

## Development of Entrepreneurial Orientation in Women and Men. A Study from the Institutional Perspective<sup>1</sup>

El desarrollo de la orientación emprendedora en mujeres y hombres.  
Un estudio desde la perspectiva institucional

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### ABSTRACT

Regulatory, normative and cognitive burdens were examined to define the current institutional framework and then establish the potential influence on entrepreneurial orientation. The study explores the differences between male and female entrepreneurship in order to identify the main gender problem. The methodology involved interviewing 250 Mexican entrepreneurs, as well as comparatively applying PLS-SEM. The findings show gender disparity in terms of normative burdens, indicating a hostile context for female entrepreneurs. Risk-taking skills were higher for women than men, which implies overly risky reactions by women. This study attempts to spotlight the role of women in the economic realm as crucial to building a balanced institutional context based on legal protection, social certainty and managerial skills to face the market innovatively, proactively and assertively.

**Keywords:** entrepreneurship, institutional arrangements, gender role, small businesses, Mexico.

**JEL Classification:** L26, O17, J16.

### RESUMEN

Se examinaron las cargas regulatoria, normativa y cognitiva para definir el actual marco institucional, posteriormente, se establece la influencia potencial en la orientación emprendedora. El estudio explora las diferencias entre el emprendedurismo de hombres y mujeres, con el fin de identificar el problema principal de género. En la metodología se aplicó PLS-SEM de forma comparativa, se encuestaron a 250 emprendedores mexicanos para realizar el estudio. Los resultados muestran una disparidad de género en la carga

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<sup>1</sup> Date received: 26/03/2018. Acceptance date: 13/11/2019.

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normativa, infiriendo un contexto hostil para las mujeres emprendedoras. La habilidad de arriesgarse fue mayor en mujeres que en hombres, lo que implican reacciones sobre arriesgadas por parte de las mujeres. El estudio intenta llenar el rol de la mujer en el campo económico como un elemento crucial para construir un equilibrio en el contexto institucional: protección legal, certidumbre social y habilidades gerenciales para enfrentar el mercado de una manera innovativa, proactiva y asertiva.

**Palabras clave:** emprendedurismo, teoría neoinstitucional, estudio de género, pequeñas empresas, México.

**Clasificación JEL:** L26, O17, J16.

## INTRODUCTION

Many questions emerge when entrepreneurship arises out of a hostile context. The effects of institutional burdens are vital to understanding the role of entrepreneurship at the local, regional and national level (Urbano and Álvarez, 2014). According to this, policymakers have the power to influence in different ways and types so as to make contextual factors more inclusive, sustainable and innovative for economic actors (Terjesen *et al.*, 2016). The institutional perspective considers interactions between individuals and environment, which shape social expectations of behavior associated with other individuals. When this occurs it is termed as “institutions” and known as the rules of the game (North, 1990). Entrepreneurship is a new focus in global policy, mainly because it has been considered a way of creating welfare, reducing poverty and increasing employment in new sectors (Acs and Amorós, 2008, Angulo-Guerrero *et al.*, 2017, Aparicio *et al.*, 2016).

Certain groups in the social hierarchy of emergent economies are commonly isolated; where the institutional framework is deficient, quality in social norms tends to be low (Chowdhury and Audretsch, 2014). Several studies have evoked clear gender inequality as a new research issue (Zeineb, 2015, Machado *et al.*, 2016), and current literature on women entrepreneurs is relevant as far as promoting new strategies to create companies in keeping with their skills and knowledge (Yousafzai *et al.*, 2015). Furthermore, ways of recognizing vulnerable social groups and developing programs for them have been designed. For instance, Richomme-Huet and d'Andria (2013) described how mothers in France were able to formally develop their own market, balancing professional and private life. Many countries are dealing with female entrepreneurship, with governments encouraging female empowerment through new activities aimed at providing autonomy, opportunity, confidence and self-expression (Safina, 2016).

The institutional environment in developing countries differs very little from that of the developed world of 20 years ago, since the rules of the game have long maintained a female restriction (Gomes *et al.*, 2014, Ahl, 2006). In Mexico, there are three males for each female business owner, a trend seen largely in microenterprises, where female participation is 29%, whereas it is barely 7% in large firms (National Banking and Securities Commission, 2013). The Mexican government has incentivized the inclusion of such vulnerable groups through privileges that support their activities and financing programs, with women representing 53% of the people instructed in small business activities in recent years. According to the National Institute of Statistics and Geography (2015b), however, such mechanisms have not improved the situation.

