientation will also be increased. Therefore, it is possible to conclude that the innovation of SMEs will have a better performance and it will be more efficient and effective if the organizations develop the activities and actions of market orientation and entrepreneurial orientation.

This implies, on one hand, that the managers of SMEs have to carry out the corresponding actions so the organization is capable of adopting and implementing the activities that lead to market orientation. In other words, the necessary adjustments need to take place so enterprises recollect as much information as possible from their customers; so they know more precisely their likes and needs; so they make the necessary changes to their products and services based on the preferences of their customers and carry out innovations on their products and

services based on the demand from their current and potential consumers. To put it another way, so the enterprises adopt a customer orientation.

Similarly, SMEs have to carry out a series of activities leading to integrate a competitors orientation, i.e. they have to take steps towards identifying the activities done by their main competitors, the prices and costs that they have in similar products, the advertising and promotional campaigns that are implemented as well as the adjustments or innovations made to products and services that they offer in the market. Moreover, managers of SMEs will have to carry out the required actions into the organization so an interfunctional coordination is adopted in which every department or functional area shares the information about customers and competitors in a way that the actions have a consensus among those departments or areas.

In this regard, if managers of SMEs carry out the activities needed by the integration and implementation of market orientation, then the firms will have more opportunities of doing innovation activities in their products and services which will eventually lead them to get a higher revenue, bigger competitive advantages and a greater level of competitiveness. Hence, market orientation allows firms to improve their innovation activities significantly as they have to do a series of action that enables them not only adapt their products and services to current and future consumers but also the activities that provide enough information of their main competitors as well as activities that ease decision making among departments or functional areas of the organization.

On the other hand, managers also have to carry out the corresponding activities to integrate and implement the entrepreneurial orientation. This can direct enterprises to take actions to be more proactive than their main competitors by trying to be the first ones in making changes or adjustments to their products and service to be suitable to the needs of their customers. They also have to take higher risks in the design and implementation of business strategies, try to adopt an entrepreneurial attitude in the new businesses demanded by the market which are areas with a higher probability of getting better results than the ones their main competitors could obtain.

Similarly, in order for enterprises to be more innovative, managers also have to be innovative. They have to create an environment within the organization that allows both workers and employees to express their idea freely and in a consensus with the other departments or functional areas to look for a solution to the problems faced by the firm. As a consequence, if enterprises want to increase their level of innovation significantly, managers will have to integrate in their business strategies both the market orientation and the entrepreneurial orientation because these two orientations do not only produce positive, significant results in innovation activities but they also promote the innovation in SMEs.

It is worth noting that this research has some limitations that are important to be considered. One of them is related to the use of measurement scales in both of the market and entrepreneurial orientation as well as innovation because only three factors or dimensions were considered to measure the two orientations and five items to measure innovation. Further studies will need to incorporate different scales to prove the results obtained here. A second limitation is the obtainment of information since only a small part of it has been considered for both market and entrepreneurial orientation as well as innovation with qualitative variables. More research will be needed to incorporate quantitative variables to demonstrate if the same results are obtained.

A third limitation is about the measurement of variables from the three scales that were used as it was used an average of five items to measure each one of the three dimensions of market orientation, six items to measure each one of the three factors of entrepreneurial orientation and only five items to measure innovation. In further studies, it will be necessary to use other items or a higher number of items in order to measure the three constructs. A fourth limitation is that the interviews were applied only to managers and/or owners of SMEs so the results

obtained can vary significantly if a different population is used such as customers and suppliers. Therefore, other future studies should incorporate these people to verify the results obtained.

Finally, the last limitation is that only SMEs with 5 to 250 employees from Aguascalientes State (Mexico) were considered. Further investigations will need to consider enterprises with less than five employees as they represent more than 60% of the population in order to prove the results obtained. Also, it is considered wise to go beyond the results obtained in this research in order to analyze and discuss more deeply the following: what effects would innovation have in SMEs if a quantitative scale were used to measure both market orientation and entrepreneurial orientation? What results would be obtained in innovation activities of SMEs if other factors or dimensions were used to measure market orientation and entrepreneurial orientation? What specific activities from market orientation and entrepreneurial orientation have more positive, significant effects in the innovation of SMEs? These and many other questions may be answered in posterior investigations.

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