

# THE IMPACT OF THE ENTREPRENEURIAL ORIENTATION ON SMES PERFORMANCE: EVIDENCE FROM MEXICAN AGRIBUSINESS

María del Carmen Martínez Serna\*, Javier Eduardo Vega Martínez\*\*, Neftalí Párga Montoya\*\*

\*Universidad Autónoma de Aguascalientes, Centro de Ciencias Económicas y Administrativas, Avenida Universidad 940, Ciudad Universitaria, Villas de la Universidad ZIP Code: 20131, Aguascalientes, Aguascalientes, México

\*\*Universidad Autónoma de Aguascalientes, Centro de Ciencias Empresariales, Prolongación Mahatma Gandhi 6601 ZIP Code: 20100, Arellano, Aguascalientes, Aguascalientes, México



## Abstract

### How to cite this paper:

Martínez Serna, M. C., Vega Martínez, J., E., & Montoya, N.P. (2017). The impact of the entrepreneurial orientation on SMES performance: Evidence from Mexican agribusiness. *Risk Governance and Control: Financial Markets & Institutions*, 7(4), 6-13.  
<http://doi.org/10.22495/rgc7i4art1>

Copyright © 2017 The Authors

This work is licensed under the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0).  
<http://creativecommons.org/licenses/by-nc/4.0/>

ISSN Online: 2077-4303  
ISSN Print: 2077-429X

Received: 12.06.2017  
Accepted: 31.07.2017

JEL Classification: M10, L25, Q13  
DOI: 10.22495/rgc7i4art1

The issue of agribusiness represents at the present a challenge for management due to the evolution of technology, the market and particularly the changing needs of consumers. Entrepreneurial orientation is a strategy that positively influences the performance of business, however in the study of this relationship, the results are still inconsistent since a group of scholars in the subject noted that the strength of the relationship changes according to the context is empirically evaluated. The study contributes to evaluate the strength of the relation of entrepreneurial orientation and business performance in the context of 81 small and medium agribusinesses of Aguascalientes, México. The data are analyzed by structural equations and the results indicate that entrepreneurial orientation has a strong positive relationship in the performance of agribusiness.

**Keywords:** Entrepreneurial Orientation, Performance, SMES, Agribusiness

## 1. INTRODUCTION

The issue of agribusiness at the global level represents a challenge for the coming years because there are several factors that have influence on strategies followed by companies, such as population increase, production limited to smaller and smaller spaces, the growing demand of environmentally friendly products and better quality items, which means that there is a new demand that force this sector to be aware of the changing environment to constantly adapt its actions to better meet these different needs.

In Latin America, more than 55% of agribusiness are small companies. In countries like Venezuela, Guatemala, México and Nicaragua this percentage surpasses 70% (FAO, 2011). Data from the Rural Agro-industry Development Program in Latin America and the Caribbean (PRODAR) show that in Latin America there are around five million rural agro-industries and they generate around fifteen million jobs. One of the main challenges facing them is marketing of its products due to the increasing competition of larger companies that

dominate the market by their low prices. However, from another perspective this can mean a great opportunity for these producers since the market also demands more organic and natural products, etc., this means different characteristics to address different markets and different segments (Grass and Aguilar, 2012).

As reported by SAGARPA (2016), trade between Mexico and the United States and the European Union presented an increase in exports of approximately 10%, while in the same period the number of imports with the United States has remained constant, however, the European Union imports has grown by 10.5%. There are 10 agro-food products that represent 53% of the total exports to this country, among the main ones we find beer, tomato and avocado (SAGARPA, 2016). Besides of exporting food to the United States and the EU, Mexico also exports to Canada, Japan, Korea and China (SAGARPA, 2016). With the opening of NAFTA in 1994 (SRE) investments are made in infrastructure and technology to develop more business opportunities in the Mexican countryside, placing

the agroindustry sector as a strategic sector with potential.

In México, the primary activity is approximately 3%, but when incorporating the agroindustry activity, it increases to 9%. Mexico is part of the OECD along with 46 other countries; statistics of this organization in relation to agricultural performance represents a number below the average; thus, México has a low level of agribusiness. This study was conducted in Aguascalientes, a state located in central Mexico, its participation in primary activity range from 3.7% and 4.0% in recent years. There is a low participation of the agricultural sector in the state GDP with 5% that represents 1.08% of national agricultural GDP and 12% of the EAP is in this activity (Programa Sectorial de Bienestar Social 2010 -2016, 2011).

The state government has proposed in its public policies to promote the sustainability of the agroindustry sector through support and services that increase production and productivity by promoting the creation of productive chains, promoting value-adding processes, meeting market demand, and professionalizing agricultural and agroindustry activities.

Among the factors that influence the sector are unfavorable trade agreements (allow entry of low-cost products and / or make export difficult), changes in market prices, lack of timely financing and availability of budget that allows the operation of the programs of agricultural support, the complexity of the interaction of producers also with governments and centers of investigation and science.

More and more arable land is being abandoned, severely increasing the dependence of food products from national or international external sources.

