

# The Relationship between Innovation, Financing and Entrepreneurship in Mexico's SMEs

La relación entre Innovación, Financiamiento y Emprendimiento en las Pymes en México

Dr. Alfonso Martín Rodríguez<sup>1</sup>, C. Dra. Virginia Guzmán Díaz de León<sup>2</sup> and CP. Itzel Gutiérrez Jiménez<sup>3</sup>

<sup>1</sup> Departamento de Finanzas, Universidad Autónoma de Aguascalientes  
Email : [amartinr@correo.uaa.mx](mailto:amartinr@correo.uaa.mx)

<sup>2</sup> Departamento de Contaduría, Universidad Autónoma de Aguascalientes  
Email: [v\\_gdl@hotmail.com](mailto:v_gdl@hotmail.com)

<sup>3</sup> Departamento de Contaduría, Universidad Autónoma de Aguascalientes

## Abstract

*This paper aims to establish the relationship between financing, innovation and entrepreneurship in SMEs in the State of Aguascalientes (Mexico), since they are considered the factors of success in companies; as well as financing is considered as one of the crucial elements for the growth and survival of these in a competitive environment, since it is considered that if SMEs have greater financing, they have more opportunities to guide their actions to undertake within their activities, as entrepreneurship is considered the engine of growth and economic progress, as it generates employment and offers solutions. Access to external finance has been identified as one of the determinants of innovation; however, disinformation is an obstacle in financial decision making when resources are sought to finance innovations. The literature on innovation and financing focuses mainly on large companies and on R & D funding.*

**Keywords:** innovation, financing and entrepreneurship

**Resumen estructurado con palabras clave**

Este trabajo tiene como objetivo establecer la relación entre financiamiento, innovación y emprendimiento en las Pymes del Estado de Aguascalientes, ya que son considerados como factores de éxito en las empresas; la financiación es uno de los elementos cruciales para el crecimiento y la supervivencia en un entorno competitivo, ya que si las pymes cuentan con mayor financiamiento, tienen más oportunidades para orientar sus acciones dentro de sus actividades, el espíritu emprendedor se considera el motor del progreso económico, ya que genera empleo y ofrece soluciones.

El acceso al financiamiento externo se ha identificado como uno de los factores determinantes de la innovación, sin embargo, la desinformación es un obstáculo en la toma de decisiones cuando se buscan recursos para financiar innovaciones. La literatura sobre innovación y financiamiento se centra principalmente en las grandes empresas y en el financiamiento en I + D.

**Palabras clave:** Innovación, Financiamiento, Emprendimiento

**1. Introduction**

Entrepreneurship is the engine of growth and economic progress, as it generates employment and offers solutions to the needs of the population. The degree of entrepreneurship in a country or region is conditioned by the environment in which the entrepreneurial activity is carried out since this environment can facilitate or discourage the implementation of new initiatives (Fuentelsaz, Gonzalez, & Maicas, 2015).

It should be noted that the relationship between a favorable environment for business development and the number of companies created is not linear, comparing the figures of the Global Entrepreneurship Monitor (measures entrepreneurship in the countries), with those of the World Bank study (measures how favorable is the environment for the creation of companies). It is observed that countries with more favorable environments are not necessarily those with higher degrees of entrepreneurship (The International Bank for Reconstruction and Development/World Bank, 2009); however, the sustainability of the start-up companies does show an important relationship with the quality of the environment of doing business.

*Doing Business* analyzes business regulations from the perspective of small and medium-sized businesses. In the 2016 edition, it captures different dimensions of the business climate in the 32 Mexican states through four indicators: opening a business, obtaining construction permits, registering property and enforcing contracts. According to the aggregate classification of the four areas analyzed, it is easier to do business in Aguascalientes than in any other state of Mexico (International Bank for Reconstruction and Development, 2016).

Innovation plays a fundamental role in the economic development of nations; therefore, the role of new companies is vital as they are responsible for introducing innovations in the market, which translates into new products and services (Schumpeter, 1934). In fact, one of the most important functions of new firms is to introduce innovations in the market in order to compete with existing firms and to achieve a sustainable competitive advantage (Baumol, 2002). However, not all companies can be considered innovative since several are limited to imitate the behavior of others. According to Schumpeter (Schumpeter, 1934), the entrepreneur is the bearer of innovation, defined as the introduction of new technical processes, new products and new sources of raw materials or

new forms of industrial innovation organization. Another factor that can boost success in companies is that they should be supported from the earliest stages with financing in order to consolidate their projects. Innovation allows companies to achieve sustainable competitive advantages over time and represents a key element of economic growth. In this regard, funding has often been mentioned as an important barrier to carrying out innovation activities.

