

The Entrepreneurial Orientation and its Impact on Competitiveness and Growth: Empirical Evidence in the State of Aguascalientes in Mexico

**Heira Georgina Valdez-Bocanegra¹, Gonzalo Maldonado-Guzmán²
and Carmen Castrejón-Mata³**

Abstract

Nowadays, increasing attention is being paid to entrepreneurship in general and entrepreneurship in developing countries, therefore entrepreneurship is one of the factors to change developing countries and is considered a micro-driver of innovation and economic growth. Schumpeter has stated that main agent of economic development is entrepreneurs stimulating the new products, new production methods and economical activities and making out other innovations. The entrepreneurship capacity determines the competitiveness of an organization. Therefore entrepreneurs are considered a vital resource. For this reason, the development of a culture of entrepreneurship in society is a basic tool for the economic and social development which improves the competitiveness of a country. Thus, the essential objective of this paper is to analyze the effects of entrepreneurial orientation on competitiveness and growth of manufacturing companies with an emphasis in the automotive and auto parts industry, using for it a sample of 217 firms of the State of Aguascalientes in Mexico. The obtained results show that entrepreneurial orientation has a positive influence on competitiveness and growth of the manufacturing companies in the State of Aguascalientes in Mexico.

Keywords: Entrepreneurship, Aguascalientes, Competitiveness, Growth.

¹ Guanajuato University, Guanajuato, Mexico.

² Autonomous University of Aguascalientes, Ags., Mexico.

³ Guanajuato University, Guanajuato, Mexico.

1. Introduction

Nowadays, increasing attention is being paid to entrepreneurship in general and entrepreneurship in developing countries in specific (Solhi & Koshkaki, 2016). In the literature, innovation has been recognized as a prerequisite for economic development (Solhi & Koshkaki, 2016). Economic development and growth implies the process of structural transformation leading to higher growth (Brinkman, 1995). In fact, entrepreneurship is one of the factors to change developing countries and is considered a micro-driver of innovation and economic growth (Acs, 2006).

As well, according to Kaya (2015), contemporary entrepreneurship researches have started with research of economist Joseph Schumpeter (1883-1950). This suggests that Schumpeter has stated that main agent of economic development is entrepreneurs stimulating the new products, new production methods and economical activities and making out other innovations (Noteboom, 1994). Accordingly, Shumpeter defines entrepreneurship as a “creative destruction” process in which entrepreneurs change continuously the current products or production methods with news or destroys. Furthermore, it may be said that the researches of Shumpeter focuses mainly on personal enterprise activity, many researchs with Shumpeter (Burgelman, 1983, Covin and Slevin, 1991, Miller, 1983, Zahra, 1993) put forward that entrepreneurship is a case being necessary to take up at firm level.

Shiri, Mohammadi and Hossein (2012) define entrepreneurial intentions as “a state of mind that guides individual actions in order to create and develop a new business or entrepreneurial activity”. Additionally, Henrekson & Stenkula (2017) define entrepreneurship as the ability and willingness of individuals, both independently and within organizations, to discover and create new economic opportunities by introducing their ideas in the market under uncertainty and making decisions regarding the localization, product design, use of resources and reward systems with the objective to create value (Wennekers & Thurik, 1999). Specifically, entrepreneurs are people who have the ability to see and evaluate business opportunities, collect the resources needed to take advantage of those opportunities and take the appropriate measures in order to ensure success (Davey, Plewa & Struwig, 2011).

Moreover, according to Kaya (2015) it can be said that corporate entrepreneurship is a behavioral concept and all organization place in continuum extending from “highly conservative” to “highly entrepreneur”. Certainly, entrepreneur firms are risk-takers, innovative and proactive. Opposite, conservative firms are risk-adverse, less innovative and more “wait and see” principle. In general, corporate entrepreneurship includes the product innovation, risk taking and proactive behaving (Covin and Slevin, 1991), in addition to these, entering new job, entrepreneurship (Kuratko, Montagno & Hornsby, 1990) and organizational innovation (Sathe, 1989, Guth and Ginsberg, 1990). Noticeably, innovation in terms of corporate entrepreneurship refers to persistence of organization in terms of formation and introduction of products, production processes and organizational

systems (Lumpkin and Dess, 1996).

In particular, The National Institute of Social Economy of the Mexican Government defines an entrepreneur as follows: “*Entrepreneurs are those people who identify an opportunity and organize the necessary resources to take it. This is marked even from its etymology since it comes from the Latin "prendere" which literally means to take, and so we also designate those who start a project on their own initiative. No doubt they are people who seek to go beyond the place where they are and always want to achieve greater achievements*” (Instituto Nacional de Economía Social, 2019).

As well, some scholars have defined entrepreneurship as the introduction of new economic activity by an individual that leads to change in the marketplace, which means that not all types of self-employments are entrepreneurships (Sarasvathy, 2000). On the other hand, other scholars have concentrated on studying the characteristics of the entrepreneurs. In specific, Meredith, Nelson & Neck (1991) argue that entrepreneurship is the ability to see and evaluate business opportunities, gather the necessary resources to take advantage of them and initiate appropriate action to ensure success.

In addition, as it was stated before, there is an early linkage between entrepreneurship and innovation that goes back to Schumpeter (1934). In fact, he perceived entrepreneurs as innovators and contributors to economy growth due to the fact that they use innovation. Moreover, Schumpeter (1934) states that the concept of entrepreneur encompasses innovation and the role of entrepreneur is highlighted in the innovation process. According to this pattern, only an individual who founds a new firm on the basis of a new idea can be called an entrepreneur.

Within this framework, it is important to highlight that previous studies indicate that there is a positive association between implementing innovation and growth and entrepreneurship (Cho & Pucik, 2005). Indeed, some researchers believe that internal innovation such as process improvement is the key answer, while on the other side, some others find the answer in the acquisition of technology (Cohen & Levinthal, 1990).

Certainly, it is key to point out that the success of the entrepreneurs comes from three main factors: new ideas, executing those new ideas and gradual expansion. In addition, personal attributes which are formed by person, family and society are fundamental factors that are influential in becoming entrepreneur and innovative (Solhi & Koshkaki, 2016). Within this framework, a lot has been debated regarding the relevance of personality traits for entrepreneurship intentions, with some debates generating contradiction by confirming a significant relationship between several personality dimensions such as extroversion, conscientiousness, openness to experience and emotional stability and entrepreneurship intentions and performance, with risk propensity also linked to intentions (Hussain, 2018, Zhao *et al.*, 2010).