This research examines the following questions: Do institutional burdens significantly affect the individual entrepreneurial orientation of micro and small enterprises? Do institutional burdens significantly affect the individual entrepreneurial orientation of micro and small businesses created by men? Do institutional burdens significantly affect the individual entrepreneurial orientation of micro and small businesses created by women? The main objectives are related to measuring the effects of institutional context on the individual entrepreneurial orientation of owners of micro and small businesses. This study attempts to test the influence of institutional context, in three steps: 1) an overall analysis, 2) the institutional burdens influencing the individual entrepreneurial orientation of micro and small businesses created by men and 3) the institutional burdens influencing the individual entrepreneurial orientation of micro and small businesses created by women.

## I. BACKGROUND THEORY

A review of female entrepreneurship theory shows that it started off with general entrepreneurship, where many of the entrepreneurs examined were men (Gomes *et al.*, 2014). The early trend was defined by owner profile, traits and entrepreneurial skills (Ahl, 2006). DeCarlo and Lyons (1979) introduced the gender dichotomy perspective, analyzing profile characteristics and adopting scales to measure achievement, motivation, autonomy, perception of aggressivity, support, conformity, recognition, independence, benevolence and leadership. This view was based on personal attitudes that reflected differences between female entrepreneurs and women in general. Indeed, the profile of female entrepreneurs was known as a prevalent stereotype with defined qualities, cognitions and beliefs (Aldrich and Zimmer, 1986).

Bowen and Hisrich (1986) proposed a different perspective, considering female entrepreneur disadvantages based on Sonnenfeld and Kotter's Career Development Model (1982). Evaluation encompassed genetic and social factors, as well as economic and political conditions —educational environment, individual personality, childhood family environment, work history, adult development history, unemployed parent history, current work situation, individual's current perspective and current unemployed family situation. That study was a precedent within the field. From this angle, in the 1980s, several authors started to link female entrepreneurship with the environment (Zimmer, 1986; Buttner and Rosen, 1988; Gartner, 1988; Sweeney, 1985).

That trend and the assumption that women and men are equal were central to development policy in countries during the 1990s (Hisrich and Aysé Öztürk,

1999; Greer and Greene, 2003) and based on liberal feminist theory contributing to social change, with the expectation of a response in business conditions (Langevang *et al.*, 2015; Martin, 2013). The evolution of views explains the figure of women in society, with contemporary studies building a solid discourse anchored in institutional empowerment activities to address successful women's careers (De Vita *et al.*, 2014), mainly to facilitate female entry into entrepreneurship through influential positions, as those of men (Goltz *et al.*, 2015). Furthermore, the literature tends to focus on understandings in the overall female entrepreneur's environment as a highly relevant topic (Yousafzai *et al.*, 2015).

The study by Brush (1992) served as a basis for interpreting the gender-based perspective. Businesswomen are similar to businessmen in terms of personality, risk-taking propensity and psychological traits. Nevertheless, individual characteristics generally differ regarding education, occupational experience, motivations and business start-up resources. In Mexico, the life of the female entrepreneur is restricted; Zabludovsky (1993) analyzed female participation in business activities, identifying insufficient representation of women in economic development (Zabludovsky, 1997; Zabludovsky, 1998). Their professional development is constrained by their family responsibilities (Bazán Levy and Saraví, 2012). Concerning the segregation of women, it is advantageous for society to break the imposed glass ceiling Gamba *et al.* (2009), so that female aspirations can surpass those related to fertility and family (Serna, 2003).

Therefore, while the institutional context favors the modified or updated professional sphere, the activities assigned to women in the personal realm continue to be a problem of gender. The level of burdens on women by current institutions are conditioned by matters of domestic obligations, social stereotypes and childcare, creating a barrier that prevents them from carrying out roles considered "masculine". For Macías González (2014) and Mendoza Esparza and Romo Rojas (2015), entry by women into the Mexican business environment must be supported by both individual and social factors that lead the spectrum toward greater investment and leadership opportunity structures (Macías González, 2016).

Our study is aimed at measuring perception of institutional burdens on women to clarify their institutional context in the region, where formal and informal institutions are established invisibly (Chowdhury and Audretsch, 2014) as a result of procedures in an evolving society, considering three mechanisms that use isomorphic movements to change legitimacy, uncertainty and professionalization of socioeconomic actors: coercive, mimetic, and normative (Scott, 1995; Bowen and De Clercq, 2008; De Clercq *et al.*, 2010; Danis *et al.*, 2011; DiMaggio and Powell, 1983; Scott, 2008); corresponding to three institutional burdens and that define symbolic and relational systems, as well as routines and

artifacts, whereby the female entrepreneur's role is defined (*Terjesen et al.*, 2016; *Iakovleva et al.*, 2013).