It is imperative to re-direct the actions to be carried out for agricultural development in order to improve economic, social and the quality of life of the rural areas and thus achieve the development of the sector, which will not limit food dependence.

A master plan of agro-logistics has been initiated by local government to promote the integration of productive chains, which will nucleate agribusiness and generate business opportunities in the field as well as the linkage of production with the demand for food products in cities (Programa Sectorial de Bienestar Social 2010 -2016, 2011).

Undoubtedly, this search for new opportunities implies that companies incorporate internal abilities in their management that allow them to cope with the changing environment. Among the main challenges they face, are the reduction of production resources, transformations in social structures, supply chains transformations and globalization (Alvarado and Cordero, 2012).

Grande et al., (2011) indicate that there are few studies that research the relationship of entrepreneurial orientation and performance aimed to agribusiness, which represents an opportunity to demonstrate the positive results. On the other hand, Martins et al., (2012) discuss the importance of the construct the last two decades, but until a few years ago, it has begun its study in emerging contexts, argue with previous empirical and conceptual studies that EO is not appropriate in all environments, and point out that "the magnitude of the relationship between EO and company results,

depends on the external environment" accepting the arguments of Tang et al., (2008). The authors also consider that the discussion is still open regarding the relation of EO and performance because in the literature the results have not been consistent.

The main contribution of this study is to understand the role of EO as a positive influence key on the performance in an emerging country such as Mexico. In agreement with the literature, it is relevant to better understand this relationship and analyze the influence of EO on performance in a group of SMEs, particularly agribusiness, which in this context, is considered strategic because of the need for small entrepreneurs to poses the ability to detect opportunities in the market to carry out strategic actions reflected in entrepreneurial actions.

## 2. LITERATURE REVIEW

Entrepreneurial orientation has been evaluated as an important antecedent in companies that positively impacts on performance. There is vast of knowledge about this subject to understand the relationship, a group of studies on potential moderating variables are also found and another group of scholars explores the magnitude of the relationship between EO and organizational performance (Shan et al., 2016).

In Mexico, studies have been carried out to find out if the entrepreneurial orientation (EO) is one of the key antecedents to foster better results in SMEs. According to Naldi et al., (2007), the EO research would be favorable if it is focused on an organizational context, in this sense it is understood that the business environment may differ in each of the industrial sectors. In the case of México, the development of agribusiness for example, does not depend entirely on the support granted by the government, it will also depend on the infrastructure, the knowledge and the access to communication to mention only some factors. We must consider that cultural factors and the situation of the environment may represent an obstacle to its development, for this reason, entrepreneurial orientation can be strategic to explore new opportunities in agribusiness.

Empirical evidence suggests that the relationship between entrepreneurial orientation and performance is moderated by several factors such as technology or marketing actions, but also the results of these effects vary by industry (Choi et al., 2016).

Vega et al., (2015) explains the need for companies to constantly work on detecting proactively new market opportunities, so if they do not have this ability, they may not serve new markets or miss new opportunities. Thus, by developing abilities, companies will be able to acquire competitive advantages that allow them to increase its profitability. That is why it is of the utmost importance that companies develop strategic actions that allow them to develop their entrepreneurial orientation (EO).

Hernández (2015) argues that entrepreneurial orientation can be seen in two main aspects, the first in which entrepreneurial orientation is a business initiative and the other as a strategic undertaking, where the latter can be understood as the search for opportunities with the aim of creating competitive advantages.

In accordance with Martins et al., (2012), the entrepreneurial attitude seen from a strategic point of view refers to the positions that managers must take to discover or have knowledge of new opportunities in business markets. In the same way, Miller and Friesen (1982) mentioned that an entrepreneurial enterprise was one that was dedicated to product innovation, took the risk by undertaking some projects and was proactive in these actions, which provided them with competitive advantages over their competitors.

For Tang et al., (2008) the entrepreneurial orientation (EO) refers to the construction of strategies developed by different institutions that provide actions to be able to undertake, that is why this construct has regained much importance and in the literature.

Another definition of entrepreneurial orientation is the one that considers it as a set of processes, actions and practices carried out by the organizations to make the right decisions that will lead them to undertake (Dess and Lumpkin, 2005; Covin and Slevin, 1991; Miller, 1983).

Some of the main objectives of the entrepreneurial orientation in corporations, conforming to Birkinshaw (1997), are to renew organizational strategies, to achieve new forms of economic growth and to reach the international context based on: a) Effectiveness in adjusting resources to obtain competitive advantages (Covin and Miles, 1999) b) Achieving profitability in organizations (Zahra, 1991) c) Development of innovations (Lumpkin and Dess, 1996).

For the companies the entrepreneurial spirit has oriented them towards the search of new business opportunities that develops the growth, the technological progress and the creation of wealth; this activity represents one of the strongest drivers of economic growth and enterprise development (Lumpkin and Dess, 1996).

In order to measure the entrepreneurial orientation, Covin and Slevin (1989) develop a scale that would help the measurement of the EO construct using the three dimensions proposed by Miller (1983) which are innovation, proactivity and risk taking, all dimensions must contribute to the construct for develop entrepreneurial orientation (Vega, 2016).