The lack of innovation and financing as business problems in Mexico has limited entrepreneurship, in this sense the main objective of this work is to analyze the relationship between innovation, financing and entrepreneurship SMEs in Aguascalientes, for which, a sample of 400 companies; given that there are very few articles that analyze these factors, the main contribution of this study is the analysis and discussion of these elements in SMEs in a developing country such as Mexico, to guide entrepreneurs in making decisions, to channel efforts, as well the activities of greater impact in beneficial of the company and the development of public policies for the economic development.

## **2. Theoretical Framework**

Some literature distinguishes between the different types of entrepreneurship using a wide variety of terms: innovators or imitators (Schumpeter, 1934), productive or unproductive, oriented to high growth activities or not (Estrin, Korosteleva, & Mickiewicz, 2013), a formal or informal entrepreneur (Dau & Cuerdo-Cazurra, 2014), or entrepreneur by opportunity versus entrepreneur by necessity (Reynolds, y otros, 2005). However, despite the many existing classifications, new business initiatives have very different consequences from the point of view of development and economic growth (Minniti, 2008).

Schumpeter (1934) described innovation as a result of an unexplained phenomenon related to the technical process and the market. In the 20th century, this way of looking at things changed and innovation was no longer considered as a result, but as a process involving different stages from technical development to the market, in a linear and hierarchical way. Hatchuel (1994) described innovation as a collective learning process, challenging individuals to their goals, projecting values and representations. In this sense, knowledge management is based in particular on the exchange of knowledge and organizational learning, which contributes to the development of innovations (Sahut, 2017). According to Bock & Kim (2002), knowledge sharing is considered as the foundation of knowledge management. Knowledge management affects organizations at four levels: processes, product, people and performance (Becerra, Gonzalez, & Sabherwall, 2004).

Innovation is established as the fundamental function of entrepreneurship, whether in an existing company or in a new company. This is the means by which entrepreneurs create new wealth-generating resources or increase existing resources with improved potential to produce wealth in the regions (Drucker, 2002). Creativity has been considered a precursor of innovation; which generally leads to the successful implementation of a creative idea (Unsworth & Luksyte, 2015). Creativity is required not only to generate the initial idea for innovation but also for further development and adjustment thereof (Unsworth & Luksyte, 2015).

Estrada, Garcia and Sánchez (2009) in their empirical study on the determinants of competitive success, of SMEs in Mexico, reveal that companies with high performance give greater importance to innovation in products, processes and management. This result highlights the importance of innovation for the development of competitiveness, stimulation, creativity and efficiency. This study, from an empirical viewpoint, found that SMEs with greater competitive success are those

that strategically plan, innovate in their processes and products, and manage with a superior technological level compared to competitors in the same sector.

For Schumpeter (1934), entrepreneurs can remunerate all the productive factors and also obtain a profit as a result of their entrepreneurial activity. However, from time to time, this balance is interrupted thanks to innovation, which temporarily generates a series of extraordinary incomes until the competitors are able to imitate their products or services, which return to the situation of competition. There are several investigations which focus on studying the characteristics of the entrepreneurs; in fact, the entrepreneurial process cannot be understood without the analysis of the protagonists (Baumol, 2002). These characteristics can be included in two groups related to psychological or behavioral factors and those related to human capital and prior knowledge.

*H1: The higher the level of innovation, the greater the level of entrepreneurship*

Among the psychological characteristics is the less fear of failure and greater risk tolerance on the part of the entrepreneurs; all economic activity is subject to uncertainty, so knowing how to overcome it is essential, and tolerance to risk is a key element. Another psychological characteristic is being able to detect business opportunities; this characteristic has been defined as the most distinctive and fundamental among entrepreneurs (Venkataraman, 1997). On the side of human capital factors or prior knowledge, one of the most important factors is education; the most creative and innovative people are characterized by high intelligence, skill, interest in abstract thinking and curiosity to find general solutions to problems (Fuentelsaz & Montero, 2015).