A specific gender inequality violation occurs around regulatory, cultural and cognitive burdens, as they are deflectors of the entrepreneurial ecosystem (*Yousafzai et al.*, 2015). The gender gap exists where a scarce set of entrepreneurial norms and conservative attitudes lead the businesses framework conditions (*Goltz et al.*, 2015; *Chasserio et al.*, 2016; *Yousafzai et al.*, 2015; *Langevang et al.*, 2015; *Gohar and Abrar*, 2016). Institutional burdens are considered more like restrictions than incentives and are made up of social norms and values, individual knowledge, traditions, legal framework and other institutional factors (*Gohar and Abrar*, 2016). Several authors have considered entrepreneurship as a significant consequence of the institutional system (*Aparicio et al.*, 2016; *Battilana et al.*, 2009; *Dwairi and Akour*, 2014; *Urbano and Álvarez*, 2014).

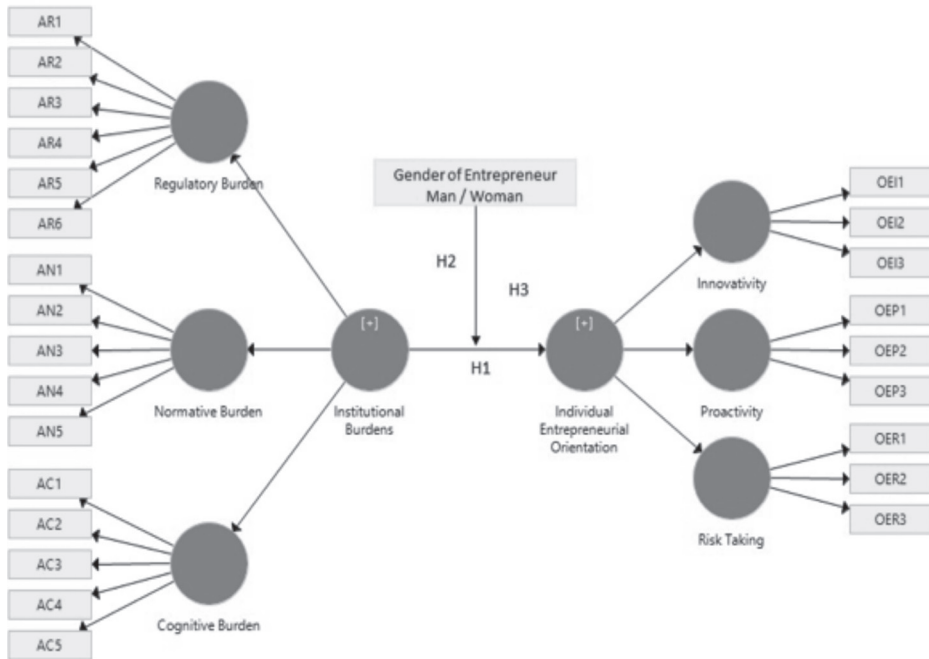
The three hypotheses of this study are related to the difference between men and women in the case of institutional burdens and their individual entrepreneurial orientation (IEO), aligned at the individual level from the man/woman perception, while the latter are affected by the institutional context (see Figure 1). The IEO agrees with the perception of entrepreneurs for exploiting potential opportunities, confronting competition, achieving development based on innovation and risky decisions (*Bolton and Lane*, 2012; *Bolton*, 2012; *Gupta et al.*, 2016). This concept enables recognizing the particular thinking of female and male entrepreneurs, which contributes to the literature on women entrepreneurs.

H1: Institutional burdens significantly affect the individual entrepreneurial orientation of micro and small businesses in the city of Aguascalientes

H2: Institutional burdens significantly affect the individual entrepreneurial orientation of micro and small businesses created by men in the city of Aguascalientes.

H3: Institutional burdens significantly affect the individual entrepreneurial orientation of micro and small businesses created by women in the city of Aguascalientes.

Figure 1. Theoretical Model and Research Hypotheses



## II. METHODOLOGY

An explanatory, non-experimental and cross-sectional empirical study with a quantitative approach was developed to test the three research hypotheses using the Partial Least Squares-Structural Equation Modeling (PLS-SEM) statistical technique with Smart PLS 3.2.6 Software (Ringle *et al.*, 2015). The measurement model was carried out first, followed by an assessment of the structural model as a hierarchical components model (Lohmöller, 2013). The model was measured using the repetition of indicators method (Ringle *et al.*, 2012; Wetzels *et al.*, 2009), which is necessary to run higher order models in PLS-SEM (Cuevas-Vargas, 2016; Ringle *et al.*, 2015).

