Relationship Between Gender and Entrepreneurship of Small and Medium-Sized Companies in Mexico

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Abstract

This paper focuses on determining the relationship between gender and the entrepreneurship of small and medium-sized companies in Mexico. The research was quantitative, and it uses the database of the National Institute of Statistics and Geography. The analysis was conducted during the period from October 2017 to February 2018. The variables considered were: independent variable such as gender; dependent variables, entrepreneurship by economy sector (manufacturing, commerce and private non-financial services); and control variables, hourly income and average schooling. Descriptive statistics, linear regression models, analysis of variance, and Pearson correlation coefficients were obtained. The main results indicate that there are differences related to gender which is based on the type of small and medium companies undertaken by economy sector in Mexico. Women undertake more in the trade sector, while men also undertake more in the manufacturing sector. Based on the female gender where lower average schooling is, there is a greater entrepreneurship of small and medium-sized companies. On the other hand, considering the male gender where higher average schooling is, there is more entrepreneurship in the commerce sector. The variation in the entrepreneurship of small and medium-sized companies is 43% higher than in the female gender. Also, in both genders, the higher the schooling is, the higher would be the income.

Keywords: Companies, women, men, income, average schooling

Introduction

The economy of a country potentiates with entrepreneurship, which is a key factor to the integral development of the society. The generation of new companies contributes to the economic development of countries, which

bring benefits such as the increase in productivity and the generation of jobs among others. This, therefore, is of significant importance in Latin American countries.

Small and medium companies (SMEs) have a great importance in the economy of any country. In Mexico, there are only more than four million, which have generated 72% of employment and have contributed 52% of the Gross Domestic Product (GDP). This type of business is what makes a country competitive; however, these are businesses that attract investments and also strengthen the industries (Carriedo, 2017).

Within Latin America, small companies have contributed to productive development. They create employment opportunities and they also constitute of a significant number of all the companies. In addition, they also contribute to the gross domestic product (GDP). Its production is strongly linked to the domestic market, meaning that a significant part of the population and economy of the region depends on this activity (Ferraro & Stumpo, 2010).

In relation to gender for entrepreneurship, in the case of women entrepreneurs, the promotion of more training can improve the vision of their business. Hence, this will also provide them with greater skills and abilities to help them in making decisions. Therefore, an investment in education tends to generate a positive significant effect on labor productivity. Consequently, it can be stated that if women entrepreneurs have a high level of training, they will contribute more to the competitiveness of their company (Escandón Barbosa & Arias Sandoval, 2011).

The fundamental factor of the system entails the generation of goods and services. Its company, which has a great economic importance, results to the manifestation of the creativity and the legal freedom of the people. The company also provides, among others, work and management skills where one can achieve certain economic purposes. In the business field, global trends recognize micro, small and medium companies, as a fundamental part of any nation's economy. In large number of countries, more than 90% of the universe's formal and informal companies are located in this group. Here, they participated significantly in total sales, exports, the Gross Domestic Product, and employment. Any difficulty of a general nature in these small-sized enterprises has a negative effect on the macroeconomic and social indicators of any country (Valdés & Sánchez, 2012).

Subsequently, the times of great economic boom and economic recession has to do with when the capacity of response of the population of a country is put to test. As a result, it is important based on the capacity and the entrepreneurial spirit. By this way, new companies can be developed by taking advantage of the new markets and available business talent. This is done without losing sight of the fact that even in depressed markets, new

companies can be created. In both cases, it is necessary to have public policies that encourage business development in an inclusive manner. Thus, this means it rewards the innovative capacity of medium and large national companies, as well as foreign ones, which is always under clear processes of social arbitration. It also includes micro and small companies which were regarded to be an efficient option in creating jobs. Nevertheless, it majorly helps to consolidate their development through training, access to financing, and linkage with larger companies that would help strengthen their growth and development (Mungaray, Osuna, Ramírez, Ramírez, & Escamilla, 2015).

A series of norms must be considered, where special attention is paid to vulnerable groups, for which companies must be aware of them. Thus, this is because of the respect for the human rights of people belonging to certain specific groups. The United Nations has detailed the rights of women, among others, in relation to what has already been described (ONU, 2011).