These characteristics are more present in those with more formal education (Koellinger, 2008). Another factor is previous experience since it allows a better understanding of markets, technology, consumer problems and problem-solving processes (Shane, 2000). The complexity of innovation increases with the technological advance, so in order to bring new products or services to the market, it is necessary to know well what already exists (Fuentelsaz & Montero, 2015). Therefore, an essential human capital factor is the network of contacts (Schott & Sedaghat, 2014), since having contacts facilitates information and previous experiences. In addition, entrepreneurs can improve their creativity, access to advice, access to funding, and get closer to consumers and obtain information, which facilitates innovation (Schott & Sedaghat, 2014)

*H2: The higher the level of financing, the greater the level of entrepreneurship*

Funding for innovative activity is not a trivial problem due to several reasons: (a) innovation entails new activities whose success is difficult to assess, and (b) often requires investments that do not involve the production of tangible assets or assets, preventing them from being easily used as collateral for obtaining funding sources (Baldwin & Johnson, 1995).

Lopez Salaberry states that "One of the historical difficulties for an entrepreneur has always been capital. Now that new funds have been formed, there is a very interesting opportunity. Although capital is always required, the entrepreneur now has to show greater capacity for execution, a clear vision and has to convince investors that Internet business will become real business" (Forbes Mexico, 2015).

The quest for the capital required to build a high-value company is a challenge. The level of investment of the ventures varies as well as the level of risk. The entrepreneur, his work team and his advisers will have to analyze the various ways of building the company, based on the resources available to them and the possibilities of obtaining financing or raising capital. In Latin American countries, relatives living abroad finance many businesses with their remittances; however, these businesses have a high mortality rate. This existing source of funding can be better channeled to

generate more valuable entrepreneurship.

Entrepreneurs can develop the knowledge acquired from the research and development of technology, other marketable products or services, but they need the financing to do so. Insufficient investment reduces the volume of innovation, as well as creating barriers to growth and competitiveness. Funding can take many forms and can come from family, friends, founders, government, foreign investment or angelic investors. According to a survey conducted by Ernst & Young and the G20, 72 percent of Mexican entrepreneurs stated that access to finance (especially venture capital) remains a major challenge for those starting new businesses. In general, any weakness in any of the four key areas of the innovation ecosystem can prevent it. These areas are: government, community, infrastructure and financing.

Access to finance concerns tends to arise from what is referred to as a equity gap. When companies seek external finance the source will depend on the amount they are seeking to raise. For relatively small amounts normal financial intermediaries such as high street banks or existing social networks might be used. For larger amounts business angels provide capital.

SMEs are playing an important role in the global economy through the creation of jobs, products and services and innovation. However, despite their importance in the economy, they face many challenges, such as high costs to access to financial resources, poor access to long-term credits and little professionalism (Gasca, 2015).

*H3: The higher the level of financing, the greater the level of innovation*

The existence of restrictions to access new financial resources tends to be a symptom of the deficiencies of companies, which serve as obstacles to the success and growth of new initiatives (Becchetti & Trovato, 2002). The credit limitation prevents new companies from being immersed in new projects, which increases their probability of failure (Mach & Wolken, 2011). The financing available to entrepreneurs is often one of the most debated topics. One of the main causes of controversy is the fact that financial institutions are subject to risk regulations that limit the possibility of offering loans to initiatives that have not demonstrated their ability to pay (Penfold & Vidal, 2011). Therefore, entrepreneurs have the need to finance the first stages of the company with their own resources and many times coming from family and friends.

Innovation operates within an ecosystem of four main components: government, infrastructure, financing and community. The overall role of government should encompass the unification and improvement of all aspects of the innovation ecosystem. Foreign financial institutions, public, private or community, are key ingredients for business creation and growth. In order for start-ups to become larger enterprises, we must increase and integrate the different sources of financing (seed capital, state or federal subsidies, foreign investment, crowd funding, innovation competitions, etc.), access to financing (Wood, Wilson, & Garcia, 2014).

### **3. Methodology**

In order to respond adequately to the hypotheses raised in this empirical study, it was considered appropriate the use of a sample of 400 small and medium-sized enterprises in the state of Aguascalientes (Mexico). The sample was drawn from the Directory of the Business Information System of Mexico for the state of Aguascalientes, which had 5,194 companies registered in the month of December 2016. For the purposes of this empirical study, only those companies that had between 5 and 250 employees were considered; as a result, the number of enterprises in the

business directory was reduced to 1,261 companies. In addition, the sample was randomly selected with a reliability level of 96% and a sampling error of  $\pm 4.5\%$ , obtaining a total sample of 400 companies. Finally, the survey was conducted through a personal interview with the managers of the 400 selected companies, and they were conducted during the months of January to April of 2017.