### *Sample Design and Data Collection*

The population of firms located in the city of Aguascalientes was obtained from the National Statistical Directory of Economic Units (N = 40,529). Updated in 2015, the database enables identification of firms in Mexico by regions, cities and towns, blocks and streets defined by the National Institute of Statistics and Geography —INEGI (Spanish initials). The database contains all businesses registered and non-registered with the Mexican Tax Administration Service (2015a).

The sample estimate was the result of simple random sampling —50% proportion of successes, 5.64% margin of error and 95% confidence level, resulting in 300 micro and small firms to survey. The companies were chosen in two phases between January and February 2015, through conglomerate sampling: 1) out of a population of 272 conglomerate Basic Geostatistical Areas (BGA) in the city of Aguascalientes, a simple random sampling estimate —50% proportion of successes, 10% margin of error, and 95% confidence level— produced 71 BGAs, which were then chosen randomly, in an attempt to reflect the characteristics of the city's BGA population; and 2) the micro and small firms in a total of 300 blocks were designated, choosing from all the identified BGAs the location of each firm to be surveyed. Any questionnaires with incomplete data were eliminated, making the final sample count 250 micro and small firms.

Regarding sample distribution, 85.2% of the businesses have 5 employees at most, 10% have 6 to 10 employees and only 4.8% have between 11 and 30 employees. Furthermore, 70.4% of the sample is made up of family businesses and the other 29.6% are not; 63.9% are headed by men and 36.1% by women. Among both men and women, the majority is between the ages of 31 and 40 (55.2% men / 48.3% women). The most common education level for women is elementary school (35.6%), while for men it is bachelor's level (34.6%). Years of experience prior to entrepreneurship for women were predominantly from 1 to 5 (44.4%), while men have more than 11 years of experience (46.5%). While company size was 1 to 5 employees for both men (78.6%) and women (97.8%), the reasons for women starting a new business were necessity —e.g., having lost their job, needing economic independence, among other reasons— (60%) and not due to detecting a business opportunity (40%); On the other hand, most of the men started their businesses after identifying a potential opportunity to exploit (53.5%).



## *Measurement of Variables*

### Institutional Burdens (Exogenous Variable)

To measure the institutional burdens as Higher Order Construct (HOC), the Kostova and Roth (2002) scale was adapted, considering the modifications made it by De Clercq *et al.* (2010); Danis *et al.* (2011) and De Clercq *et al.* (2012), with three Lower Order Constructs (LOCs), which are reflective of their indicators: 1) the regulatory component was measured by six items related to law and rules perception; while, 2) the normative component has five items to measure the social value system as a demand for creating a company; finally, 3) the cognitive component has five items to evaluate the knowledge shared by the society in the region. Each indicator uses a five-point Likert scale that goes from strongly disagree to strongly agree.

### Individual Entrepreneurial Orientation (Endogenous Variable)

Many authors have considered the scale created by Covin and Slevin (1989) as a measure of individual entrepreneurial orientation (Bolton and Lane, 2012, Kollmann *et al.*, 2017; Bolton, 2012; Gupta *et al.*, 2016). Bolton (2012) and Bolton and Lane (2012) have tested reliability and validity through a scale development process that demonstrates its internal consistency, convergence and divergence. These authors have suggested setting up a new study of a non-student sample where there was a good fit (See the results). This study used that scale in three main constructs in a Higher Order Construct; this is done through three dimensions (LOCs) reflectively: 1) innovativeness component, three items to measure innovative thinking; 2) proactive component, three items to analyze competitors' reaction; and risk-taking, three items to evaluate decision-making skills, even with risks. Each indicator uses a five-point Likert scale that goes from strongly disagree to strongly agree.

### Gender (Moderate Variable)

The moderate variable was measured by male and female —values 1 and 2—, in a dichotomic question, expecting to identify business owner gender.

### *Reliability and Validity*

To evaluate reliability and validity of the measurement scales, the model was measured using PLS-SEM with Smart PLS 3.2.6 statistical software (Ringle *et al.*, 2015), taking as a reference Cronbach's Alpha coefficient (Cronbach, 1951), which should be above 0.7 (Nunnally, 2009), composite reliability, higher than 0.708 (Hair *et al.*, 2014), and average variance extracted (AVE), which should be greater than 0.5 (Fornell and Larcker, 1981; Hair *et al.*, 2012).