A few years later, Lumpkin and Dess (1996) based on the scale developed by Covin and Slevin (1989) propose another scale, which is currently one of the most used to measure EO, based on the three dimensions initially proposed by Miller (1983) and used in the Covin and Slevin (1989) scale but adds two new dimensions: competitive aggressiveness and autonomy. All dimensions of the construct may or may not be part of the actions of a company, this aspect differentiates the scale from that of Covin and Sevin (1989).

This research measures the entrepreneurial orientation with five dimensions, innovation, autonomy, risk taking, proactivity and competitive aggressiveness, which vary independently depending on the external and internal context.

According to Shan et al., (2016) one-dimensional construct does not adequately represent the various factors that involve the process of undertaking and its different impacts on performance results. In the literature, the evaluation

of the magnitude of this relation presents diverse results, from very low relation to non-significant relations that is why the investigation of the subject is still incomplete (Lumpkin & Dess, 1996).

Innovation refers to the tendency of the firm to initiate and support new ideas for the creation of products, services or processes. Autonomy indicates the independence of the actions and the decision making of the members of the organization, delegating the opportunity to make decisions and implement them, motivates its members achieving greater commitment, achievement of objectives and provides flexibility in firms, these factors contribute to performance. Risk-taking is the degree to which management is willing to work with large and risky commitments, that means absorb the cost of failures. As a result, it motivates innovation, companies are willing to make investments or increase commitments to achieve objectives, which mean that senior management supports with human and financial resources motivating the team members to greater sense of ownership in projects and greater risk tolerance (Lumpkin and Dess, 1996).

Proactivity refers to the way that firms relate to the entry process into new market, which is necessary for a better organizational performance. The competitive aggressiveness is characterized by the responsiveness to the challenges that competitors make. This action leads to a better company performance as it engages in activities aimed at superior results than its competence (Lumpkin and Dess, 1996).

Previous studies have found that EO may be aligned with factors external to the firm (Stam and Elfring, 2008; Tan and Tan, 2005). In this context, it is important to understand the importance of technological development (Newberg et al., 2007; Stam and Elfring, 2008).

It is also demonstrated the effect of risk taking as the dimension of EO on the performance of family companies, finding a negative relationship. They indicated that risk taking has not been considered in the literature of the relationship of EO and performance, especially to its role in the organizational context, since firms differ depending on the context in which they are found (Naldi et al., 2007).

About this relationship, it is proposed to research the role of contingent factors such as the type of industry in which the company competes (Rauch et al., 2009). Academics in the field of EO have called for research on how industry influences the relationship between EO and performance (Rigtering et al., 2014; Choi, S. B., and Williams, C., 2016).

Studies such as those performed by Hernández (2014) have studied the construct of entrepreneurial orientation in the agribusiness industry as well as its effect, in this case, of the export activity of the organization. The results demonstrated that the entrepreneurial orientation positively affects the export activity of the company, which reflected an increase in the opening of international markets. On the other hand, there are studies from authors such as Vega et al., (2016) in which the effect of EO on innovation of Mexican SMEs is analyzed, the results proved a positive relationship. In addition, Martins et al., (2012) suggest that the entrepreneurial

orientation has a positive effect on the profitability of companies.

The study by Grande et al., (2011) based on the resource perspective (RBV), suggests that the company's own resources and entrepreneurial orientation can influence the performance of small agribusiness in Norway. Thus, it turns out that the unique resources or assets that a company has, as well as financial capacity, and entrepreneurial efforts influence performance.

In the same vein, Sedyowidodo et al., (2017) analyzed the relationship between entrepreneurial orientation and business performance in Indonesia, taking as moderating variables organizational learning and innovation, demonstrating their importance in business performance. Rigtering et al., (2017) explore how entrepreneurial orientation and strategic planning lead to better performance by finding that innovation and proactivity combined with strategic planning positively influence performance. Engelen et al., (2015) mentioned that EO is a positive precedent for performance, and it will be greater if transformational leadership characteristics are incorporated in management. On the other hand, it has also been incorporated in the scientific discussion studies that observe how the relation of EO and performance is improved with innovation speed, but in ventures companies (Shan et al., 2016).

There are studies that point out that the entrepreneurial orientation has a positive influence on the export performance of Portuguese SMEs, so they determine the need to invest in EO as a strategic determinant, which contributes to the growth of small firms in foreign markets.

The previous studies provide empirical evidence that the entrepreneurial orientation affects structural areas of the organizations, so this study will allow the agribusinesses to have knowledge of the essential aspects to develop or improve an EO and thus increase its performance.

