

Determining Factors of the Export of Mezcal From the States of Oaxaca and Michoacán to International Markets

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Abstract

This research determines the main variables that influence export competitiveness of micro, small, and medium-sized enterprises (MSMEs) producing mezcal, from the Mexican states of Oaxaca and Michoacán to the United States (U.S.) market. To reach this goal, a closed-structured questionnaire with a Likert-type scale was applied to a representative sample of mezcal-producing MSMEs located in the above-mentioned Mexican states. The results were processed in the Statistical Package for the Social Sciences (SPSS) for its analysis. This helped proving that Productivity and the use of Technology have a very important incidence in export competitiveness of mezcal-producing companies, and the Organizational Structure variable takes effect to a lesser extent.

Keywords: competitiveness, MSMEs, productivity, organizational structure, technology

1. Introduction

MSMEs in the mezcal industry have been limited in their growth, their production, and their export capacity during the last few decades. Therefore, the importance of this study is to know the causes that prevent greater export competitiveness of mezcal producers in the regions under study. There are studies related to marketing, productivity, technology, and others. However, there are very few studies focused on export competitiveness of mezcal producers. Therefore, the interest of this study focused on the two main mezcal-producing states of Mexico and that despite their experience and background in the sector, do not directly export their production. One of the limitations in this research was the lack of confidence of producers to answer the applied surveys.

In addition to the above, it is worth mentioning that this research work, in addition to providing theoretical information related to competitiveness, contributes to making a proposal for a real problem faced by mezcal producers that operate under the emblem of the "Denomination of Origin (DO)".

1.1 Research Questions

General Question: What are the main variables that have influenced export competitiveness of mezcal-producing MSMEs from the Mexican states of Oaxaca and Michoacán to the U.S. market?

Specific Question: Are productivity, technology, and organizational structure the main variables that have influenced export competitiveness of mezcal-producing MSMEs from the Mexican states of Oaxaca and Michoacán to the U.S. market?

1.2 Research Objectives

General Objective: To determine the main variables that have influenced export competitiveness of mezcal-producing MSMEs from the Mexican states of Oaxaca and Michoacán to the U.S. market.

Specific Objective: To determine if productivity, technology, and organizational structure have been the main variables that have influenced export competitiveness of mezcal-producing MSMEs from the Mexican states of Oaxaca and Michoacán to the U.S. market.

1.3 Research Hypothesis

General Hypothesis: Productivity, technology, and organizational structure constitute the main variables that have

influenced export competitiveness of mezcals-producing MSMEs from the Mexican states of Oaxaca and Michoacán to the U.S. market.

Specific Hypothesis: Productivity, technology, and organizational structure have had a negative impact on export competitiveness of mezcals-producing MSMEs from the Mexican states of Oaxaca and Michoacán to the U.S. market.

2. Theoretical Framework

2.1 Main Theories of Competitiveness

Economic competitiveness is undoubtedly in constant movement, hence the question: Why do some nations hold competitive advantages? Some experts state that the fundamental factors are labor costs, interest rates, exchange rate, and scale economies. Other ways in which companies achieve greater competitiveness is by making innovations obsolete; that is, they develop a new product to replace the previous one, and they continue to make innovations by constantly improving their operational and administrative processes (Rugman, 2001).

What should countries do if they want to have strong international trade and investment positions? There are three areas in which they can be strong. Economic competitiveness; the ability to influence trade regulations so that the other nations open their borders to buy and sell foreign goods and services in world markets; and finally, they must develop a global orientation (Rugman, 2001).