It is obvious and quite revealing that there are not many differences between entrepreneurship and innovation. In other words, entrepreneurship is equal to

innovation, and these innovation are not necessarily introducing modern things to the world, but can also be such simple things as changing the production method. In particular, this means that entrepreneurs have a great insight in market and what people need and draw back on their previous experiences and other people experiences to be first mover in that business. In this process, they are eagerly risk-taker and expand their business gradually (Solhi & Koshkaki, 2016).

Particularly in the case of Mexico, on 2013, seeking to incentivize entrepreneurship, Mexico Government created The National Institute of the Entrepreneur (INADEM), which is a public organism that is administrative decentralized from the Ministry of Economy and aims to implement, execute and coordinate the national policy of support for entrepreneurs and micro, small and medium enterprises, promoting their innovation, competitiveness and projection in the national and international markets to increase their contribution to economic development and social welfare, as well as contribute to the development of policies that promote culture and business productivity (INADEM, 2019).

In specific, The National Institute of the Entrepreneur as public organism promotes the entrepreneurial culture, supports the creation and consolidation of more micro, small and medium enterprises, which will make easier for more companies to grow from micro to small, from small to medium and from medium to large, and will promote its successful and competitive insertion in international markets. Above all, the most important fact is that this organism brings the financing schemes closer to the productive activity so that it truly reaches those who require it (INADEM, 2019). Within this framework, Achtenhagen, Naldi & Melin (2010) have recognized that the research on entrepreneurship still focuses too narrowly on growth, creating a gap between the meanings assigned to growth by practitioners and how growth is defined and measured in academic research. In specific, in this article we aim to respond to this gap by applying empirical research. Additionally, the lack of studies on entrepreneurship in manufacturing companies in the State of Aguascalientes in Mexico justify the originality and the need of this study, especially considering the huge impact that this industry have as a sector in the mexican economy and that entrepreneurial innovation in developing countries is an important factor for transition toward development as entrepreneurship can certainly reduce poverty and increase the quality of life (Pathak, 2008). This study is based on empirical evidence found in the State of Aguascalientes in Mexico in 217 manufacturing companies. It is important to highlight that the purpose of the study is to gain new insights into whether and why the entrepreneurial orientation has an impact on competitiveness and growth in the manufacturing industry.

Given the above, its convenient to specify that the general objective of the present research is to demonstrate the impact that the entrepreneurial orientation has on the competitiveness and growth of manufacturing companies in the state of Aguascalientes. In addition, the specific objectives of this study are the following:

1. to analyze the effect of entrepreneurial orientation on competitiveness of manufacturing companies in the State of Aguascalientes in Mexico.
2. to explain the effect of entrepreneurial orientation on growth of manufacturing companies in the State of Aguascalientes in Mexico.

2. Theoretical foundation and hypotheses development

2.1 Entrepreneurship and Competitiveness

H1: Entrepreneurial orientation (EO) towards competitiveness has statistically positive influences.

Nowadays the entrepreneurship capacity determines the competitiveness of an organization. Therefore entrepreneurs are considered a vital resource. For this reason, the development of a culture of entrepreneurship in society is a basic tool for the economic and social development which improves the competitiveness of a country. Thus, it has been widely demonstrated that entrepreneurship is one of the axes of the economic process. As has been noted, entrepreneurs, through the creation of new activities, promote the development of the economy. Hence, entrepreneurs are strategic resources for organizations (Robles & Zárraga-Rodríguez, 2015). Overall, entrepreneurial competencies affect company performance (Man *et al.* 2002, Camuffo *et al.*, 2012)

Generally speaking, entrepreneurial capabilities can lead to increase in competitive advantage of the organization and influence the management. Given these points, in order to ensure the success of the strategic priorities of manufacturing firm's competitiveness is achieved, existing entrepreneurial must be willing to take risks, becoming more innovative and proactive. In the long run, according to Zahra & Covin (1995), entrepreneurial capabilities that are ready to take risks, innovative and proactive will help in identifying the opportunities to improve competitiveness. In consequence, managers can formulate and implement a more focused strategy priorities that is good and relevant to customer needs and business goals (Amir, Auzair & Amiruddin, 2016).

For instance, competitiveness of strategic priorities is very important as it could directly affect firm's performance (Amir *et al.*, 2016). Within this framework, according to Amir *et al.* (2016) competitiveness of strategic priorities refers to the competition between strategic priorities in meeting customer requirements and cost management efficiency. In other words, competitiveness of strategic priorities can also be referred as the successful outcome of the strategic priorities that based on the strategic priorities of the competition of the firm (Chenhall, 2005). Miller, Meyer & Nakane (1992) consider that strategic priorities depends on the product features. Which is combination of cost leadership strategies and differentiation strategies.

On one hand, product differentiation strategy is focusing on strategies that can meet customer needs that is to provide high quality products, flexibility of products, customer service and fast delivery and product design. On the other hand and

equally important, cost leadership strategy refers to the efficient management of costing. Though cost leadership, low cost production required to enable the product or service is produced can be sold at lower prices than its competitors (Porter, 1985). Definitely, through a combination of product differentiation strategy and cost leadership in strategic priorities can also produce products or services that can be competitive (Chenhall & Langfield-Smith, 1998, Miller *et al.*, 1992).

Particularly in the case of the State of Aguascalientes in Mexico, it is noticeable that Aguascalientes Government believes that there is a strong relationship between entrepreneurship and competitiveness. In fact, in the State of Aguascalientes, the government supports entrepreneurs through The Center for Competitiveness and Innovation of the State of Aguascalientes (CECOI), which is a decentralized public organism of the Government of Aguascalientes. For instance, the purpose of this entity is the planning, programming, implementation, execution, supervision and evaluation of policies and actions in the field of competitiveness and business innovation, which encourage the increase in investment, productivity and employment in the State of Aguascalientes in Mexico (CECOI, 2019).

Additionally, the Center for Competitiveness and Innovation of the State of Aguascalientes (2019) promotes the development of the competitiveness of the companies and institutions of the State of Aguascalientes through the integral offer of programs and services, through three strategic areas: business development and entrepreneurial innovation, strategic information and connection with other organisms and special programs and funds.