*Hypothesis 1:* Entrepreneurial orientation has a direct and positive impact on the performance of small and medium-sized enterprises in the agribusiness sector

### 3. RESEARCH METHODOLOGY

The study was a quantitative, non-experimental, cross-sectional, correlational-causal design based on the statistical technique of Partial Least Squares Structural Equation Modeling (PLS-SEM), with the statistical software Smart PLS v. 3.2.6 (Ringle et al., 2015) the measurement model is evaluated to execute the structural model (Lohmöller, 2013). The method of repeated indicators was used to measure the model, in which all the manifested variables that constitute the upper-order variable of the entrepreneurial orientation were considered (Wetzels et al., 2009). The statistical tool PLS allows to measure non-parametric tests for possible problems of normality in the variables analyzed, other features of the PLS method is that it does not require distributional assumptions, it can evaluate more complex models without generating problems in the estimation without this leading to problems of convergence and consistency.

It allows working data with few observations and a greater number of latent variables, it is

possible to estimate models with small samples, it eliminates possible problems related to multicollinearity. In the use of structural equations with PLS there is, formally, no evidence of significance for the results of the parameter estimates. This feature is supported by Hsu et al., (2006, 368).

From the assumptions established in the regression models, the most important is the predictor specification, which states that the systematic part of the linear regression must be equal to the conditional expectation of the dependent variable. In this way, the residues are not correlated, nor is there any correlation between the residue of a certain endogenous latent variable and its exogenous latent variables. This allows the topic of endogeneity not to be present. PLS does not suffer from the problems of identification, it tries to minimize the residual variances resulting from the predictive relations (Caballero, 2006).

Entrepreneurial orientation can be defined as the ability of a company to face environmental risks, identify opportunities for technological development, and obtain the necessary resources for the company growth (Lumpkin and Dess, 1996). It is proposed to measure this construct with 5 dimensions through an adaptation of the scale of Lumpkin and Dess (1996): Autonomy, Innovation, Risk taking, Proactivity and Competitive Aggressiveness.

The questionnaire was addressed to members of senior management, who were asked to indicate their perception in each one of the dimensions. The autonomy dimension was measured with six items in which it was aimed to know if the company develops independent work units to reinforce the critical thinking of its workers, or effective ways that allow the employees to have access to the equipment and resources to put their new ideas into practice. The innovation dimension was measured with six items in order to know the intention of the company to stimulate innovation in technology, products or administrative processes among its employees, stimulating creativity and experimentation among its workers and employees. In the risk-taking dimension measured with six items, was asked about whether the company invests on high-risk projects that seek growth, the acquisition of information technology and the acquisition of external information to the organization.

As for the proactivity dimension, it was measured with 6 items in order to know if it adopts creative methods of business management, production capacity and new products or technology better than the competition; If the company looks for opportunities such as new markets or new customers to improve market position and endeavors to be the first to gain the benefits of the industry and identify the future needs of current and future customers. The dimension of competitive aggressiveness was measured with 6 items which aimed to know if the company assumes an aggressive position to adapt to the changes demanded by the market, if they adopt successful techniques of the competition to improve its competitive position and if it uses unconventional strategies to displace market competition.

In order to measure the performance construct, the evaluation was performed through different

organizational aspects to measure the results of the companies analyzed. This type of evaluation has been carried out in different empirical studies (Narver and Slater, 1990 and Jaworski and Kohli 1993; Gómez, 2008). This research considered five dimensions: Profitability, Achievement of Objectives, Sales Increase, Degree of Customer Satisfaction, Employees Satisfaction, Overall Performance of Companies.

The population has been extracted from the National Statistical Directory of Economic Units (INEGI, 2015), considering only 97 agribusinesses classified as SMEs in the state of Aguascalientes. The sample size was calculated from simple random sampling with an expected acceptance rate of 50%, with a significance level of 5% and a precision level of 5%, with a minimum estimate of 78 firms to be surveyed, it was possible to apply the questionnaire with the scales defined in 81 economic units to test the hypotheses proposed.

The characteristics of the SMEs that define the sample in terms of the number of employees were 22.2% from five to ten employees (micro), 67.5% from 11 to 50 employees (small) and 9.46% from 51

to 250 employees (medium). Furthermore, 42.3% of the companies surveyed have less than 10 years in operation, 24.6% are companies between ten and twenty years old and 33.7% have more than 20 years of operation. The companies surveyed are mostly family-owned, representing 77.8% of the total. In addition, 77.8% of the sample has a family member in management positions, most with men being the responsible representing 86.4% and having a level of studies mainly a degree or engineering (32.1%), the rest with basic education and high school (51.9%).

The reliability and validity of the measurement scales was estimated from the Cronbach's Alpha coefficient (Cronbach, 1951), which must be greater than 0.7 (Nunnally, 2009). Composite Reliability Index which is above the minimum established by Fornell and Larcker (1981): 0.7. Likewise, it was found that the reliability of the indicator is above 0.5. Considering what was stated by Hair et al., (2014), the t values of the manifested variables are significant to verify the explained variance of the construct. The last test of reliability applied is the Extracted Variance Index, which is maintained above that considered by Hair et al., (2014): 0.5.