Furthermore, there is currently a generational transition, according to the growth of educational levels in women (Torres Velázquez, 2011). Therefore, the expectations of women have changed since it is regarded as the power to form a company. In the world economy, it has been emphasized that micro, small and medium companies, are of great importance since they represent the highest percentage of business in the country (Jiménez, Argueta, & Espinoza, 2014).

Mexico has a current population of 123,518,272 people, with a high percentage of economically active population. Out of this population, 37.59% of women and 35.92% of men own a small or medium-sized company, with 100 or fewer employees (INEGI, 2017). The growth of the economically active population in Mexico is shown in Figure 1 below.

Figure 1. Economically active population in Mexico
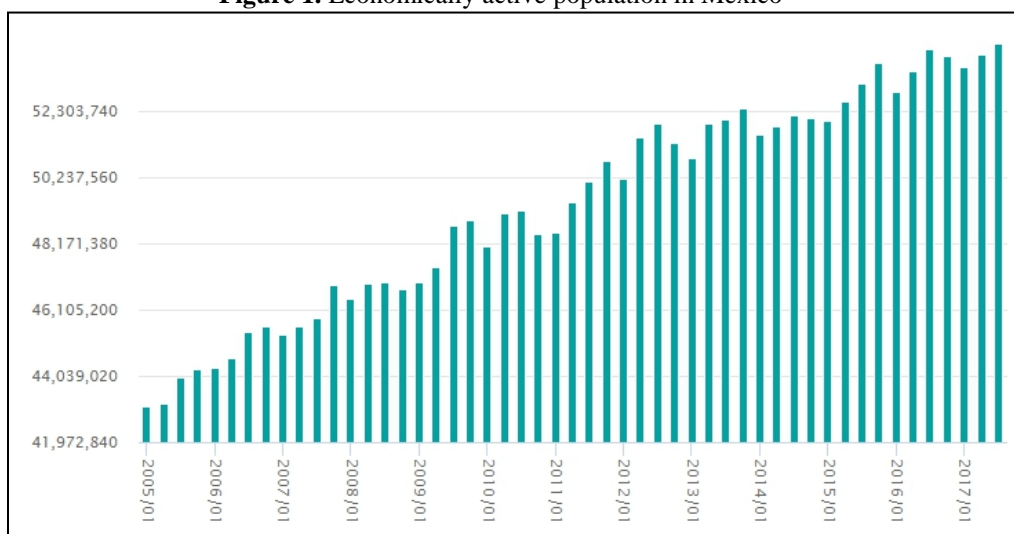
Source: (INEGI, 2017)

Problem of the Study

Within the economy of a country, it is important to promote the entrepreneurship of new companies. Here, most of them are generated as small and medium enterprises, which contribute to local, regional, and national development.

Given that the lack of employment is a factor that worries Latin American countries, including Mexico, the generation of new companies will contribute to reduce the percentages of unemployment in any country.

At the end of 2016, the International Labor Organization (ILO) reported that the unemployment rate in the Latin American and Caribbean region had reached the highest percentages of the last decade. This rate went from 6.97% in 2015 to 8.05% in 2016, which shows two years of increase in the number of unemployed people, according to ILO data by the World Bank. According to this organization, the figures are due to the economic contraction experienced by the region (World Economic Forum, 2017).

Justification

The growth of a country's economy is very important. This, therefore, has contributed positively to the level of development and progress for its citizens. One of the ways to boost economic growth is through the creation of companies. This boosts the generation of new jobs, which is regarded as an axis of development for any country.

In Mexico, where the number of entrepreneurs has gradually grown in recent years, mainly in micro, small and medium-sized companies, entrepreneurship plays a fundamental role via its contribution towards the development of the country. As a consequence, the Federal Government founded the National Institute of the Entrepreneur (INADEM) on January 14, 2013. This is a decentralized administrative body of the Ministry of Economy, and their main objective is to implement, execute, and coordinate the national policy of inclusive support for entrepreneurs of micro and small and medium-sized companies. These companies intends to promote innovation, competitiveness, and projection in national and international markets, contributing to greater economic development and social welfare; in addition, it also contributes to the development of policies that promotes culture and business productivity (INADEM, 2017).