Given these points, Gilbert, Audretsch & McDougall (2004) consider that, “[...] when knowledge is the source of competitiveness in emerging markets, policy shifts towards enabling the startup and growth of new enterprises, or what can be termed entrepreneurship policy.” As can be seen, in such a view, policy “shifts” when it is desirable for it to do so. Therefore the state can identify a shifting market trend and subsequent market shortcoming, and then step in to fill this gap via entrepreneurship policy. To sum up, the natural conclusion is that entrepreneurship policy is “one of the most essential instruments” for economic growth (Gilbert *et al.*, p. 321).

2.2 Entrepreneurship and Growth

H2: Entrepreneurial orientation (EO) will has a statistically positive influence on growth.

Regarding the relationship of entrepreneurship and growth, in the literature it has been widely recognized the role of entrepreneurship as a motor for economic growth and regional development (Spilling, Lauritzen, Hagen & Bjørnali, 2011). Thus, regarding entrepreneurship using the concept of growth, according to Dalborg, von Friedrichs & Wincent (2012), there are different types of motivation among entrepreneurs, “survival” being the most important one followed by work creation, appreciation, stability and personal development. In fact, when the entrepreneurs reached the “stability” and “survival” stages of the business cycle they would

become more concerned with other goals, such as work creation.

Particularly, in developing countries, state owned firms and large firms are not the source of innovation, whereas entrepreneurship and SMEs are the positive forces of growth (Solhi & Rahmadian-Koshkaki, 2016). Definitely, growth is taken for granted as a goal of entrepreneurship. For instance, in official plans the role of innovation and entrepreneurship as motors for economic growth and regional development are emphasized (Spilling *et al.*, 2011).

Within this context and considering the situation in the State of Aguascalientes in Mexico, it's important to point out that Aguascalientes Government documented in the *Secretariat of Economy 2017-2018 Report* that was carried out during the year 2017 and always aligned to the National Development Plan and the Innovative Development Program 2013-2018, that during 2017 and 2018 there was continuous follow up and support to the companies so that they could maintain and increase their productivity and competitiveness. Specifically, support and guidance was given to entrepreneurs through *The National Institute of the Entrepreneur* to strengthen and grow, especially to women and young people, to encourage them to start with micro business.

Additionally, other actions were conducted so that in general the entrepreneurial ecosystem can be consolidated in the State of Aguascalientes in Mexico (Granados-Corzo, López Rábago, Covarrubias-Tejada, & Dávila-Villasaca, 2019). As well, Aguascalientes has 1,312,544 inhabitants according to the population census conducted by the INEGI in 2015, where 51% are women and 49% are men, who are mostly under 25 years old, which makes the entity count on a potential of dynamism and growth that keeps the state as one of the leaders in various economic indicators and of greater development and growth in the country (Granados-Corzo *et al.*). Considering the factors previously described and according to Dabic *et al.* (2012) research, growth ambitions are contingent on entrepreneurial intentions, gender, life course, career stage and relationships.

In relation to gender, research on entrepreneurship has documented differences in male and female entrepreneurs' growth ambitions. For instance, the findings substantiated that women and men have similar qualities as entrepreneurs, but women's ambitions and values tend to be different to those espoused by men. This suggest that gender influences their growth strategies (Reichborn-Kjennerud & Svare, 2014).

On one hand, female entrepreneurs have smaller businesses, on average, and lower growth ambitions than male entrepreneurs. In fact, businesses run by women also send to occupy a less prominent place in the economy than those run by men (De Bruin, Brush & Welter, 2006). However, female business owners are considered increasingly important contributors to entrepreneurial activity and economic growth (Powell & Eddleston, 2008). On the other hand, men tend to emphasize financial success and business growth (Ljunggren, et al., 2010) and more often aspire to early and fast growth when they start companies than do women (Gatewood *et al.*, 2009). Despite this, earlier research has focused on female entrepreneurs as a significant and unrecognized engine of economic growth (Hughes, Jennings, Brush, Carter &

Welter, 2012). For instance, scholars have thus sought to document and explain the financial performance and growth of women's businesses (Hughes *et al.*, 2012). Certainly, cases also indicate that the entrepreneurs differ in their level and type of ambition. In the research of Reichborn-Kjennerud & Svare (2014) they exposed that even if financial profit is only one of several motivations for both male and female entrepreneurs, some female entrepreneurs were obstinate that they saw no reason to expand. In fact, for the male entrepreneurs it seemed obvious from the very start that they were going to expand. As can be seen, even more than an explicit goal, it was part of their very idea of how business work.

To conclude, research has demonstrated that small firms are major creators of new jobs, and new companies have an important impact on regional economic well-being (Davidsson, Lindmark & Olofsson, 1994). In fact, assumptions about theories on growth strategies are, to a large extent, based on economic theories. For example, economic and marketing theory assume that economic actors seek growth and profits (Brush, 2006). Therefore, economic theory tends to emphasize the individuals and their purposeful behavior, the economists' philosophical assumption being methodological individualism (Hodgson, 2007).

Finally, it has been argued that growth will be contingent on the capacity of the organization, that the validity will vary across industry types and that certain environments will favor certain types of strategies (Leitch, Hill & Neergaard, 2010). As described and according to Dalborg *et al.* (2012) research, they found that "survival", "work creation" and "stability" were the most important values for most female entrepreneurs.

3. Research Methodology

The methodology of this research includes an empirical study in a total of 217 manufacturing companies including the automotive and auto parts industry of the State of Aguascalientes in Mexico. Table 1 shows the main characteristics of this research.