**Table 1.** Reflective Measurement Model Evaluation

Construct	Indicator	Convergent validity				Consistency of internal reliability	
		Load	Indicator Reliability	T Value	IVE	Composite Reliability	Cronbach Alpha
		>0.708	>0.5	>2.57	>0.5	>0.7	>0.7
Autonomy (LOC1)	AU3	0.77	0.593	14.409	0.688	0.868	0.768
	AU4	0.924	0.854	40.761			
	AU5	0.786	0.618	18.915			
Innovation (LOC2)	IN1	0.792	0.627	16.194	0.655	0.905	0.868
	IN2	0.787	0.619	14.461			
	IN3	0.842	0.709	24.381			
	IN4	0.823	0.677	27.076			
Competitive aggressiveness (LOC3)	AC1	0.769	0.591	16.112	0.704	0.877	0.788
	AC5	0.867	0.752	27.700			
	AC6	0.877	0.769	29.805			
Proactivity (LOC4)	PR1	0.789	0.623	16.016	0.589	0.896	0.861
	PR2	0.73	0.533	11.412			
	PR3	0.795	0.632	13.962			
	PR4	0.766	0.587	14.560			
	PR5	0.761	0.579	16.835			
	PR6	0.762	0.581	16.672			
Risk taking (LOC5)	TR1	0.86	0.740	26.659	0.710	0.936	0.918
	TR2	0.831	0.691	27.459			
	TR3	0.884	0.781	32.634			
	TR4	0.839	0.704	19.280			
	TR5	0.829	0.687	18.728			
	TR6	0.811	0.658	14.819			
Performance	PE3	0.774	0.599	14.807	0.780	0.934	0.906
	PE4	0.908	0.824	35.592			
	PE5	0.936	0.876	62.297			
	PE6	0.905	0.819	48.891			
Entrepreneurial orientation	LOC1	0.711	0.506	11.515	0.642	0.899	0.940
	LOC2	0.844	0.712	21.312			
	LOC3	0.843	0.711	20.795			
	LOC4	0.813	0.661	10.957			
	LOC5	0.788	0.621	17.602			

Source: Authors (2017)

With respect to discriminant validity, we observe in Table 2 the analyzes used to verify that the constructs are discriminant with each other. In the first instance, the squared values of the

extracted variance index are presented in the diagonal of the matrix. The values obtained from test of Heterotrait-Monotrait (HTMT90) (Cuevas-Vargas, 2016; Henseler, Ringle and Sarstedt (2015),

since it is a better method that determines the validity of the construct that is sensitive to the estimation of the correlations of the constructs. Below the diagonal, we present the correlations of

the specified constructs in agreement with the test criteria of Fornell and Larcker (1981), likewise, values are inferior to 0.90, indicating that there is factor discrimination (Gold et al., 2001).

**Table 2.** Discriminant validity of constructs

	<i>Competitive Aggressiveness</i>	<i>Autonomy</i>	<i>Innovation</i>	<i>Proactivity</i>	<i>Risk Taking</i>
<i>Competitive Aggressiveness</i>	<b>0.839</b>	0.623	0.772	0.744	0.795
<i>Autonomy</i>	0.494	<b>0.829</b>	0.776	0.747	0.362
<i>Innovation</i>	0.643	0.638	<b>0.809</b>	0.635	0.598
<i>Proactivity</i>	0.63	0.608	0.553	<b>0.767</b>	0.532
<i>Risk Taking</i>	0.682	0.309	0.536	0.483	<b>0.843</b>

Source: Own elaboration based on the results obtained from the Smart PLS 3 statistical software

Having the previously performed criteria can be determined that there is reliability and validity in the theoretical model of measurement from the method of least squares.

#### 4. RESULTS

The PLS method emphasizes the analysis of the explained variance. The predictive power is evaluated with R2 indicating the amount of variance explained by the model. According to Chin criteria (1998, cited by Henseler et al., 2009, 303), models estimated with PLS whose R2 of 0.67 are considered substantial, 0.33 is moderate and 0.19 is poor (Martínez, 2016).

In order to verify the hypothesis formulated in this research, a non-parametric bootstrapping

approach was used to validate the PLS model procedure, this method generates samples to obtain estimates for each parameter in the structural model, replacing the sample obtained with the original data with the same number of cases. In this way, the model was predictably tested as shown in Table 3, the R2 coefficient represents that 33.8% of the entrepreneurial performance is explained by the entrepreneurial orientation. In accordance to Chin (1998) it is considered as a moderate causal relation by the independent variable, the standardized  $\beta$  coefficient is indicating a positive and significant effect to 0.1%, reason why H1 is not rejected. Thus, it is identified an impact of 56.7% of entrepreneurial orientation in business performance with a great effect according to the Cohen test (1988).

**Table 3.** Hypothesis testing

<i>Hypothesis</i>	<i>Path</i>	<i>Standardized coefficient B</i>	<i>t-value</i>	<i>f<sup>2</sup></i>	<i>R<sup>2</sup></i>
H <sub>1</sub> : There are effects on the entrepreneurial orientation in the business performance of the agribusiness of Aguascalientes	Entrepreneurial orientation → Business performance	0.567***	6.827	0.542	0.338
Significance: *** = p<0.001; ** = p<0.05 Effect Size <i>f<sup>2</sup></i> : >0.02= Small; >0.15 = Medium; >0.35 Large (Cohen, 1988). R2:> 0.20 = Weak; > 0.33 Moderate; > 0.67 = Substantial (Chin, 1998).					