To measure innovation activities, managers were asked to indicate whether the company had carried out innovation activities during the previous two years. To measure the importance of innovations, managers were asked to evaluate product innovation, processes and management systems through 7 items (5 of those are shown in the table), which were measured through a five-point Likert scale ranging from 1 = not important to 5 = very important. This innovation scale was adapted from Zahra and Covin (1993), Kalantaridis and Pheby (1999), Frishammar and Hörte (2005) and Madrid-Guijarro, García and Van Auken (2009). In addition, the measurement of the financing variable consisted of 6 items, which was adapted from Singer Amoros and Moska (2014). For the measurement of entrepreneurship, the scale utilized was developed by Miller (1983). All of the items in these two scales were measured with a 5-point Likert scale ranging from 1 = total disagreement to 5 = total agreement.

Likewise, as a preliminary step to the analysis of the results obtained, reliability and validity of the three scales was assessed in this empirical study, using Confirmatory Factorial Analysis (CFA) and applying the maximum likelihood method with the EQS 6.2 software (Bentler, 2005) (Byrne, 2006) (Brown, 2006). Thus, the reliability of the scales was evaluated using Cronbach's alpha and Composite Reliability (CR) (Bagozzi & Yi, 1988), and the validity was assessed through the Average Variance Extracted (AVE) (Fornell & Larcker, 1981). The analysis of reliability and validity took into consideration the recommendations of Chou et al. (1991) and Hu et al. (1992), with respect to the correction of the statistics of the theoretical model when it is considered that the normality of the data is present, and also by using robust statistics to provide a better fit of the data (Santorra & Bentler, 1988).

The CFA results are shown in Table 1 and indicate that the theoretical model has a good fit ( $S-BX^2 = 813.2954$ ;  $df = 265$ ;  $p = 0.000$ ;  $NFI = 0.824$ ;  $NNFI = 0.856$ ;  $CFI = 0.873$ ;  $RMSEA = 0.072$ ); all items of related factors are significant ( $p < 0.01$ ), and the size of all standardized factor loads are greater than the value of 0.60 (Anderson & Gerbing, 1988; Anderson & Gerbing, 1988). Cronbach's alpha and CR have a value greater than 0.70, and AVE has a value greater than 0.50 (Fornell & Larcker, 1981). These values indicate that there is sufficient evidence of reliability and convergent validity, which justifies the internal reliability of the two scales used (Nunally & Bernstein, 1994) (Hair & et al, 1995).

The discriminant validity assessment was performed using two tests. The first was the *confidence interval test* (Anderson & Gerbing, 1988), which states that with a 95% confidence interval none of the individual elements of the latent factors of the matrix contains the value of 1.0; and the second was Average Extracted Variance (AVE) (Fornell & Larcker, 1981), which states that the AVE between each pair of constructs is higher than its corresponding squared covariance. Therefore, according to the results obtained from both tests, it is possible to conclude that both measurements show sufficient evidence of discriminant validity of the theoretical model.

#### 4. Results

In order to answer the four research hypotheses presented in this empirical study, an analysis of the data was made through the structural equations model using the EQS 6.2 software (Bentler, 2005) (Byrne, 2006) (Brown, 2006), which analyzed the nomological validity of the theoretical model of market knowledge management and business performance by means of a Chi-square test. This analysis consisted of comparing the results obtained between the theoretical model and the measurement model (Anderson & Gerbing, 1988). In the present study, it was found that the differences between the two models are not statistically significant (Hatcher, 1994). Table 3 shows more in detail the results obtained, from the application of the structural equations model, finding that, in respect to the hypothesis  $H_1$ , the obtained result,  $\beta = 0.367$ ,  $p < 0.01$ , indicates that innovative activities have a significant positive influence on the level of entrepreneurship in small enterprises in Mexico. As for the second hypothesis  $H_2$ , the obtained result,  $\beta = 0.249$ ,  $p < 0.01$ , indicates that the level of financing has a significant positive influence on the entrepreneurship level of small enterprises in Mexico. In regards to the third hypothesis  $H_3$ , the result obtained,  $\beta = 0.214$ ,  $p < 0.01$ , indicates that the level of financing has a significant positive influence on the level of SME innovation in Mexico.