Table 1: Research Design

| Characteristics | Research |
|------------------------|--|
| Population | 230 manufacturing companies including the auto parts industry |
| Geographic Area | State of Aguascalientes (Mexico) |
| Data Collection Method | Questionnaire surveys to owners and senior management |
| Sampling Method | Simple Random Sampling |
| Sample Size | 217 manufacturing companies including the automotive and auto parts industry |
| Sampling Error | +/- 1% error, reliability level 99% (p=q=.5) |
| Field Work | From January to April 2017 |

Regarding methodology, in this research the scale proposed by Miller (1983) was used to measure the entrepreneurial orientation, who considered that the entrepreneurial orientation can be measured through three dimensions: *Proactivity* being measured through 6 items, *Risk Taking* which was measured by means of 6 items and, *Innovativeness* which was measured through 6 items. Similarly, three factors were taken into consideration in order to measure the scale of competitiveness: *Financial Performance* (made of 6 items), *Cost Reduction* (made of 6 items) and *Technology Use* (made of 6 items), adapted from Buckley *et al.* (1988) and Cho *et al.* (2008). All the items of the six dimensions are on a 5 point Likert scale ranging from 1=strongly disagree to 5=strongly agree as limits. Regarding growth, this was measured through the sales made by manufacturing companies including the automotive and auto parts industry in the State of Aguascalientes in Mexico in 2017 (Auttio & Lumme, 1998, Ballow *et al.*, 2004, Salojärvi *et al.*, 2005, Linder, 2006, Carneiro, 2007, Kruger & Johnson, 2009), since estimating the growth potential is generally considered a qualitative evaluation of managers, with sales being the main indicator (Auttio & Lumme, 1998).

Likewise, a Confirmatory Factor Analysis (CFA) was applied for the evaluation of reliability and validity using the Maximum Likelihood Estimation (MLE) with the support of the EQS 6.2 software (Bentler, 2005, Brown, 2006, Byrne, 2006). Therefore, for the measurement of reliability, Cronbach's Alpha and Composite Reliability Index (CRI) were used (Bagozzi & Yi, 1988). The results of the application of the CFA are presented in Table 1 and suggest that the measurement model analyzed provides a good fit of the statistical data ($S-BX^2 = 321.537$, $df = 26$, $p = 0.000$, $NFI = 0.889$, $NNFI = 0.857$, $CFI = 0.897$, $RMSEA = 0.079$). In fact, as Cronbach's Alpha values and CRI are greater than 0.7, this data confirms the reliability on the scales of proactivity, risk taking, innovativeness, financial performance, cost reduction and technology use (Nunnally & Bernstein, 1994, Hair *et al.*, 1995).

Additionally, as evidence of convergent validity, the CFA results indicate that all items of related factors are significant ($p < 0.01$), and the size of all standardized factor loads is greater than 0.60 (Bagozzi & Yi, 1988). As well, the Extracted Variance Index (EVI) was calculated for each of the constructs of the theoretical model of entrepreneurial orientation and competitiveness and growth, resulting in an EVI greater than 0.5 (Fornell & Larcker, 1981). In fact, the obtained results indicates that the theoretical model has an excellent fit of the data, demonstrating with it the existence of convergent validity.

Table 2. Internal consistency and convergent validity of the theoretical model

| Variable | Indicator | Factorial Loading | Robust t-Value | Cronbach's Alpha | CRI | EVI |
|--|-----------|-------------------|--------------------|------------------|-------|-------|
| Proactivity | PR1 | 0.729*** | 1.000 ^a | 0.906 | 0.907 | 0.621 |
| | PR2 | 0.836*** | 13.188 | | | |
| | PR3 | 0.851*** | 12.573 | | | |
| | PR4 | 0.806*** | 12.716 | | | |
| | PR5 | 0.716*** | 8.916 | | | |
| | PR6 | 0.777*** | 9.561 | | | |
| Risk Taking | TR1 | 0.807*** | 1.000 ^a | 0.899 | 0.900 | 0.600 |
| | TR2 | 0.835*** | 15.663 | | | |
| | TR3 | 0.834*** | 15.548 | | | |
| | TR4 | 0.759*** | 11.121 | | | |
| | TR5 | 0.743*** | 10.590 | | | |
| | TR6 | 0.656*** | 9.574 | | | |
| Innovativeness | IN1 | 0.825*** | 1.000 ^a | 0.914 | 0.915 | 0.644 |
| | IN2 | 0.821*** | 16.573 | | | |
| | IN3 | 0.823*** | 16.508 | | | |
| | IN4 | 0.791*** | 15.252 | | | |
| | IN5 | 0.798*** | 16.948 | | | |
| | IN6 | 0.753*** | 13.548 | | | |
| Financial Performance | FP2 | 0.851*** | 1.000 ^a | 0.896 | 0.897 | 0.688 |
| | FP3 | 0.938*** | 16.610 | | | |
| | FP4 | 0.854*** | 14.129 | | | |
| | FP5 | 0.648*** | 11.392 | | | |
| Cost Reduction | PC1 | 0.789*** | 1.000 ^a | 0.875 | 0.876 | 0.543 |
| | PC2 | 0.825*** | 18.920 | | | |
| | PC3 | 0.725*** | 10.703 | | | |
| | PC4 | 0.766*** | 12.072 | | | |
| | PC5 | 0.679*** | 11.463 | | | |
| | PC6 | 0.618*** | 8.385 | | | |
| Technology Use | TE1 | 0.801*** | 1.000 ^a | 0.919 | 0.920 | 0.657 |
| | TE2 | 0.780*** | 14.378 | | | |
| | TE3 | 0.875*** | 18.883 | | | |
| | TE4 | 0.737*** | 12.278 | | | |
| | TE5 | 0.805*** | 15.326 | | | |
| | TE6 | 0.856*** | 20.356 | | | |
| $S-BX^2$ (df = 511) = 759.815, $p < 0.000$, NFI = 0.841, NNFI = 0.935, CFI = 0.941, RMSEA = 0.047 | | | | | | |
| ^a = Constrained parameters to such value in the identification process. | | | | | | |
| *** = $p < 0.01$ | | | | | | |

Regarding the discriminant validity of the theoretical model of intellectual property and innovation, the evidence is presented in two ways that can be observed in Table 3. Firstly, a *reliability interval test* is presented, proposed by Anderson and Gerbing (1988), which establishes that with an interval of 95% of reliability none of the individual latent elements of the matrix of correlation contains the value of 1.0. Secondly, the *extracted variance test*, proposed by Fornell and Larcker (1981) establishes that the EVI value of each pair of constructs must be higher than their corresponding square covariance. Therefore, according to the results obtained from both tests, it can be concluded that both measurements provide enough evidence of discriminant validity of the theoretical model.