Source: Own elaboration based on the results obtained from the Smart PLS 3 statistical software

#### 5. DISCUSSION

The results obtained demonstrate a positive and direct impact of entrepreneurial orientation on agribusiness results in the state of Aguascalientes, México; which is consistent with several studies that analyze this relationship in different economic sectors and already performed in studies in the same sector, but in different context.

In the case of Grande et al., (2011) the same relation was studied with a sample specifically carried out on farms, but in a different agribusiness context (Europe) from this study. Pursuant to its arguments, an unfavorable environment or hostile relationship of entrepreneurial orientation as an influence on performance tends to be more significant as it motivates higher levels of innovation and risk taking, confirming the importance of the context. These results are confirmed in this study, since it has great influence and the results also affirm a positive relationship. The research performed by Hernández (2015), studied the same relationship in agro-food cooperatives and explained

the positive relationship between entrepreneurial orientation and company performance. But they incorporate that this relationship is greatly improved if agribusiness add social responsibility as a mediating variable in this relationship. We can say that this construct is quite important for the increase in the performance of agribusiness, so that managers in this sector must develop strategic actions that lead them to have an increasingly better entrepreneurial orientation. However, there are also studies that report low or no significant relationship between both constructs (George, 2011), in this case the results given the condition of the business environment of the agroindustry, the strength of relationship is highly significant and positive.

#### 6. CONCLUSION

The aim of this study was to determine the impact of the entrepreneurial orientation on the performance of companies in the context of Mexican agribusiness. One hypothesis was formulated with a positive impact in the relationship and the results

obtained allowed to prove it. As mentioned above, the agribusiness entrepreneurs must develop activities that encourage them to detect and take advantage of new opportunities in the markets they are working on or discover new ones. Given the global context as stated in FAO (2011), world hunger has increased and investment in the rural sector has declined, affecting food security especially in emerging countries. Mexico as one of this emerging economies, is about to face the challenges in the agribusiness sector due to the changes announced to the Free Trade Agreement (FTA) and the processes of globalization that generalize a constant transformation and new trade agreements.