Therefore, based on the results obtained and shown in Table 1, the high internal consistency of the three lower order constructs of the measurement model is highlighted, since composite reliability exceeds the value of 0.7 suggested by Fornell and Larcker (1981), and 0.708 recommended by Hair *et al.* (2014). In addition, Cronbach's Alpha for each of the constructs is greater than 0.7, as suggested by Hair *et al.* (2014) and Nunnally (2009), and finally the AVE easily exceeds 0.5, as suggested by Fornell and Larcker (1981) and Hair *et al.* (2012). On the other hand, it has been found that the indicator reliability is higher than 0.5, since its corresponding standardized loading factor is above 0.708 (Hair *et al.*, 2014), and they are statistically significant ( $p < 0.001$ ), which guarantees the commonality of each indicator. And having obtained AVE values higher than 0.5 guarantees convergent validity for each of the scales used (Hair *et al.*, 2014).

Table 1. *Reflective Measurement Model Assessment*

Lower Order Constructs (LOCS)	Indicators	Convergent Validity			Internal Consistency Reliability		
		Loadings	Indicator reliability	t-values	AVE	Composite reliability	Cronbach's Alpha
		>0.708	>0.5	>2.57	>0.5	>0.7	>0.7
Regulatory burden	AR1	0.791	0.626	30.177	0.631	0.895	0.854
	AR2	0.774	0.599	25.972			
	AR4	0.789	0.622	28.234			
	AR5	0.818	0.669	30.920			
	AR6	0.800	0.640	33.358			
Normative burden	AN1	0.840	0.706	28.491	0.726	0.888	0.810
	AN2	0.902	0.814	82.493			
	AN3	0.810	0.656	31.152			
Cognitive burden	AC3	0.847	0.717	43.352	0.721	0.886	0.806
	AC4	0.827	0.684	33.989			
	AC5	0.872	0.760	54.673			
Innovativity	OEI1	0.908	0.824	93.358	0.819	0.900	0.779
	OEI3	0.902	0.814	76.447			
Proactivity	OEP1	0.818	0.669	38.486	0.697	0.874	0.783
	OEP2	0.840	0.706	39.486			
	OEP3	0.846	0.716	42.148			
Risk taking	OER2	0.897	0.805	66.337	0.787	0.881	0.730
	OER3	0.878	0.771	43.746			
Higher Order Constructs (HOCS)	Construct	Path coefficients	t-values	AVE	Composite reliability	Cronbach's Alpha	
Institutional burdens	Regulatory	0.938	111.616	0.502	0.917	0.899	
	Normative	0.862	59.977				
	Cognitive	0.724	17.491				
Individual Entrepreneurial Orientation	Innovativeness	0.808	33.493	0.503	0.876	0.833	
	Proactivity	0.890	54.599				
	Risk taking	0.710	20.926				

Source: own contribution from results obtained with Smart PLS 3. Ringle *et al.* (2015)

With respect to discriminant validity, two tests were used, as shown in Table 2. First, above the diagonal is the Heterotrait-Monotrait ratio ( $HTMT_{90}$ ) (Henseler *et al.*, 2015), considered a better performing criterion for determining discriminant validity of constructs, which when calculating the complete bootstrapping, the values of the correlations between the reflective constructs was found to be less than 0.90 (Gold and Arvind Malhotra, 2001, Henseler *et al.*, 2015; Thompson *et al.*, 2008). Second, the Fornell-Larcker criterion test, which was determined using the square root of the AVE of each construct whose values, in bold, create the diagonal, and according to Fornell and Larcker (1981), these values should be higher than their corresponding correlations with any other construct, which is what happened with the results of this study.

Table 2. *Discriminant Validity for Lower Order Constructs*

Lower Order Constructs	Regulatory burdens	Normative burdens	Cognitive burdens	Innovativeness	Proactivity	Risk taking
	AVE = 0.631	AVE = 0.726	AVE = 0.721	AVE = 0.819	AVE = 0.697	AVE = 0.787
Regulatory burdens	<b>0.794</b>	0.891	0.645	0.336	0.418	0.451
Normative burdens	0.748	<b>0.852</b>	0.533	0.334	0.383	0.495
Cognitive burdens	0.537	0.433	<b>0.849</b>	0.328	0.395	0.385
Innovativeness	0.274	0.268	0.260	<b>0.905</b>	0.760	0.498
Proactivity	0.342	0.308	0.314	0.593	<b>0.835</b>	0.599
Risk taking	0.355	0.381	0.294	0.378	0.454	<b>0.887</b>

**NOTE:** The diagonal numbers (in bold) represent the square root of the AVE values (for reflective constructs). Above the diagonal the  $HTMT_{90}$  correlations ratio test is presented; below the diagonal, the Fornell-Larcker criterion test is presented.