It is important to note that there should be an equal participation of genders in the development of the various economic sectors of a country. The generation of companies is important for the promotion of the economy where the benefit obtained will be of great impact at all levels, mainly local and national. Gender roles in Mexicans generally have stereotyped behaviors based on culture. As a result, they can be modified since they are tasks or activities that a person is expected to perform because of the sex to which

they belong to as indicated in 2014 by the National Institute of Women (CEDOC-INMUJERES, 2017). It is important to determine which factors most influence the generation of small and medium-sized companies, and also what strategies can be formulated for the creation of new companies.

Materials and Methods

The objective of this research was to determine the relationship between gender and the entrepreneurship of small and medium-sized companies in Mexico. The research was quantitative, and was carried out based on the database of the National Institute of Statistics and Geography (INEGI). This database is therefore a census of the Mexican population with data obtained from the period of 2013 to 2015. The unit of analysis was the economically active population, which was made up of 54,369,915 people as at the third quarter of 2017. The research was conducted during the period from October 2017 to February 2018. The database presented is based on percentages, shown by each of the 33 states that make up the country. The variables considered were:

Independent Variable: Gender

Dependent Variables: Entrepreneurship by sector of the economy (manufacturing, commerce and private non-financial services)

Control Variables: Hourly income and Average schooling

Descriptive statistics, linear regression models, analysis of variance, and Pearson correlation coefficients were obtained.

Results and Discussion

The results obtained based on the analysis of the database, divided into percentages of the 33 states of Mexico, was presented as shown below.

Table 1 shows the participation of women in the entrepreneurship of small and medium companies within the total Mexican economy, with 37.53% participation. The largest share is in the commerce sector (43.46%). This is in contrast with the manufacturing sector, which has the lowest percentage (26.17%) of participation and the one with the largest variation (45%).

Table 1. Descriptive statistics of the participation of women in the entrepreneurship of small and medium companies

	Average	Standard deviation	Coefficient of variation
Women Total Economy	37.5342	5.37427	14.31
Women Manufacturing	26.1773	11.78180	45.00
Women Trade	43.4633	5.43006	12.49
Women Private Non-Financial Services	33.8585	4.19799	12.39

What is presented in Table 1 reflects what Arboleda (2014) indicates. Arboleda (2014), however, mentions that the entrepreneurial potential, currently, is immersed in a problem that impedes their progress. For instance, the participation of women in productive work has been little favored and recognized. Over the years, consequently, women had no option but to face institutional barriers and sociocultural obstacles that have hindered their entry into the business labor market.

Table 2. Analysis of variance for the female gender

	Model	Sum of squares	Degrees of freedom	Average quadratic	F	Significance
1	Regression	916.131	3	305.377	1090.819	.000[b]
	Residue	8.119	29	.280		
	Total	924.249	32			

Table 2 presents a table of analysis of variance for the female gender, which shows that there is a statistically significant difference in the three sectors where women in small and medium enterprises in Mexico undertake.

Table 3 shows the participation of men in the entrepreneurship of this kind of companies within the Mexican economy, with a 35.54% of total participation in it. The largest share is in the manufacturing sector (48.29%), being the one with the highest standard deviation (7.68). This is in contrast with the commerce sector, which presents the lowest percentage of male participation. Male entrepreneurship in private non-financial services is regarded as the one with the least variation.

Table 3. Descriptive statistics of the participation of men in the entrepreneurship of small and medium enterprises

	Average	Standard deviation	Coefficient of variation
Men Total Economy	35.5439	2.87069	8.07
Manufacturing Men	48.2985	7.68712	15.91
Men Trade	28.5418	2.81641	9.86
Men Private Non-Financial Services	40.7715	3.16306	7.75

Table 4 presents a variance analysis table, which shows that there is a statistically significant difference in the three sectors where men in small and medium-sized companies in Mexico undertake.

Table 4. Analysis of variance for the male gender

	Model	Sum of squares	Degrees of freedom	Average quadratic	F	Significance
1	Regression	258.653	3	86.218	494.559	.000[b]
	Residue	5.056	29	.174		
	Total	263.708	32			

These companies are key factors to increase the potential growth of Latin America. Also, these companies are characterized by great heterogeneity in their access to markets, technologies and human capital, as well as their linkage with other companies, factors that affect their productivity, export capacity, and growth potential. Therefore, the result obtained is shown in the previous tables. Also, they constitute a fundamental component of the productive network in the region, since they represent around 99% of the total number of companies and employ about 67% of the total number of workers (CEPAL, s/f).