#### 5. Conclusion and Discussion

Based on the results obtained in this empirical study, it is possible to conclude the following findings. First, it is possible to conclude that the innovation activities carried out by SMEs generate a higher level of entrepreneurship; this means that the innovative ideas of projects and services ACTIN4, and the promotion of innovation in organizations ACTIN3 are the two variables that have the greatest influence on entrepreneurship. That is to say, SMEs, generally within their innovation activities, focus their efforts to a greater extent on the implementation of ACTIN4 and ACTIN3 activities. However, evidence shows that active search for innovative ideas ACTIN1 and the acceptance of innovation by the management ACTIN2 are the two indicators that least explain the level of entrepreneurship for SMEs. In the financing component, the study provides evidence that higher levels of financing generate greater levels of entrepreneurship, and these serve as important indicators of risk capital for new companies and their growth FINAL2 and also of financing available from informal private investors for new and emerging companies FINAL3. These are the two indicators that have the highest level of influence in entrepreneurship. In contrast, financing from private financial entities FINAL5 and financing through entrepreneurs' own capital among new and growing enterprises FINAL6, are the indicators that have the lowest level of influence in this area. Regarding the entrepreneurship variable, the most influential predictors are the company's ability to identify new opportunities PROA3 and the company's ability to make its business vision a reality PROA2.

It is important to mention that this study has many limitations that need to be clarified, one of them is concerning the use of the Miller's entrepreneurial orientation scale, in which three (innovation, proactivity and risk taking) of the five dimensions were used, leaving out autonomy and aggressive competitiveness. Autonomy refers to the independent action of an individual or a team in launching an idea or a vision and carrying it through to completion. In other words, it is the capacity and willingness to decide freely for one to pursue market opportunities and for aggressive competitiveness, such as the tendency of a company to challenge its competitors in a direct and aggressive way in order to overcome the competitors of its sector. In the case of family firms, it is

more appropriate to use a scale where the dimensions of autonomy and competitive aggressiveness are measured by the fact that these companies usually get established in a less formal way than non-family companies and they tend to implement fewer control mechanisms, reducing the level of internal autonomy. In regards to the dimension of competitive aggressiveness, elements such as the profile of the people who have control of the company make it necessary to measure this element; therefore, future studies will require the use of other types of scales to corroborate the results obtained.

A second limitation is related to the survey, since it was applied only to managers and/or owners of small and medium-sized enterprises in the state of Aguascalientes (Mexico), whereby the results obtained may differ significantly with a different population. A third limitation of this empirical study is the collection of information since only qualitative variables were considered for the measurement of market knowledge management and business performance, so future studies will require the incorporation of quantitative variables or hard data to verify if they reach the same results. A fourth and final limitation of this study is that most of the companies surveyed took into consideration that the information requested through the data collection instrument was considered as confidential, so the information provided by the selected companies does not necessarily reflect the reality in terms of their management of market knowledge and their level of business performance.

**Table 1. Internal consistency and convergent validity of the theoretical model**

Variable	Indicator	Factorial loading	Robust t-value	Cronbach's alpha	CR	AVE
Innovation	ACTIN1	0.710	1.000*	0.888	0.89115288	0.6217454
	ACTIN2	0.765	19.534			
	ACTIN3	0.824	15.489			
	ACTIN4	0.851	16.672			
	ACTIN5	0.785	14.87			
Financing	FINAL1	0.797	1	0.898	0.89854427	0.59676317
	FINAL2	0.822	20.856			
	FINAL3	0.795	17.543			
	FINAL4	0.766	16.492			
	FINAL5	0.701	13.721			
	FINAL6	0.748	14.823			
Innovativeness	EMPI2	0.429	1	0.641	0.66242619	0.40726067
	EMPI4	0.685	6.454			
	EMPI5	0.754	6.35			
Proactivity	PROA1	0.714	1	0.832	0.84757077	0.48775
	PROA2	0.755	15.788			
	PROA3	0.881	19.348			
	PROA4	0.642	13.151			
	PROA5	0.627	13.746			
	PROA6	0.515	8.63			

Risk taking	TR1	0.686	1	0.825	0.82586385	0.4869456
	TR2	0.695	13.597			
	TR3	0.717	12.069			
	TR4	0.717	11.67			
	TR5	0.673	13.709			
S-BX2 (df=265) = 813.2954; p < .0000; NFI= .824; NNFI= .856; CFI= .873; RMSEA= .072						
* = Parameters constrained to this value in the identification process						

<sup>a</sup> = Parameters constrained to this value in the identification process