**Source:** own contribution from results obtained with Smart PLS 3. Ringle *et al.* (2015).

Similarly, discriminant validity was analyzed for the HOCs, and Table 3 presents the same tests for the variables of institutional burdens and entrepreneurial orientation. It can be seen that both the  $HTMT_{85}$  test and Fornell-Larcker criterion were successfully carried out as per Clark and Watson (1995); Henseler *et al.* (2015) and Kline (2011).

Table 3. *Discriminant Validity for the Higher Order Constructs*

Higher Order Constructs	Institutional burdens	Individual entrepreneurial orientation
	AVE = 0.502	AVE = 0.503
Institutional burdens	<b>0.709</b>	0.520
Individual entrepreneurial orientation	0.447	<b>0.709</b>

**NOTE:** The diagonal numbers (in bold) represent the square root of the AVE values (for reflective constructs). Above the diagonal the HTMT<sub>85</sub> correlations ratio test is presented and below it is the Fornell-Larcker criterion test.

**Source:** own contribution from results obtained with Smart PLS 3. Ringle *et al.* (2015).

Therefore, based on these previously evaluated criteria, it can be concluded that the different measurements performed in this study show sufficient evidence of reliability and convergent and discriminant validity of the measurement model.

### III. RESULTS

Descriptive statistics were used to obtain a data summary in order to provide a general overview of the variables in the study, as shown in Table 4. The mean of each construct is above average; first, according to the institutional burden constructs, the mean of regulatory burden is 3.18, with a standard deviation of 0.87, with male entrepreneurs paying more attention to it and finding that entrepreneur gender significantly influences regulatory burdens. The mean for normative burden is 3.95, with a standard deviation of 0.72, finding that male entrepreneurs give more importance to normative burdens, and the gender of the entrepreneur significantly influences this variable. Cognitive burden obtained a mean of 3.30, with a standard deviation of 0.77, and although male entrepreneurs rate this variable better, no significant differences were found. Regarding individual entrepreneurial orientation constructs, the mean of innovativeness is 3.60, with a standard deviation of 0.86, finding that entrepreneur gender does not significantly influence this variable. For proactivity, the mean is 3.82, with a standard deviation of 0.63 and without entrepreneur gender influencing the variable. Last of all, the mean of risk taking was 4.11, with a standard deviation of 0.57, finding significant differences in entrepreneur gender in this variable, being the male entrepreneurs who pay more attention to risk taking.

Table 4. *Descriptive Statistics of the Constructs and ANOVA Test*

Higher Order Construct	Variable	Mean	SD	Male		Female		P-value
				Mean	SD	Mean	SD	
Institutional Burdens	Regulative burden	3.18	0.87	3.28	0.84	3.00	0.89	0.019
	Normative burden	3.95	0.72	4.05	0.71	3.79	0.74	0.007
	Cognitive burden	3.30	0.77	3.35	0.77	3.19	0.75	0.112
Entrepreneurial Orientation	Innovativity	3.60	0.86	3.56	0.89	3.70	0.79	0.206
	Proactivity	3.82	0.63	3.80	0.66	3.84	0.56	0.701
	Risk Taking	4.11	0.57	4.16	0.57	3.84	0.56	0.049

SD = Standard Deviation

Source: own contribution from results obtained with Smart PLS 3. Ringle *et al.* (2015)

Subsequently, PLS-SEM bootstrapping was applied to verify the research hypotheses, and the structural model was assessed, finding the structural model to have predictive relevance, as shown in Table 5, where it can be seen that individual entrepreneurial orientation is explained in 20.1% by institutional burdens, according to the value of  $R^2 = 0.201$ . The results thus lead to inferring that individual entrepreneurial orientation (endogenous construct) has an explanatory capacity since the  $R^2$  value is greater than 0.20 (Hair *et al.*, 2014; Chin, 1998), indicating a quality model and results that are useful for business decision making. However, when analyzing gender in the creation of the entrepreneurial firm, it was found that when a company in the city of Aguascalientes, Mexico is created by women, institutional burdens only explain 11.6% of individual entrepreneurial orientation ( $R^2 = 0.116$ ), an aspect that varies when the entrepreneur who creates the firm is a man, in which case institutional burdens explain 26.5% of individual entrepreneurial orientation ( $R^2 = 0.265$ ).