Likewise, Ibarra (2017) mentions competitiveness as the possibility for citizens to raise their standards of living, which relates to the productivity with which national resources are used, the product per unit of work, or the capital used. In addition, competitiveness is achieved by raising productivity in existing businesses or engaging in business with higher productivity. He distinguishes eight dimensions of competitiveness at the micro or business levels. These dimensions determine altogether how competitive a company is and how successful it is compared to the rest of the market. The dimensions are:

- a) Strategic planning: it refers to whether organizations have general objectives, time-bound goals, and policies for compliance and follow-up.
- b) Production and operations: Its contribution lies in the complexity of production processes, use of modern production tools, certifications, and flexibility in production processes, planning of raw materials and inputs, development of new products, inventory management, among other factors.
- c) Quality assurance: It determines the level of application of quality standards, programs to deal with contingencies, working groups in this regard, and certifications.
- d) Marketing: it analyzes sales policies, defines the target market, determines market research and customer satisfaction, uses marketing strategies, and establishes distribution channels, payment methods, and relationship with customers and suppliers.
- e) Accounting and finance: This takes care of everything related to operational and administrative aspects, tax payments, etc.
- f) Human resources: part of a company's competitiveness relates to the proper use of human resources. It is essential to implement rigorous processes of selection and recruitment, training and education, analysis of the causes of labor turnover, work environment and programs to remedy them, compensation systems, as well as compliance with safety and industrial hygiene aspects.
- g) Environmental management: the new requirements in this area are of greater relevance to consumers; companies must remain competitive and sensible about the environment at the same time.
- h) Information systems: This is an important area for businesses to achieve a high level of competitiveness in the market.

According to Perez (2007), export competitiveness represents the efficiency of each business compared to others in the same market sector. For Saavedra and Tapia (2011), the most important elements to consider in a company's competitiveness are production, profitability, sector, market share, infrastructure, among others.

According to the systemic approach proposed by Esser, Hilebrand, Messner and Meyer (1994), there are four spheres that indicate the level of competitiveness of an MSME in an industrialized or emerging country:

Micro: internal adaptations of the company and its environment.

Meso: efficient institutional structure for a good interaction with actors outside the company.

Macro: stability following government policies, reforms, and actions that affect the company's operation or its

market.

Meta: social and political structure of the whole society leading to the company's development.

The trend in international trade requires a restructuring for companies, such as improvements in their production processes that not only consider the technology or inputs used; it is also necessary to integrate indirect processes that increase levels of competitiveness. One of them is Corporate Social Responsibility (CSR).

According to Porter (2015), competitiveness is directly linked to productivity. Under this assumption, all companies must have high productivity in their operational and administrative processes to be considered efficient in the market.

Table 1 shows how Mexico has lost ground in competitiveness against countries in the region, like Chile and Peru, in pillars such as economic efficiency, government efficiency, business efficiency, and infrastructure.

Table 1. Results of the Competitiveness Ranking and Pillars in Latin American Countries: 2020

Countries	General Ranking		Economic Performance		Government Efficiency		Business Efficiency		Infrastructure	
Chile	67.08	38	51.91	50	72.13	20	55.11	37	44.54	45
Peru	54.87	52	51.90	51	53.65	40	41.97	50	27.33	60
Mexico	54.80	53	58.48	38	40.02	55	43.80	48	32.25	57
Colombia	52.15	54	51.74	52	39.95	56	39.25	52	33.04	56
Brazil	49.63	56	47.57	56	24.59	61	44.44	47	37.28	53
Argentina	38.06	62	36.50	60	10.77	63	21.19	62	39.15	52
Venezuela	25.37	63	8.39	63	15.72	62	26.20	60	6.54	63

Source: Author's design based on FEM (2020).

2.2 Main Theories of Productivity

The related literature mentions that Quesnay (1766) was the first person to use the term productivity, but Littré stated in 1883 that productivity is the power to produce something. When the concept of productivity is discussed, it is common to use it as a synonym of production, productivity, efficiency, and effectiveness (Alvarado and Sanchez, 2019).

Pritchard, cited in Alvarado and Sanchez (2019), points out five perspectives through which productivity can be analyzed.

1. Economics Perspective: It conceives productivity as the quantity of products generated divided by the quantity of associated inputs and/or inputs such as labor, capital, intermediate products acquired, and time.
2. Engineering Perspective: Productivity here is equal to operating efficiency based on energy as the main input and the amount of work applied to generate outputs. It considers the units produced per Kilowatt-hour, Man-Hours-Machine-Hours among others.
3. Accounting Perspective: Productivity focuses on the organization's financial performance.
4. Management Perspective: Under this approach, productivity is considered a complex concept because it is derived from measuring and evaluating factors such as quality, quantity of resources and products applied operational interferences, financial returns, and absenteeism from work.
5. Organizational Psychology Perspective: From this point of view, productivity is mainly related to the effectiveness and efficiency of the human factor derived from the development of its functions and tasks.