\*\*\* = p < 0.01

**Table 2. Discriminant validity of the theoretical model**

VARIABLES	Innovacion	Financing	Innovativeness	Proactivity	Risk taking
<b>Innovacion</b>	<b>0.6217454</b>	0.014161	0.031329	0.303601	0.308025
Financing	.0370 - .201	<b>0.596763167</b>	0.005041	0.0289	0.018496
Innovativeness	.0810 - .273	.0190 - .123	<b>0.407260667</b>	0.080656	0.042849
Proactivity	.409 - .693	.0880 - .252	.172 - .396	<b>0.48775</b>	0.297025
Risk taking	.415 - .695	.068 - .204	.117 - .297	.417 - .673	<b>0.4869456</b>

The diagonal represents the Average Extracted Variance (AVE), while above the diagonal the part of the variance (The correlation to the chart) is shown. Below the diagonal, we present the estimated correlation of the factors with a 95% confidence interval.

**Table 3. Results of the Structural Equation Model**

Hypotheses	Structural Relationship	Standardized Coefficient	Robust t-value
<b>H1: The higher the level of innovation, the greater the level of entrepreneurship</b>	Greater innovation Greater entrepreneurship	0.367	16.698***
<b>H2: The higher the level of financing, the greater the level of entrepreneurship</b>	Greater financing Greater entrepreneurship	0.249	15.6965 ***
<b>H3: The higher the level of financing, the greater the level of innovation</b>	Greater financing Greater innovation	0.214	3.296 ***
<b>S-BX2 (df=262) = 932.06 ; p &lt; .0000; NFI= .798; NNFI= .822; CFI= .845; RMSEA= .080</b>			
<b>***: p &lt; .01</b>			

\*\*\* = P < 0.01

## 6. References

- Cassar, G. (2006). Entrepreneur opportunity cost and intended venture growth. *Journal of Business Venturing*, 21, 610-632.
- Casson, P., Martin, R., & Nasar, T. (2008). The financing decisions of innovative firms. *Research in International Business and Finance*, 22(2), 208-221.
- Liñan, F., Fernandez, J., & Romero, I. (2013). Necessity and Opportunity Entrepreneurship: The Mediating Effect of Culture. *Revista de Economía Mundial*(33), 21-47.
- CIPI/BID/Universita di Bologna/Inegi/Secretaria de Economia/Observatorio de la Pequeña y Mediana Empresa. (2003). *Encuesta de la Pequeña y Mediana Empresa 2002*. Secretaria de Economía, México.
- Chou, S., & Dennison, K. (1991). Analysis of Interstrain Variation in Cytomegalovirus Glycoprotein B Sequences Encoding Neutralization-Related Epitopes. *The Journal of Infectious Diseases*, 163(6), 1229-1234.
- Cowling, M. (2014). What really happens to a small and medium-sized enterprises in a global economic recession? UK evidence on sales and job dynamics. *International Small Business Journal*, 33(5), 488-513.
- Lumpkin, & Dess. (1996). Clarifying the Entrepreneurial Orientation Construct and Linking It To Performance. *Academy of Management*, 21(1), 135-172.
- Aghion, P., & Bolton, P. (1992). An Incomplete Contracts Approach to Financial Contracting. *Review of Economic Studies* (59), 473-494.
- Anderson, & Gerbing. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411-423.
- Andersson, P., & Wadensjö, E. (2007). Do the unemployed become successful entrepreneurs? *International Journal of Manpower*, 604-626.
- Blagiano, F., Nobili, A., & Picillo, C. (2011). The great recession: US dynamics and spillovers to the world economy. *Journal of Banking and Finance*, 36(1), 1-13.
- Block, J., & Sandner, P. (2009). Necessity and opportunity entrepreneurs and their duration in self-employment: Evidence from German Micro Data. *Journal of Industry, Competition and Trade*, 9(2), 117-137.
- Baldwin, J., & Johnson, J. (1995). Business Strategies in Innovative and Non-Innovative Firms in Canada. *Research Policy*, 25.