Table 3: Discriminant validity of the theoretical model

| Variables | Proactivity | Risk Taking | Innovativeness | Financial Performance | Cost Reduction | Technology Use |
|------------------------------|--------------|--------------|----------------|-----------------------|----------------|----------------|
| Proactivity | 0.621 | 0.387 | 0.479 | 0.128 | 0.050 | 0.426 |
| Risk Taking | 0.426-0.818 | 0.600 | 0.342 | 0.085 | 0.042 | 0.303 |
| Innovativeness | 0.504-0.880 | 0.395-0.775 | 0.644 | 0.092 | 0.045 | 0.368 |
| Financial Performance | 0.190-0.526 | 0.139-0.443 | 0.158-0.450 | 0.688 | 0.069 | 0.154 |
| Cost Reduction | 0.087-0.359 | 0.074-0.338 | 0.077-0.345 | 0.130-0.394 | 0.543 | 0.046 |
| Technology Use | 0.469-0.837 | 0.364-0.736 | 0.411-0.803 | 0.234-0.550 | 0.045-0.385 | 0.657 |

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

Given the above, a model of structural equations was applied in order to answer the hypotheses stated in this empirical research by using the software EQS 6.1 (Bentler, 2005, Brown, 2006, Byrne, 2006) which analyzed the nomological validity of the theoretical model through the square Chi test. It was based on the comparison of the results obtained from the theoretical model and the measurement model, the results indicate that the differences between the two-theoretical model and the measurement model are not significant which provides an explanation of the relations observed between the latent constructs (Anderson & Gerbing, 1988, Hatcher, 1994). Table 4 shows these results in a more detailed way.

Table 4: Results of the structural equation modeling

| Hypothesis | Structural Relationship | Standardized Coefficient | Robust t-Value |
|--|----------------------------------|--------------------------|----------------|
| H1: Higher level of entrepreneurial orientation, higher level of competitiveness. | E. Orientation → Competitiveness | 0.990*** | 18.882 |
| H2: Higher level of entrepreneurial orientation, higher level of growth. | E. Orientation → Growth | 0.437*** | 9.124 |
| <i>S-BX</i> ² (df = 487) = 677.889, <i>p</i> < 0.000, NFI = 0.858, NNFI = 0.948, CFI = 0.955, RMSEA = 0.043 | | | |

Table 4 shows the results obtained from the implementation of the model of structural equations. It was found that, regarding hypothesis **H1**, the results ($\beta = 0.990$, $p < 0.01$) indicate that entrepreneurial orientation has significant positive results in the competitiveness of manufacturing companies. Regarding hypothesis **H2**, the results ($\beta = 0.437$, $p < 0.01$) indicate that entrepreneurial orientation has significant positive results in the growth of manufacturing companies. Therefore, it is possible to conclude that, on one hand, entrepreneurial orientation creates a higher level of competitiveness in manufacturing firms. On the other hand, the entrepreneurial orientation is a good estimator of growth in enterprises, especially in manufacturing companies located in the State of Aguascalientes in Mexico.

5. Conclusions and Discussion

The general objective of the present research is to demonstrate the impact that the entrepreneurial orientation has on the competitiveness and growth of manufacturing companies in the State of Aguascalientes in Mexico. As can be seen, the results of this study provide evidence that entrepreneurial orientation is positively associated with competitiveness and growth in manufacturing companies in the State of Aguascalientes in Mexico. In fact, it was confirmed the impact of entrepreneurial orientation on competitiveness and growth in the manufacturing companies through a study where questionnaire surveys were applied to either owners or senior management in 217 manufacturing companies including the automotive auto parts industry in the State of Aguascalientes in Mexico.

Therefore, manufacturing companies located in the State of Aguascalientes should implement innovation in technology, products or administrative processes. In addition, they should also implement strategies to encourage creativity among their employees. Overall, an intention of implementing activities to improve the innovation of products, services and processes would be good. Also the willingness to introduce new technologies that haven't been proved before in the organization. Given these points, it is also suggested that the manufacturing companies located in

the State of Aguascalientes invest in acquisition of new information technology and implement techniques to explore new opportunities. After all, a new entrepreneurial insight implies a new possible production function showing how the factors of production can be combined in novel ways to create innovative and more valuable products (Henrekson & Stenkula, 2017).

In particular, it is important to mention that in this research, in the questionnaire survey it was included a scale regarding innovation because in today's world innovation is considered a crucial factor that influences firms and nation significantly. In fact, implementation of innovation is one of the most important factors of industrial and economic development (Long, 2008). Indeed, at a firm level, the constantly changing and evolving environment, plus the tough competition force companies to implement innovative practices to not only remain competitive, but also survive. At a national level, government uses innovation practices as a technique for poverty reduction and economic growth (Freeman, 2002). In other words, it can be concluded that entrepreneurship can lead to innovation or innovation becomes entrepreneurship. They are not separable concept which one is a prerequisite of another (Solhi & Koshkaki, 2016).

Nevertheless, it is unbelievable that considering the huge impact of entrepreneurial orientation in competitiveness and growth, surprisingly on 2019, due to new government structure, the history of The National Institute of the Entrepreneur in Mexico came to an end. With all the government structure changes that included huge uncertainty, Graciela Márquez, the Secretary of Economy, finally confirmed that INADEM was going to disappear with the argument that the economic support would be delivered directly to the entrepreneurs by the dependency in charge. Though, due to the huge importance that entrepreneurship has in Mexico, many people disagreed with this decision. In fact, José Enrique Alba, Director of Innovation and Entrepreneurship of Monterrey Institute of Technology and Higher Education in Mexico City, pointed out that the disappearance of INADEM is a critical issue that will affect businesses and other organizations whose existence depended on this organism (Pineda & Sánchez, 2018).

Fortunately, it is noticeable that Aguascalientes Government believes that there is a strong relationship between entrepreneurship and competitiveness and in the case of the State of Aguascalientes in Mexico the government supports entrepreneurs through The Center for Competitiveness and Innovation of the State of Aguascalientes (CECOI), which is a decentralized public organism of the Government of Aguascalientes. As mentioned before, in specific, the purpose of this entity is the planning, programming, implementation, execution, supervision and evaluation of policies and actions in the field of competitiveness and business innovation, which encourage the increase in investment, productivity and employment in the State of Aguascalientes in Mexico (CECOI, 2019).