## REFERENCES

- Alvarado, P. K., & Cordero, S. N. (2012). Análisis de los sistemas de innovación en el contexto de los Agronegocios. 10th Latin American and Caribbean Conference for Engineering and Technology, Panama City, Panama 1 July 23-27.
- Birkinshaw, J. (1997). Entrepreneurship in multinational corporations: the characteristics of subsidiary initiative. *Strategic Management Journal*, 18(3), 207-229. [https://doi.org/10.1002/\(SICI\)1097-0266\(199703\)18:3<207::AID-SMJ864>3.3.CO;2-H](https://doi.org/10.1002/(SICI)1097-0266(199703)18:3<207::AID-SMJ864>3.3.CO;2-H)
- Caballero Domínguez, A. J. (2006). SEM vs. PLS: un enfoque basado en la práctica. Un Trabajo presentado en el IV Congreso de Metodologías de Encuestas. Madrid, España.
- Chin, W.W. (1998). The partial least squares approach to structural equation modeling. In: G.A. Marcoulides (Ed), *Modern Methods for Business Research*, Mahwah NJ: Lawrence Erlbaum Associates, Publisher, 295-336.
- Choi, S. B., & Williams, C. (2016). Entrepreneurial orientation and performance: mediating effects of technology and marketing action across industry types. *Industry and Innovation*, 23(8), 673-693. <https://doi.org/10.1080/13662716.2016.1208552>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Lawrence Earlbaum Associates. Hillsdale, NJ, 20-26
- Covin J.G. & Miles M.P. (1999). Corporate entrepreneurship and the pursuit of competitive advantage. *Entrepreneurship Theory and Practice*, 23(3), 47-63.
- Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, 10, 75-87. <https://doi.org/10.1002/smj.4250100107>
- Covin, J. G., & Slevin, D. P. (1991). A conceptual model of entrepreneurship as firm behavior. *Entrepreneurship Theory and Practice*, 16: 7-25.
- Cuevas-Vargas, H. (2016). La influencia de la innovación y la tecnología en la competitividad de las Pymes manufactureras del estado de Aguascalientes. Tesis de doctorado. Universidad Autónoma de Aguascalientes, Centro de Ciencias Económicas y Administrativas. Retrieved from the World Wide Web: <http://bdigital.dgse.uaa.mx:8080/xmlui/handle/123456789/1158>
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297-334. <https://doi.org/10.1007/BF02310555>
- De Clercq, D., Dimov, D., & Thongpapanl, N. (2010). The moderating impact of internal social exchange processes on the entrepreneurial orientation-performance relationship. *Journal of Business Venturing*, 25, 87-103. <https://doi.org/10.1016/j.jbusvent.2009.01.004>
- Dess, G.G., & Lumpkin, G.T. (2005). The role of entrepreneurial orientation in stimulating effective corporate entrepreneurship. *Academy of Management Executive*, 19, 147-156. <https://doi.org/10.5465/AME.2005.15841975>
- Engelen, A. Gupta, V. Strenger, L. & Brettel, M. (2015). Entrepreneurial orientation, firm performance and the moderating role of transformational leadership behaviors. *Journal of management*, 41(4), 1069-1097. <https://doi.org/10.1177/0149206312455244>
- Food and Agriculture Organization of the United Nations (FAO). (2011). Informe del Foro Regional de Agroindustrias en América Latina. Retrieved from the World Wide Web: <http://www.fao.org/docrep/015/i2421b/i2421b00.pdf>. ISBN 978-92-5-007037-7
- Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50. <https://doi.org/10.2307/3151312>
- George, B.A. (2011). Entrepreneurial orientation: Theoretical and empirical examinations of the consequences of differing construct representations. *Journal of Management Studies*, 48(6), 1291-1313. <https://doi.org/10.1111/j.1467-6486.2010.01004.x>
- Grande, J., Madsen, E.L. & Borch, O.J. (2011). The relationship between resources, entrepreneurial orientation and performance in farm-based ventures. *Entrepreneurship & Regional Development*, 23(3-4), 89-111. <https://doi.org/10.1080/08985620903183710>
- Grass, R.J.F., & Aguilar, Á. J. (2012). El enfoque de Sistemas Agroalimentarios Localizados SIAL. *Textual*, 60, 45 - 60.
- George, B.A. (2011). Entrepreneurial orientation: A theoretical and empirical examination of the consequences of differing construct representations. *Journal of Management Studies*, 48(6), 1291-1313. <https://doi.org/10.1111/j.1467-6486.2010.01004.x>
- Gold, A.H., Malhotra, A. & Segars, A.H. (2001). Knowledge management: an organizational capabilities perspective. *Journal of Management Information Systems*, 18(1), 185-214. <https://doi.org/10.1080/07421222.2001.11045669>
- Gómez, F. (2008). Responsabilidad social corporativa y performance financiera: Treinta y cinco años de investigación empírica en busca de un consenso. *Principios: Estudios de Economía Política*, 11, 5-22.
- Hair, J.F., Hult, G.T.M., Ringle, C.M. & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*, Sage Publications.
- Henseler, J., Ringle, C.M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115-135. <https://doi.org/10.1007/s11747-014-0403-8>
- Hernández, P.F. (2014). Orientación emprendedora de las cooperativas agroalimentarias con actividad exportadora. *CIRIEC-España, Revista de Economía Pública, Social y Cooperativa*, (80), 29.
- Hernández, P.F. (2015). El efecto mediador de la RSE en la relación de la orientación emprendedora y el desempeño de las cooperativas agroalimentarias. *CIRIEC-España, Revista de Economía Pública, Social y Cooperativa*.
- Hsu, S.H., Chen, W.H., & Hsieh, M.J. (2006). Robustness testing of PLS, LISREL, EQS and ANN-based SEM for measuring customer satisfaction.