- Bagozzi, & Yi. (1988). On the Evaluation of Structural Equation Models. *Journal of the Academy of Marketing Science*, 16(1), 74-94.
- Banco Internacional para la Reconstrucción y el Desarrollo / Banco Mundial. (2016). *Doing Business en México 2016*. Washington, DC, EUA.
- Baumol, W. (2002). *The free-market innovation machine: analyzing the growth miracle of capitalism*. . Princeton, N.J., EUA: Princeton University Press.
- Becchetti, L., & Trovato, G. (2002). The Determinants of Growth for Small and Medium Sized Firms. The Role of the Availability of External Finance. *Small Business Economics* , 19(4), 291-306.
- Becerra , I., Gonzalez , A., & Sabherwall, R. (2004). *Knowledge Management and KM Software Package*. . New York, NY, EUA: Prentice hall.
- Bentler. (2005). *EQS 6.1 for Windows User's Guide*. Encino, CA, EUA: Multivariate Software, Inc.
- Berger, A., & Udell, G. (1998). The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle. *Journal of Business*(22), 613-673.
- Bock, G., & Kim, Y. (2002). Breaking the myths of rewards: An exploratory study of attitudes about knowledge sharing. *Information Resources Management Journal*, 15(2), 14-21.
- Brown. (2006). *Confirmatory factor analysis for applied research*. New York, NY, EUA: Guilford.
- Dau, L., & Cuerdo-Cazurra, A. (2014). To formalize or not to formalize: Entrepreneurship and pro-market institutions. *Journal of Business Venturing*, 29, 668-686.
- Davidsson, P., & Gordon, S. (2016). Much ado about nothing? The surprising persistence of nascent entrepreneurs through macroeconomic crisis . *Entrepreneurship Theory and Practice* , 40(4), 915-941.
- Drucker, P. (2002). The Discipline of Innovation. *The Innovative Enterprise, Best of HBR* .
- Estrada, R., Garcia, D., & Sanchez, V. (14, 46). Factores determinantes del éxito competitivo en la Pyme: Estudio Empírico en México. . *Revista Venezolana de Gerencia* , 169-182.
- Estrin, S., Korosteleva, J., & Mickiewicz, T. (2013). Which institutions encourage entrepreneurial growth aspirations? *Journal of Business Venturing*, 28, 564-580.
- Filippetti, A., & Archibugi, D. (2010). Innovation in time of crisis: National systems of innovation, structure and demand . *Entrepreneurship Theory and Practice* , 16(1), 7-24.

- FMI. (2009). Informe Anual 2009 del Fondo Monetario Internacional.
- Forbes Mexico. (2015). Financiamiento, talón de Aquiles de las Pymes en 2015. *Forbes Mexico*.
- Fornell, & Larcker. (1981). Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics. *Journal of Marketing Research* , 18(3), 382-388.
- Frishammar, & Horte. (2005). Managing External Information in Manufacturing Firms: The Impact on Innovation Performance. *The Journal of product innovation management*, 22(3), 251–266.
- Frrel, M. (1999). The financing of small firm product innovation within the UK. *Technovation*, 19(12), 7007-719.
- Fuentelsaz, L., & Montero, J. ( 2015). ¿Qué hace que algunos emprendedores sean más innovadores? *Universia Bussines Review*, 14-31.
- Fuentelsaz, L., Gonzalez, C., & Maicas, J. (2015). ¿Ayudan las instituciones a entender el emprendimiento? *Economía Industrial*.
- Garcia Perez de Lema, D., Barona Zuluaga, B., & Madrid Guijarro, A. (2013, Marzo 22). Financiación de la innovación en la Mipyme iberoamericanas. *Estudios gerenciales*, 29, 12-16.
- George, J. (2007). Creativity in organizations. *Academy of Management Annals* , 1(1), 439-477.
- Gerbing, A. &. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411-423.
- Hall, B. (2002). The Financing of Research and Development . *Oxford Review of Economic Policy*, 18(1), 35-81.
- Hair, J., Anderson, R., Tatham, R., & Black, W. (1995). *Multivariate Data Analysis, With Readings*. Englewood Cliffs, NJ, EUA: Prentice Hall.
- Hatchuel, A. ( 1994). Apprentissages collectifs et activités de conception . *Revue Française de Gestion*, 109-120.
- Heckler, C. (1994). A Step-by-Step Approach to Using the SAS System for Factor Analysis and Structural Equation Modeling. *Journal Technometrics* , 38(3), 296-297.