Nonetheless, economic crunch has created an unprecedented high unemployment rate amongst the students, more specifically in developing countries than the developed world (Dvouletý, 2017, Gelaidan and Abdullateef, 2017, Papzan *et al.*, 2013) that is the case of Mexico. As a result, to alleviate the situation, governments

around the world have always encouraged their respective citizens to explore alternative sources of employment and wealth creation in the form of entrepreneurship (Buli & Yesuf, 2015, Papzan *et al.*, 2013). Accordingly, the rationale for entrepreneurship amongst students is due to its recognition as a source of employment and wealth creation (Arrighetti *et al.*, 2016).

On the other hand, the potential returns to entrepreneurial activity may be higher in the case of an economy experiencing strong economic growth. In this situation, there is likely an increase in new business formation with the subsequent hiring of employees, thereby placing downward pressure on the unemployment rate (Payne, 2015). In addition, evidence suggests that entrepreneurship is a source of economic growth and development, specifically if such ventures mature into real and successful business entities (Arrighetti *et al.*, 2016).

In addition, the experts agree that the relevant competencies for entrepreneurship are: risk assumption, initiative, responsibility, dynamism, troubleshooting, search and analysis of information, results orientation, change management and quality of work (Robles & Zárraga-Rodríguez, 2015). As a result, higher education institutions could improve their education processes to enhance the development of certain competencies, that, if they were commonly developed, would improve entrepreneurship behavior and therefore the competitiveness of the manufacturing companies or even the whole economic system (Robles & Zárraga-Rodríguez, 2015). Moreover, entrepreneurship is seen as a viable option that can address unemployment amongst graduates and reduce crimes associated with unemployed (Agolla, Monametsi & Phera, 2019).

Finally, it is important to point out that the literature reveals that the person's decision to become an entrepreneur is deliberate and consciously made, that is, entrepreneurial intention is the conscious state of mind that precedes action and direct attention toward a goal (entrepreneurship). In the case of manufacturing companies, owners or senior management must have a will to implement entrepreneurship in technology, products or administrative processes. It can be concluded that from a behavioural perspective, entrepreneurship is practiced by individuals who passionately believe they have identified a unique solution to an unmet need or unresolved problem and are willing to expend great effort to satisfy these demands (Kirkley, 2016, Lee-Ross, 2017). Typically such persons in their minds are ready to do anything to be entrepreneurs (Kirkley, 2016).

Regarding limitations of this research, surveys were directed only to owners and senior managers of manufacturing companies including the automotive and auto parts industry in the State of Aguascalientes in Mexico, as a consequence results can significantly differ if population changes. Because of this, it is necessary to replicate and extend research with customers and suppliers in order to obtain a better definition of the used scale.

On the whole, entrepreneurship comes with a lot of changes and risks that may not be easily tolerated in an individual's lifestyle (Agolla *et al.*, 2019). Overall, it is important to highlight that not all entrepreneurship is productive in terms of benefiting both the individual entrepreneur and society. Ultimately, if an

entrepreneurial action benefits the entrepreneur but harms society, it should be termed destructive in contrast to productive entrepreneurship (Henrekson & Stenkula, 2017).

References

- [1] Achtenhagen, L., Naldi, L., & Melin, L. (2010). 'Business growth' – do practitioners and scholars really talk about the same thing? *Entrepreneurship Theory and Practice*, 34(2), 289-316.
- [2] Acs, Z. (2006). "How is entrepreneurship good for economic growth? *Innovations. Technology, Governance, Globalization*, 1(1), 97-107.
- [3] Agolla, J., Monametsi, G., & Phera, P. (2019). Antecedents of entrepreneurial intentions amongst business students in a tertiary institution. *Asia Pacific Journal of Innovation and Entrepreneurship*, 13(2), 138-152.
- [4] Amir, A., Auzair, S. M., & Amiruddin, R. (2016). Cost Management, Entrepreneurship and Competitiveness of Strategic Priorities for Small and Medium Enterprises. *Procedia - Social and Behavioral Sciences*, 219, 84-90.
- [5] Anderson, J., & Gerbing, D. (1988). Structural equation modeling in practice: a review and recommended two-step approach. *Psychological Bulletin*, 13, 411-423.
- [6] Arrighetti, A., Caricati, L., Landini, F., & Monacelli, N. (2016). Entrepreneurial intentions in the time of crisis: a field study. *International Journal of Entrepreneurial Behavior and Research*, 22(6), 835-859.
- [7] Auttio, E., & Lumme, A. (1988). Does the innovator role affect the perceived potential for growth? Analysis of four types of new, technology-based firms. *Technology Analysis & Strategic Management*, 10(1), 41-54.
- [8] Bagozzi, R., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 74-94.
- [9] Ballou, J., McCarthy, B., & Molnar, M. (2004). *New concepts in value-based management: mapping and total economic profit*. Wellesley, USA: Accenture Institute for High Performance Business.
- [10] Bentler, P. (2005). Comparative fit indexes in structural models. *Psychological Bulletin*, 107(2), 238-246.
- [11] Brinkman, R. (1995). Economic growth versus economic development: toward a conceptual clarification. *Journal of Economic Issues*, 29(4), 1171-1188.
- [12] Brown, T. (2006). *Confirmatory Factor Analysis for Applied Research*. New York: The Guilford Press.
- [13] Brush, C. (2006). *Growth-Oriented Women Entrepreneurs and Their Businesses: A Global Research Perspective*. Cheltenham: Edward Elgar.
- [14] Buckley, J., Pass, L., & Prescott, K. (1988). Measures of international competitiveness: a critical survey. *Journal of Marketing Management*, 4(2), 175-200.