Table 5. PLS-SEM Results of the Structural Model

Hypotheses	Path	Standardized coefficient $\beta$	t-value	f <sup>2</sup>	R <sup>2</sup>
H <sub>1</sub> : Institutional burdens significantly affect the individual entrepreneurial orientation of micro and small businesses in the city of Aguascalientes	Institutional burdens → Individual entrepreneurial orientation	0.447***	9.064	0.250	0.201
H <sub>2</sub> : Institutional burdens significantly affect the individual entrepreneurial orientation of micro and small businesses created by men in the city of Aguascalientes.	Institutional burdens by male entrepreneur → Individual entrepreneurial orientation	0.515***	8.596	0.361	0.265
H <sub>3</sub> : Institutional burdens significantly affect the individual entrepreneurial orientation of micro and small businesses created by women in the city of Aguascalientes.	Institutional burdens by female entrepreneur → Individual entrepreneurial orientation	0.340***	3.958	0.131	0.116

**Significance:** \*\*\* =  $p < 0.001$ ; \*\* =  $p < 0.05$

**f<sup>2</sup> effect sizes:** > 0.02= small effect; > 0.15 = medium effect; > 0.35 large effect (Cohen, 1988).

**R<sup>2</sup> values:** > 0.20 = weak; > 0.33 moderate; > 0.67 = substantial (Chin, 1998).

**Source:** own contribution from results obtained with Smart PLS 3. Ringle *et al.* (2015).

In terms of the first hypothesis, Table 5 shows the effects that institutional burdens have on individual entrepreneurial orientation, with a value of ( $\beta = 0.447$  and P-Value < 0.001). This influence is considered positive and significant; in other words, this study cannot deny that regulatory, normative and cognitive factors define the form of this strategic orientation 44.7%, and according to Cohen (1988), the effects of institutional burdens on individual entrepreneurial orientation are medium in size given the value of  $f^2 = 0.250$ .

The striking result comes from the second hypothesis, where institutional burdens have a more significant influence on individual entrepreneurial orientation when the company was created by a man, according to the value ( $\beta = 0.515$  and P-Value < 0.001), which suggests that 51.5% of the results on orientation are related to legal environment, perception of social norms and shared knowledge. In line with the  $f^2$  value = 0.361, the influence of institutional burdens on the endogenous variable is interpreted with Cohen's test as a large effect.

Concerning the third hypothesis, significant results were found ( $\beta = 0.340$ ,  $p < 0.001$ ), which are related to the effects of institutional dimensions on individual entrepreneurial orientation moderated by female entrepreneurship, indicating that female entrepreneurs tend to develop an orientation even when unemployed or opportunities for them are reduced. As reported by these results, the endogenous variable is affected 34% by institutional burdens, and in line with Cohen's test, the size of the effect is small considering the  $f^2$  value = 0.131, which means the contribution to the prediction power of individual entrepreneurial orientation is small.

However, having evaluated the hierarchical components model with PLS-MGA, statistically significant differences were found in the gender of owners of this kind of businesses who decided to start a company in the city of Aguascalientes, as shown in Table 6, since based on Sarstedt *et al.* (2011), a result is significant at the 5% probability of error level if the p-value is less than 0.05 or greater than 0.95 for a certain difference of group-specific path coefficients, and in this study a path coefficient difference of 0.175 with a p-value of 0.046 was found.

Table 6. PLS-Multi-Group Analysis

Path	Path coefficient group: men	Path coefficient group: women	Path coefficient difference	p-value men vs. women
Institutional burdens → Individual Entrepreneurial Orientation	0.515***	0.340***	0.175**	0.046

Significance: \*\*\*  $p < 0.001$ ; \*\*  $p < 0.05$

Source: own contribution from results obtained with Smart PLS 3. Ringle *et al.* (2015).

#### IV. DISCUSSION

This study presents a multivariate analysis, considering institutional differences between males and females. It was elaborated by a complex method to guarantee reliability and validity, this is important for an upper level construct with greater depth in entrepreneurial literature and, primarily, to sustain a position in gender problems that affect our society and economic development. As specified in the study, psychological characteristics of women and men were similar, yet the results have shown institutional factors which provoke entrepreneurial behavior more focused on exploiting limited business opportunities for women,



beginning with the circumstances of creating a company, their motivations and skill development were different, causing female entrepreneurs to have a participation conditioned by other responsibilities.