In regards to obtaining a multiple linear regression model in the case of women, the sector that generates majority of the weight in entrepreneurship, related to the global participation in the economy, is the trade sector (0.430). However, this shows the standardized beta coefficients; in addition, all three sectors show a statistical significance of zero, which can be seen in Table 5.

Table 5. Linear regression model of women entrepreneurship by economic sectors

Model		Non-standardized coefficients		Standardized coefficients	
		B	Standard error	Beta	Significance
1	(Constant)	-.578	.873		.513
	Women Manufacturing	.149	.011	.327	.000
	Women Trade	.426	.035	.430	.000
	Women Private Non-Financial Services	.463	.040	.362	.000

Table 6. Men's entrepreneurship linear regression model by economic sectors

Model		Non-standardized coefficients		Standardized coefficients	
		B	Standard error	Beta	Significance.
1	(Constant)	-.638	1.000		.529
	Manufacturing Men	.130	.011	.349	.000
	Men Trade	.417	.034	.409	.000
	Men Private Non-Financial Services	.442	.027	.487	.000

In regards to the multiple linear regression model in the case of men, it was stated that the sector that generates more weight in entrepreneurship, related to the global participation in the economy, is the private non-financial services sector. However, this is shown by the standardized beta coefficient (0.487); in addition, all three sectors show a statistical significance of zero, which can be seen in Table 6.

There is an hourly income of the Mexican woman of 33.47 pesos per hour, with a coefficient of variation of 17.75%. Also, the average of schooling in years is 9.036 years. Thus, it has a lower coefficient of variation of 9.23%, which can be seen in Table 7.

Table 7. Income per hour and average of schooling of women

	Average	Standard deviation	Coefficient of variation
Women Hourly Income	33.4712	5.94286	17.75
Women Average Schooling in Years	9.0364	.83427	9.23

It is necessary to emphasize that sometimes it is not just about correcting the wage gap. Nevertheless, the lack of opportunities in the labor market and the obstacles to entering into it can influence a woman's decision to become an entrepreneur. This was mentioned in a report by the World Bank and the Inter-American Development Bank (2010).

There is an hourly income of Mexican men of 33.50 pesos per hour, with a coefficient of variation of 19.51%. Also, the average schooling in years is 9.26 years, which can be seen in Table 8. It should be noted that the coefficient of variation in income per hour is higher in the male than in the female, while the average of schooling is greater in the female gender.

Table 8. Income per hour and average of schooling of men

	Average	Standard deviation	Coefficient of variation
Men Income per hour	33.5070	6.53967	19.51
Men Average Schooling in Years	9.2655	.79431	8.57

Based on the differences in income and schooling in the genders, it is convenient, as indicated by the OECD / CEPAL / CAF (2016), to adopt an approach to entrepreneurship policies that includes diverse instruments. This aims to support at the same time the increase in productivity and gender equity, whereby support for entrepreneurship must be broad and multidimensional.

The Pearson correlation coefficient between entrepreneurship by sector, income per hour, and years of schooling was determined for women in Mexico. This can be seen in Table 8 which shows that in the three sectors of the economy where it was undertaken, manufacturing, commerce and non-financial private services, there is an inverse correlation with statistical significance related to hourly income, being higher in the case of private non-financial services, with -0.621. Also, in the three same cases, an inverse correlation with statistical significance was observed to be related to the average of schooling in years, being the highest in the commerce sector (-0.785). It also shows a statistically significant correlation (0.538) between

the income and the average of schooling in women, which is indicated in Table 9.

Table 9. Correlation between entrepreneurship by sector, income, and years of schooling

		Women Manufacturing	Women Trade	Women Private Non-Financial Services	Women Hourly Income	Women Average Schooling in Years
Women Manufacturing	Pearson correlation	1	.663**	.518**	**-.534****	**-.601****
Women Trade	Pearson correlation	.663**	1	.829**	**-.576****	**-.785****
Women Private Non-Financial Services	Pearson correlation	.518**	.829**	1	**-.621****	**-.660****
Women Hourly Income	Pearson correlation	-.534**	-.576**	-.621**	1	**.538****
Women Average Schooling in Years	Pearson correlation	-.601**	-.785**	-.660**	**.538****	1

**. The correlation is significant at the 0.01 level (bilateral).

The Pearson correlation coefficient between entrepreneurship by sector, income per hour, and years of schooling was determined for men in Mexico, which can be seen in Table 9. Therefore, Table 9 shows that in none of the three sectors of the economy where it was undertaken, manufacturing, commerce and non-financial private services, there is a significant correlation related to hourly income. In the case of the commerce sector, a correlation with statistical significance (0.457) is observed to be related to the average of schooling in years. There is also a statistically significant correlation (0.496) between the income and the average of schooling in men. Thus, this is indicated in Table 10.