- [15] Buli, B., & Yesuf, W. (2015). Determinants of entrepreneurial intentions: technical-vocational, education and training students in Ethiopia. *Education + Training*, 57(8/9), 891-907.
- [16] Burgelman, R. (1983). A Process Model of Internal Corporate Venturing in the Diversified Major Firm. *Administrative Science Quarterly*, 28, 223-244.
- [17] Byrne, B. (2006). *Structural Equation Modeling with EQS, basic concepts, applications, and programming*. London: LEA Publishers.
- [18] Camuffo, A., Gerli, F., & Gubitta, P. (2012). Competencies matter. Modeling effective entrepreneurship in northeast of Italy small firms. *Cross Cultural Management*, 19(1), 48-66.
- [19] Carneiro, A. (2007). What is required for growth? *Business Strategy Series*, 8(1), 51-57.
- [20] CECOI. (2019, June 20). ¿Cómo apoyamos a emprendedores y empresarios? From <https://www.cecoi.org.mx/wp-content/uploads/2018/12/infografia-cecoi-1024x708.jpg>
- [21] CECOI. (2019, June 20). Centro de Competitividad e Innovación del Estado de Aguascalientes. From <https://www.cecoi.org.mx/quienes-somos/>
- [22] Chenhall, R. (2005). Integrative strategic performance measurement systems, strategic alignment of manufacturing, learning and strategic outcomes: An exploratory study. *Accounting, Organization and Society*, 30, 395-422.
- [23] Chenhall, R., & Langfield-Smith, K. (1998). The relationship between strategic priorities, management techniques and management accounting: An empirical investigation using a systems approach. *Accounting, Organizations and Society*, 23(3), 243-264.
- [24] Cho, H., & Pucik, V. (2005). "Relationship between innovativeness, quality, growth, profitability, and market value. *Strategic Management Journal*, 26(6), 555-575.
- [25] Cohen, W., & Levinthal, D. (1990). Absorptive capacity: a new perspective on learning and innovation. *Administrative Science Quarterly*, 128-152.
- [26] Covin, J., & Slevin, D. (1991). A Conceptual Model of Entrepreneurship as Firm Behavior. *Entrepreneurship Theory and Practice*, 16, 7-25.
- [27] Dabic, M., Daim, T., Bayraktaroglu, E., Novak, I., & Basic, M. (2012). Exploring gender differences in attitudes of university students towards entrepreneurship: an international survey. *International Journal of Gender and Entrepreneurship*, 4(3), 316-336.
- [28] Dalborg, C., von Friedrichs, Y., & Wincent, J. (2012). Beyond the numbers: qualitative growth in women's businesses. *International Journal of Gender and Entrepreneurship*, 4(3), 289-315.
- [29] Davey, T., Plewa, C., & Struwig, M. (2011). Entrepreneurship perceptions and career intentions of international students. *Education + Training*, 53(5), 335-352.
- [30] Davidsson, P., Lindmark, L., & Olofsson, C. (1994). New firm formation and regional development in Sweden. *Regional Studies*, 28(4), 395-410.

- [31] De Bruin, A., Brush, C., & Welter, F. (2006). Introduction to the special issue: towards building cumulative knowledge on women's entrepreneurship. *Entrepreneurship Theory*, 30(5), 585-593.
- [32] Dvouletý, O. (2017). Determinants of Nordic entrepreneurship. *Journal of Small Business and Enterprise Development*, 24(1), 12-33.
- [33] El Instituto Nacional del Emprendedor. (2019, June 20). From Secretaría de Economía: <https://www.inadem.gob.mx/>
- [34] Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, 39-50.
- [35] Freeman, C. (2002). Continental, national and sub-national innovation systems complementarity and economic growth. *Research Policy*, 31(2), 191-211.
- [36] Gatewood, E., Brush, C., Carter, N., Greene, P., & Hart, M. (2009). Diana: a symbol of women entrepreneurs' hunt for knowledge, money, and the rewards of entrepreneurship. *Small Business Economics*, 32(2), 129-144.
- [37] Gelaidan, H., & Abdullateef, A. (2017). Entrepreneurial intentions of business students in Malaysia: the role of self-confidence, educational and relation support. *Journal of Small Business and Enterprise Development*, 24(1), 54-67.
- [38] Gilbert, B., Audretsch, D., & McDougall, P. (2004). The emergence of entrepreneurship policy. *Small Business Economics*, 22(3-4), 313-323.
- [39] Granados-Corzo, G., López Rábago, M., Covarrubias-Tejada, F., & Dávila-Villaseca, T. (2019, June 20). Secretaría de Economía Informe 2017-2018. From Delegación Federal en Aguascalientes: https://www.gob.mx/cms/uploads/attachment/file/356549/01_Aguascalientes_Informe_de_Labores.pdf
- [40] Guth, W., & Ginsberg, A. (1990). Guest Editor's Introduction, Corporate Entrepreneurship. *Strategic Management Journal*, 11, 5-15.
- [41] Hair, J., Anderson, R., Tatham, R., & Black, W. (1995). *Multivariate Data Analysis with Readings*. New York, NY: Prentice Hall.
- [42] Hatcher, L. (1994). *A Step by Step Approach to Using the SAS System for Factor Analysis and Structural Equation Modelling*. Cary, NC: SAS Institute Inc.
- [43] Henrekson, M., & Stenkula, M. (2017). The entrepreneurial rent: the value of and compensation for entrepreneurship. *Journal of Entrepreneurship and Public Policy*, 6(1), 11-25.
- [44] Hodgson, G. (2007). Meanings of methodological individualism. *Journal of Economic Methodology*, 14(2), 211-226.
- [45] Hughes, A., Jennings, J., Brush, C., Carter, S., & Welter, F. (2012). Extending women's entrepreneurship research in new directions. *Entrepreneurship Theory and Practice*, 36(3), 429-442.
- [46] Hussain, S. (2018). Towards nurturing the entrepreneurial intentions of neglected female business students of Pakistan through proactive personality, self-efficacy and university support factors. *Asia Pacific Journal of Pakistan* through proactive personality, 12(3), 363-378.