As seen in the results, the regulatory burden was the lowest and most variable of all for both men and women, indicating the restrictive legal framework where entrepreneurs develop their businesses. Likewise, certain gender inequalities are expressed by their higher variation among women and differently for males. The results revealed that EO is more developed by women in a similar perception (this, according to the lower deviation for men), which enables identifying better opportunities and how to benefit from them, shaping an idea for products and services. Risk-taking skills are higher for men, which is translated as a proclivity to react out of perilous motivations; certainly, the abilities to attempt new businesses are associated with institutional factors (Angulo-Guerrero *et al.*, 2017; Manolova *et al.*, 2008; Eunni and Manolova, 2012).

The major finding in the study was that the institutional framework is directed toward women. Despite the fact that female participation in the economic sector is barely 29%, male entrepreneurs are being affected by institutional factors to a greater extent—especially regulatory burden—; the current tendency benefits female entrepreneurial activities—financing, and business skills training (Ayuntamiento de Aguascalientes, 2017)—, shifting the male position toward gender equality, though the road is still wrought with obstacles considering the high variation in the regulatory burden—formal institutions— toward women (see descriptive analysis). It is striking, given the uncertainty and fears expressed through the normative burden which has positive effects on the way female entrepreneurs are making decisions to achieve market opportunities (Gohar and Abrar, 2016). Although these values and norms define a small difference vis-à-vis male entrepreneurs, this gives a constrained notion of the role associated with women and their stereotype as entrepreneurs (Langevang *et al.*, 2015).

The view of the female entrepreneur must be tied to independence. The current profile is subordinated by a key element in society: the acknowledgment of sociocultural traits, and above all, individually, entrepreneurial attitudes toward confronting problematic situations (Gupta *et al.*, 2014; Hechavarria and Reynolds, 2009; Volchek *et al.*, 2015). The models developed by policymakers should consider women's and men's roles (e.g., Richomme-Huet and d'Andria (2013)), consistent with their responsibilities within the social framework to, in turn, shape the institutional framework (Yousafzai *et al.*, 2015).

The course followed by Mexican women presents structures of responsibilities, stereotypes and cultural barriers, which, as mentioned by Macías González (2016), cause female entrepreneurs to consider informal mechanisms to carry out economic activities. Gender role provides individual guidance and should be

taken as social evolution with three components: regulatory, normative and cultural-cognitive (Langevang *et al.*, 2015). Given this, women entrepreneurs will discern how the world works (Machado *et al.*, 2016), the value of decision-making knowledge in the business sector to get financing, then to identify opportunities and manage them despite the risk involved (Chowdhury and Audretsch, 2014).

## CONCLUSIONS

Theory provides greater understanding of the entrepreneurial context, and this study emphasizes the institutional forces that affect individual abilities to take risk, innovate and compete. The analysis shows how regulatory burden represents the greatest difficulty and that it gets in the way of risky decisions. This is understandable if we consider the social expectations expressed by female entrepreneurs, as they feel more restricted institutionally than their male counterparts, although our analysis shows that the latter are being more influenced by institutional forces than women. This research reveals an interesting posture for male entrepreneurs, in view of the comparative structural model and normative burden as the highest dimension of institutional burdens. It could be interpreted as an institutional environment built by and for men, as a positive view of being male due to the confidence expressed in entrepreneurial social position and the precise role that an entrepreneur must have to succeed, to which a female entrepreneur is not a party.

Government-developed support programs targeting female entrepreneurship are getting results, yet the recurrence of the female role in the economic field is crucial to building legal protection, social certainty and business social skills to confront the market in the most innovative, proactive and assertive way (Dwairi and Akour, 2014). Institutional gender evolution could increase opportunities by role and legitimize female ventures through favorable circumstances (Gohar and Abrar, 2016). The income of women in Mexican families is increasingly more significant, so this new incorporation of economic actors should be considered in the institutional structure, beginning with family dynamics, for financial autonomy.

Policymakers need to appreciate the importance of training female entrepreneurs. The study results showed that the differences in the feminine and masculine spectrums, encompassing academic background, years of experience and reasons for starting a new business, are limiting the potential of female entrepreneurs. The first aspect to consider is bringing flexibility to not repress enough male entrepreneurs yet provide market access for each individual venture, without taking any physical, psychological, social or spiritual feature into account

(Langevang *et al.*, 2015). Future research could be oriented to repercussion of normative and cognitive factors in defining the female role —if it really exists—, paying the necessary attention to reforming current conditions in new sectors and, above of all, developing the female mentor-entrepreneur profile (Chowdhury and Audretsch, 2014), in order to empower leaders with clear qualities, cognitions and beliefs (Aldrich and Zimmer, 1986).

## ACKNOWLEDGMENTS

In this publication, we would like to recognize CONACYT and PRODEP for supporting this work through financing the research capabilities of the authors through our Ph.D degree.

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