Table 10. Correlation between entrepreneurship by sector, income, and years of schooling

		Manufacturing Men	Men Trade	Men Private Non-Financial Services	Men Income per hour	Men Average Schooling in Years
Manufacturing Men	Pearson correlation	1	.501**	.304	.227	.229
Men Trade	Pearson correlation	.501**	1	.527**	.178	**.457****
Men Private Non-Financial Services	Pearson correlation	.304	.527**	1	.108	.046
Men Income per hour	Pearson correlation	.227	.178	.108	1	**.496****
Men Average Schooling in Years	Pearson correlation	.229	**.457****	.046	**.496****	1

**. The correlation is significant at the 0.01 level (bilateral).

What is presented in tables 9 and 10 leads to a reflection based on the study of Rosery and Molina (2008). They indicated that entrepreneurship and entrepreneurs must be considered in the context of complexity in terms of the context, relationships, little factors, as well as in the same way like those of structural type. Therefore, this is because they are decisive for its emergence, constitution, and entrepreneurial development.

Conclusion

Based on the results analyzed from the database of the economically active population by gender in Mexico, the following was concluded.

There are differences related to gender which is based on the type of small and medium companies that are undertaken by sector of the economy in Mexico. Women undertake more in the commerce sector, while the manufacturing sector is the lowest. Unlike men, they undertake inverse to a greater extent in the manufacturing sector and finally in the trade sector. In both genres, the sector that showed the greatest dispersion was the manufacturing sector.

According to the linear regression model, both in the female and male gender, the three sectors where it is undertaken in small and medium enterprises have a statistical significance in the economy in general. In the female gender, it influences to a greater extent the commerce and the male gender based on the non-financial private services.

In Mexico, hourly income is very similar based on gender, being slightly higher in men. In turn, they have a greater variation in income. The average of schooling in men is a little higher than in women. Thus, in this area, the variation is greater in women.

According to the Pearson correlation coefficient, the higher degree of entrepreneurship of small and medium enterprises in women, in the three sectors of the economy, has an inverse income. This, however, indicate that women with higher income in Mexico are not necessarily entrepreneurs of these companies. In the same way, the correlation with the average of schooling is reversed. This indicates that the lower the average of schooling, the greater the entrepreneurship of these companies based on the female gender. In addition, there is a direct relationship between income and average schooling. Here, the higher the income, the higher the average schooling.

In the case of men, no significant relationship was found between the sector in which they undertake small and medium enterprises that are related to income. The average of schooling has a direct positive relationship with the entrepreneurship of small and medium companies in the commerce sector, being the sector where it is undertaken to a lesser extent based on the male gender. A direct relationship exists between the level of income and the

average of schooling in men. Thus, as the level of schooling increases, the income in the male gender increases too.

Also, it can be affirmed that in both genders, the higher the level of schooling, the higher the income. The variation in the entrepreneurship of small and medium-sized companies is 43% higher in the female gender than in the male on average. Also, the sector with the greatest variation is the manufacturing sector. Here, it is 64.64% higher in women entrepreneurs.

Globally, it is expected that in 2018 and 2019, growth will remain stable at 3.0% (UN, 2018). Nevertheless, in Mexico for the first time in two years, the variation of the PIB registers a negative rate of 0.3 tenths, if seasonally adjusted values are considered (CESLA, 2018). Therefore, it is advisable to continue promoting entrepreneurship in small and medium-sized companies in the three sectors of the Mexican economy. Thus, this will have a positive impact on the economy of the country. In addition, support and training programs should be encouraged, mainly for women, given that entrepreneurship in small companies in women has a high rate of variation.

The limitations of this work set the tone for future research lines. Due to the fact that it is a transectional study, a longitudinal study would be allowed to give a greater support to the results of this research.

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