- [47] INADEM. (2019, June 06). INADEM. From El Instituto Nacional del Emprendedor: <https://www.inadem.gob.mx/institucional/>
- [48] Instituto Nacional de Economía Social . (2019, June 20). From Emprendedor Social, el futuro del emprendimiento: <https://www.gob.mx/inaes/es/articulos/emprendedor-social-el-futuro-del-emprendimiento?idiom=es>
- [49] Kaya, N. (2015). Corporate Entrepreneurship, Generic Competitive Strategies, and Firm Performance in Small and Medium-sized Enterprises. *Procedia - Social and Behavioral Sciences*, 207, 662-668.
- [50] Kirkley, W. (2016). Entrepreneurial behaviour: the role of values. *International Journal of Entrepreneurial Behavior and Research*, 22(3), 290-328.
- [51] Koellinger, P. (2008). The relationship between technology, innovation, and firm performance - empirical evidence from e-business in Europe. *Research Policy*, 37(8), 1317-1328.
- [52] Kruger, C., & Johnson, R. (2009). Assessment of knowledge management growth: a South Africa perspective. *Aslib Proceedings, New Information Perspectives*, 61(6), 542-564.
- [53] Kuratko, D., Montagno, R., & Hornsby, J. (1990). Developing, an Entrepreneurial Assessment Instrument for an Effective Corporate Entrepreneurial Environment. *Strategic Management Journal*, 11, 49-58.
- [54] Lee-Ross, D. (2017). An examination of the entrepreneurial intent of MBA students in Australia using the entrepreneurial intentions questionnaire. *Journal of Management Development*, 36(9), 1180-1190.
- [55] Leitch, C., Hill, F., & Neergaard, H. (2010). Entrepreneurial and business growth and the quest for a "comprehensive theory": tilting at windmills? *Entrepreneurship Theory and Practice*, 34(2), 249-260.
- [56] Linder, J. (2006). Does innovation drive profitable growth? New metrics for a complete picture. *Journal of Business Strategy*, 27(5), 38-44.
- [57] Ljunggren, E., Alsos, G., Amble, N., Ervik, R., Kvidal, T., & Wiik, R. (2010). Gender and innovation - learning from regional VRI-projects. Bodø: Nordland Research Institute.
- [58] Long, D. (2008). Crossing the innovation divide. *Temple Law Review*, 81(2), 507-544.
- [59] Lumpkin, G., & Dess, G. (1996). Clarifying the Entrepreneurial Orientation Construct and Linking it to Performance. *Academy of Management Review*, 21, 135-172.
- [60] Man, T., Lau, T., & Chan, D. (2002). The competitiveness of small and medium enterprises: A conceptualization with focus on entrepreneurial competencies. *Journal of Business Venturing*, 17(2), 123-142.
- [61] Meredith, G., Nelson, R., & Neck, R. (1991). *The Practice of Entrepreneurship*. University Press, Lagos.
- [62] Miller, D. (1983). Entrepreneurship Correlates, in Three Types of Firms. *Management Science*, 29, 770-794.

- [63] Miller, J., Meyer, A., & Nakane, J. (1992). *The Benchmarking global manufacturing-understanding international suppliers, customers and competitors*. Homewood, IL: Irwin.
- [64] Noteboom, B. (1994). Innovation and Difussion in Small Firms: Theory and Evidence. *Small Business Economics*, 6, 327-347.
- [65] Nunnally, J., & Bernstein, I. (1994). *Psychometric Theory* (3 ed.). New York: McGraw-Hill.
- [66] Papzan, A., Afsharzade, N., & Moradi, K. (2013). Entrepreneurial intention determinants: an empirical model and a case of Iranian students in Malaysia. *Journal of Entrepreneurship, Management and Innovation*, 9(3), 43-55.
- [67] Pathak, R. (2008). Grass-root creativity, innovation, entrepreneurialism and poverty reduction. *International Journal of Entrepreneurship and Innovation Management*, 8(1), 87-98.
- [68] Payne, J. (2015). The role of economic policy uncertainty in the US entrepreneurship-unemployment nexus. *Journal of Entrepreneurship and Public Policy*, 4(3), 352-366.
- [69] Pineda, A., & Sánchez, A. (2018, December 07). Retrieved June 20, 2019 from Expansión: <https://expansion.mx/emprendedores/2018/12/07/el-inademe-desaparece-pero-continuan-los-apoyos-a-emprendedores>
- [70] Porter, M. (1985). *Competitive advantage*. New York: The Free Press.
- [71] Powell, G., & Eddleston, K. (2008). The paradox of the contented female business owner. *Journal of Vocational Behavior*, 73(1), 24-36.
- [72] Reichborn-Kjennerud, K., & Svare, H. (2014). Entrepreneurial growth strategies: the female touch. *International Journal of Gender and Entrepreneurship*, 6(2), 181-199.
- [73] Robles, L., & Zárraga-Rodríguez, M. (2015). Key Competencies for Entrepreneurship. *Procedia Economics and Finance*, 23, 828-832.
- [74] Salojärvi, S., Furu, P., & Sveiby, K. (2005). Knowledge management and growth in finnish SMEs. *Journal of Knowledge Management*, 9(2), 103-122.
- [75] Sarasvathy, S. (2000). Report on the seminar on research perspectives in entrepreneurship. *Journal of Business Venturing*, 15(1), 1-58.
- [76] Sathe, V. (1989). Fostering Entrepreneurship in the Large, Diversified Firm. *Organisational Dynamics*, 18(1), 20-32.
- [77] Schumpeter, J. (1934). *The Theory of Economic Development*. Harvard University Press.
- [78] Shiri, N., Mohammadi, D., & Hossein, S. (2012). Entrepreneurial intentions of agricultural students: effects of role model, social support, social norms and perceived desirability: scholars research library. *Archives of Applied Science Research*, 4(3), 892-897.
- [79] Solhi, S., & Rahmanian-Koshkaki, E. (2016). The antecedents of entrepreneurial innovative behavior in developing countries, a networked grounded theory approach (case study Iran). *Journal of Entrepreneurship in Emerging Economies*, 8(2), 225-262. doi:<https://doi.org/10.1108/JEEE-07-2015-0038>

- [80] Spilling, O., Lauritzen, T., Hagen, S., & Bjørnali, E. (2011). Evaluering av handlings planen for mer entreprenørskap blant kvinner. Oslo: Rapport 20/2011, NUFU.
- [81] Wennekers, S., & Thurik, A. (1999). Linking entrepreneurship and economic growth. *Small Business Economics*, 82(4), 27-55.
- [82] Zahra, S. (1993). Environment, Corporate Entrepreneurship and Financial Performance, A Taxonomic Approach. *Journal of Business Venturing*, 8, 319-340.
- [83] Zahra, S. (1996). Governance, Ownership, and Corporate Entrepreneurship: The Moderating Impact of Industry Technological Opportunities. *Academy of Management Journal*, 39(6), 1713-1735.
- [84] Zahra, S., & Covin, J. (1995). Contextual influences on the corporate entrepreneurship-performance relationship: A longitudinal analysis. *Journal of Business Venturing*, 10(1), 43-58.
- [85] Zhao, H., Seibert, S., & Lumpkin, G. (2010). The relationship of personality to entrepreneurial intentions and performance: a meta-analytic review. *Journal of Management*, 36(2), 381-404.