The advantages of having a better productivity are:

- a) Higher profits, either by higher profit margins or by higher sales volume.
- b) Higher income for employees.
- (c) Increased safety margin in the market, i.e., increased competitiveness.
- d) Unbeatable expansion opportunities.

e) Social prestige.

Kopelman (1988), cited by Alvarado and Sanchez (2019), mentions that productivity is affected by many factors such as the quantity and technical complexity of equipment and capital goods, quality and availability of raw materials, volume of operations, skill, motivation and attitudes of employees, organizational flow, and managerial competence. It refers to the results achieved by organizations as far as there is a relationship between the factors involved to achieve them. Therefore, it can be noted that the increase in a company’s profitability depends on improvements in productivity. Both profitability and productivity should be planned and implemented continuously in the staff; if an organization commits the human factor towards achieving the objectives, it will be possible to increase productivity.

From economics, Adam Smith states that the annual product of a nation’s land and labor can only be increased by two ways: an advancement in the productive powers of useful labor maintained within them, or the increase in labor quantity (Jaimes and Ludym 2018).

2.3 Theoretical Approaches to Organizational Structure

The analysis of the organizational structure is framed within the Structural Contingency Theory, which shows that there is no single form of structuring; the division of labor and its coordination will depend on various factors and situational conditions in which the organization operates (Id áraga, 2012).

If organizations are the domains in which resources are transformed into results, these human and material resources, which cost money and include technologies, must be employed in a way that achieves the necessary results with acceptable quality, cost, and timeliness, i.e., in a manner consistent with organizational survival (Hintze, 1999).

Organizational structure is the final technical instrument that assigns responsibility to be completed at a necessary level of detail for an adequate use of resources in the execution of activities. Such detail must reach two levels: that of the organizational units or centers of responsibility, and, in a second instance, that of the specific jobs that each person will occupy (Hintze, 1999).

Every company necessarily requires an organizational structure or a form of organization (Table 2) according to its needs and its size. By this means, its activities, processes, and overall functioning as a company can be arranged (Mintzberg, 1993).

Table 2. Types of structures and organizational units

Types of structures and organizational units		
STRUCTURE TYPE		
VERTICAL		HORIZONTAL
UNIT TYPE	LINE Units with main responsibility for the institution’s external production	Units with planned structure for permanent managements
	STAFF Units with primary responsibility for supporting the institution's external production	Units of the general institutional management responsible for producing the results that the institution delivers systematically and routinely to third parties
		Units with planned structure for projects or programs
		Units of projects and programs linked to the production of results for third parties
		Planning, administration, legal support, human resources, maintenance, logistics, and other units whose contributions maintain the organization so that external results are produced.
		Project units and programs whose results are passed on to the organization itself, such as reorganizations, re-engineering, IT modernizations, new facilities, and others

Source: Author's design based on Hintze (1999).

The Organization for Economic Cooperation and Development (OECD), cited by Jiménez (2006), refers to three basic capacities to increase productivity and competitiveness in companies and economies, generating the conditions for development; these are innovation capacity, adaptation capacity, and learning capacity.

2.4 Technology and MSMEs

Technological innovation has been associated with competitiveness for many years. At their time, Adam Smith, David Ricardo, Karl Marx, Weber, Khun, and Schumpeter pointed out the importance of this relationship. The current dynamics for the generation of wealth requires scientific and technological capabilities as generators of productivity, competitiveness, and economic development (Chávez, 2012).

Nagles (2007) states that innovation is a company's ability to generate ingenious, creative, and profitable solutions to meet needs, expectations, and demands of consumers, markets, and society in general.

A company's technological capabilities stand out when it performs better than competitors do. Following the terminology of Prahalad and Hamel (1991) cited in Claver (2000), these capabilities become core competencies and allow access to multiple markets to generate considerable value for the customer.