- Total Quality Management & Business Excellence*, 17(3), 355-372. <https://doi.org/10.1080/14783360500451465>
28. Instituto Nacional de Estadística y Geografía. (INEGI). (2015). Retrieved from the World Wide Web: <http://www3.inegi.org.mx/sistemas/mapa/denue3d/default.aspx>
  29. Jaworski, B. J., & Kohli, A. K. (1993). Market orientation: Antecedents and consequences. *Journal of Marketing*, 57 (3), 53-70. <https://doi.org/10.2307/1251854>
  30. Lohmöller, J.B. (2013). *Latent variable path modeling with partial least squares*. Springer Science & Business Media.
  31. Lumpkin, G., & Dess, G. (1996). Clarifying the entrepreneurial orientation construct & linking it to performance. *Academy of Management Review*, 21, 135-172. <https://doi.org/10.2307/258632>
  32. Madsen, E. (2007). The significance of sustained entrepreneurial orientation on performance of firms—a longitudinal analysis. *Entrepreneurship & Regional Development*, 19, 185-204. <https://doi.org/10.1080/08985620601136812>
  33. Martínez, J. A. (2016). Endogeneidad, diferencia de medias y regression. RICYDE. *Revista Internacional de Ciencias del Deporte, Octubre-Sin mes*, 335-337. <https://doi.org/10.5232/ricyde2016.046ed>
  34. Martins, I., Uribe, F., & Mesa, D. (2012). Contribución de la orientación emprendedora a la rentabilidad de las pymes: Un análisis contingente considerando la función del entorno. *Ecos de Economía*, 16(35), 45-71.
  35. Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, 29, 770-791. <https://doi.org/10.1287/mnsc.29.7.770>
  36. Miller, D., & Friesen, P. H. (1982). Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. *Strategic Management Journal*, 3, 1-25. <https://doi.org/10.1002/smj.4250030102>
  37. Naldi, L., Nordqvist, M., Sjöberg, K., & Wiklund, J. (2007). Entrepreneurial orientation, risk taking, and performance in family firms. *Family business review*, 20(1), 33-47. <https://doi.org/10.1111/j.1741-6248.2007.00082.x>
  38. Narver, J. C., & Slater, S. F. (1990). The effect of a market orientation on business profitability. *The Journal of marketing*, 20-35. <https://doi.org/10.2307/1251757>
  39. Newbert, S. (2007). Empirical research on the resource-based view of the firm: An assessment and suggestions for future research. *Strategic Management Journal*, 28: 121-146. <https://doi.org/10.1002/smj.573>
  40. Nunnally, J. (2009) *Teoría Psicométrica*. México: Trillas.
  41. Programa Sectorial 2010-2016. (Gobierno de Aguascalientes) (2016). Retrieved from the World Wide Web: [www.aguascalientes.gob.mx/transparencia.../PROGRAMAS/Sector\\_Desarrollo.pdf](http://www.aguascalientes.gob.mx/transparencia.../PROGRAMAS/Sector_Desarrollo.pdf)
  42. Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship: Theory and Practice*, 33, 761-787. <https://doi.org/10.1111/j.1540-6520.2009.00308.x>
  43. Ringle, C.M., Wende, S. & Becker, J.M. (2015). *Smart PLS 3*. Boenningstedt: SmartPLS GmbH.
  44. Rigtering, J. C., Kraus, S., Eggers, F., & Jensen, S. H. (2014). A comparative analysis of the entrepreneurial orientation/growth relationship in service firms and manufacturing firms. *The Service Industries Journal*, 34 (4), 275-294. <https://doi.org/10.1080/02642069.2013.778978>
  45. Rigtering, J. C., Eggers, F., Kraus, S., & Chang, M. L. (2017). Entrepreneurial orientation, strategic planning, and firm performance: The impact of national cultures. *European Journal of International Management*, 11(3), 301. <https://doi.org/10.1504/EJIM.2017.083872>
  46. Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación. (SAGARPA). (2016). Retrieved from the World Wide Web: [http://www.sagarpa.gob.mx/quienesomos/datosabiertos/sagarpa/Documents/Balanza\\_Ag\\_MEXICO-EU\\_%20Ene-Abr\\_2016.pdf](http://www.sagarpa.gob.mx/quienesomos/datosabiertos/sagarpa/Documents/Balanza_Ag_MEXICO-EU_%20Ene-Abr_2016.pdf)
  47. Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación. (SAGARPA). (2016). Retrieved from the World Wide Web: <http://www.gob.mx/sagarpa/prensa/historia-de-exito-del-tlc-en-el-sector-agroalimentario-gracias-al-prestigio-y-calidad-de-productos-mexicanos-jcr>
  48. Secretaría de Relaciones Exteriores. (SRE). (2016). Retrieved from the World Wide Web: <https://mexuea.sre.gob.mx/index.php/tlcen>
  49. Shan, P., Song, M., & Ju, X. (2016). Entrepreneurial orientation and performance: Is innovation speed a missing link? *Journal of Business Research*, 69(2), 683-690. <https://doi.org/10.1016/j.jbusres.2015.08.032>
  50. Sedyowidodo, U.A., Basbeth, F.B., Sule, E.T.C. (2017). Entrepreneurial orientation and business performance: The mediating role of organizational learning and innovation in state owned enterprise (SOE) in Indonesia. *Journal of Engineering and Applied Sciences*, 12, 417-429.
  51. Stam, W., & Elfring, T. (2008). Entrepreneurial orientation and new venture performance: The moderating role of intra- and extraindustry social capital. *Academy of Management Journal*, 51, 97-111. <https://doi.org/10.5465/AMJ.2008.30744031>
  52. Tan, J., & Tan, D. (2005). Environment-strategy coevolution and coalition: A staged-model of Chinese SEOs under transition. *Strategic Management Journal*, 26, 141-157. <https://doi.org/10.1002/smj.437>
  53. Tang, J., Tang, Z., Marino, L., Zhang, Y., & Li, Q. (2008). Exploring an inverted U-shape relationship between entrepreneurial orientation and performance in Chinese ventures. *Entrepreneurship Theory and Practice*, 32, 219-239. <https://doi.org/10.1111/j.1540-6520.2007.00223.x>
  54. Vega, M. J. E., Maldonado, G. G., & Martínez, S. C. M. (2015). The impact of entrepreneurial orientation on the innovation of SMEs in Mexico. *International Journal of Arts and Commerce*, 4(9), 161-172.
  55. Wetzels, M., Odekerken-Schröder, G., & Van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. *MIS quarterly*, 177-195.
  56. Wiklund, J. (1999). The Sustainability of the Entrepreneurial Orientation: Performance Relationship. *Entrepreneurship Theory and Practice*, 24, 37-48.
  57. Zahra, S. A. (1991). Predictors and financial outcomes of corporate entrepreneurship: An exploratory study. *Journal of Business Venturing*, 6 (4), 259-285. [https://doi.org/10.1016/0883-9026\(91\)90019-A](https://doi.org/10.1016/0883-9026(91)90019-A)