- Hitt, M., Ireland, R., Sirmon, D., & Trahms, C. (2011). Strategic Entrepreneurship: Creating Value for Individuals, Organizations, and Society. *Academy of Management Perspectives*, 25(2), 57-75.
- Hitt, M., Ireland, R., Sirmon, D., & Trahms, C. (2011). Strategic Entrepreneurship: Creating Value for Individuals, Organizations, and Society. *Academy of Management Perspectives*, 25(2), 57-75.
- Hu, L.-t., Bentler, P., & Yutaka, K. (1992). Can test statistics in covariance structure analysis be trusted? *112*(2), 351-362.
- IMF. (2009). Informe Anual 2009 del Fondo Monetario Internacional.
- International Bank for Reconstruction and Development. (2016). *Doing Business en México 2016*. Washington, DC, EUA.
- Kalantaridis, & Pheby. (1999). Processes of innovation among manufacturing SMEs: the experience of Bedfordshire. *Journal Entrepreneurship & Regional Development*, 11(1), 57-78.
- Kalecki, M. (1968). Trend and business cycles reconsidered. *The Economic Journal*, 78(310), 263-276.
- Koellinger, P. (2008). Why are some entrepreneurs more innovative than others? *Small Business Economics*, 21-37.
- Mach, T., & Wolken, J. (2011). Examining the Impact of Credit Access on Small Firm Survivability. *Finance and Economics Discussion Series Divisions of Research & Statistics and Monetary Affairs Federal Reserve Board*,.
- Miller. (1983). The Correlates of Entrepreneurship in Three Types of Firms. *Management Science*, 29, 770-791.
- Minniti, M. (2008). The role of government policy on entrepreneurial activity: productive, unproductive, or destructive? *Entrepreneurship Theory and Practice*, 32, 779-790.
- Myers, S. (1984). Finance Theory and Financial Strategy. *Interfaces*, 14(1), 126-137.
- North, D. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge, EUA: Cambridge University Press.
- Nunnally, & Bernstein. (1994). *Psychometric Theory*. New York, NY, EUA: McGraw-Hill.
- OCDE. (2009).

- Penfold, M., & Vidal, R. (2011). Políticas Publicas: construir un entorno amigable para empender. *Debates IESA*, XVI(4), 36-39.
- Rüdiger, K., Peris-Ortiz, M., & Blanco-Gonzalez, A. (2014). *Entrepreneurship, Innovation and Economic Crisis: Lessons for Research, Policy and Practice*. Springer International Publishing Switzerland .
- Rangel Morales, A., & Tinto Arandes, J. (2014, Enero). El rol de la innovación en los emprendimientos exitosos del área metropolitana de Mérida . *Provincia*, 67-120.
- Reynolds, P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., . . . Chin, N. (2005). Global Entrepreneurship Monitor: Data Collection Design and Implementation 1998-2003. *Small Business Economics*, 24, 205-231.
- Reynolds, P., Bygrave, W., Autio, E., Cox, L., & Hay, M. (2003). *Global Entrepreneurship Monitor 2002 executive report*". Wellesley, MA, EUA: Babson College.
- Schott, T., & Sedaghat, M. (2014). Innovation embedded in entrepreneurs networks and national educational systems. *Small Business Economics*, 43, 463-476.
- Schumpeter,. (1934). *The Theory of Economic Development*. Boston, MA, EUA: Harvard University Press.
- Sahut, J.-M. (2017). Innovación y emprendimiento. *IDRAC Business School*, 84-85.
- Santorra, A., & Bentler, P. (1988). Scaling corrections for chi-square statistics in covariance structure analysis. *Proceedings of the Business and Economic Statistics*, 308-313.
- Saridakis, G. (2012). Introduction to the Special Issue on Enterprise Activity, Performance and Policy during Times of Crisis . *International Small Business Journal* , 30(7), 733-735.
- Shane, S. (2000). Prior knowledge and the discovery of entrepreneurial opportunities. *Organization Science*, 11(4), 448-469.
- Singer, S., A. E., & D. M. (2014). Global Entrepreneurshio Monitor. *GEM*.
- The International Bank for Reconstruction and Development/World Bank. (2009). *Doing business 2009: comparing regulation in 181 economies*. Washington, DC, EUA: World Bank-International Finance Corporation Palgrave Macmillan.
- Unsworth , K., & Luksyte , A. (2015). *Is all creativity created equal? Exploring differences in the creativity processes across the creativity types*. Nw York, USA: Oxford University Press.

- Venkataraman, S. (1997). The distinctive domain of entrepreneurship research : an editor's perspective. *In Advances in Entrepreneurship*, 119-138.
- Vivarelli, M., & Audretsch, D. (1998). The Link between the Entry Decision and Post-entry Performance: Evidence from Italy. *Industrial and Corporate Change*, 485-500.
- Wood, D., Wilson, C., & Garcia, A. (2014). *Fomentando la Innovación en México*. Washington, DC, EUA: Wilson Center.