Technologies can be combined in a way that none of them is normally used in isolation. Therefore, any product manufactured or any production process used by a company is the result of combining a certain number of technologies (Claver, 2000).

The new approach to competitiveness generates changes in the current market. Therefore, the life cycle of products will be reduced by a commitment to constant innovation in addition to a continuous design of products using technology and allowing external agents in the market as productivity increases (Matta, 2015).

The following table shows the technological revolutions that have taken place throughout economic history. We are fortunate in having witnessed the transformation of capital-and-energy-intensive technologies into information-intensive technologies. Such change is radically modifying the technical conditions of production, the quantity, quality, the utility of goods available to society, and even human relationships. At the same time, the ways of conceiving and practicing competitiveness is changing, as the dynamics of this new productive paradigm constitutes a process of creative destruction, which shortens the life of products. The consequence is a competition in ideas translated into constant and permanent innovation constituting the central element of competitiveness.

Table 3. Five technological revolutions in 230 years

Year	Events
1771	Industrial Revolution
1829	Iron Age, the steam engine and the railway
1875	The age of steel and heavy engineering
1908	Age of oil, automobiles and mass production
1971	Computer and telecommunications era
20??	Biotechnology, nanotechnology, and bioelectronics era

Source: Author's design based on Peñaloza (2007).

Information and Communication Technologies (ICT) are a support tool on the company's way to competitiveness. The employees' perception of technology is essential, and their willingness to be trained in technology helps them raise their productivity and efficiency levels. On the contrary, if they are not trained to use technology, work becomes complicated, and efficiency decreases. Therefore, it is important that companies be technologically prepared to face the challenges of coexisting in a globalized world (Rós, 2014).

2.5 Referential Framework

In its oldest and most accurate definition, mezcal is a spirit distilled from the exclusive fermentation of sugars from any species or variety of agave (Saldaña, 2012). The state of Oaxaca has the greatest biodiversity of agaves in Mexico and the world. It is not surprising that it is precisely there where the greatest number of wild species are exploited. The most popular cultivated species for making mezcal is the agave *espadín*.

As for the states of Michoacán, Hidalgo, México, Puebla, and Guerrero, most of the population has been engaged in agricultural activities since before the Spanish colony. Cultivated agaves are sown from tillers, seeds, or flower bulbets on farmland or hillsides (Saldaña, 2012).

Mezcal production process:

Cooking: The cooking of maguey can be done using different technologies; it aims at transforming maguey pinecone sugars into fermentable sugars.

Grinding: It is the process of tearing the pinecone fibers to extract its cooked juice; some separate the pinecone fiber from the juice, and others do not.

Fermentation: The juices and/or agave fibers are put in vats, water is usually added, and yeasts and microorganisms transform the juices into fermented must.

Distillation: In the distillation, fermented musts containing alcohol and a huge number of other compounds will integrate the mezcal; they are exposed to a process of heating and condensation in at least two stages. The ordinary type is obtained in the first stage, and the final mezcal is produced in the second (Saldaña, 2012).

Mezcal is one of the main beverages that began to be produced in Mexico. It emerged from the mixture of a pre-Hispanic tradition regarding the use of maguey and the distillation technique imported from Spain. Currently, more than two hundred species are calculated to exist. Although various types of mezcal production have been identified such as handcrafted, traditional, and modern, the former predominates among the inhabitants of the states of Oaxaca and Michoacán.

Ever since the mid-twentieth century and so far in the twenty-first century, we can speak of two classifications of producers: handcrafted and industrialized. The latter is focused mainly on profit generation and capital expansion, whereby regulations and business strategies allow cost reduction and increased profits using technology. This is because greater capital investment is required for the technification of productive processes (Placencia; Peralta, 2018).

One of the present challenges for mezcal commercialization is the lack of a comprehensive development of promotion and advertising. As mentioned by Catarina (2019), a growth in mezcal sales, whether in the local, national, and international markets, will generate a multiplier effect in the industry as the sale of inputs required for packaging, labeling, etc. can be increased exponentially.

Mexico has the Denomination of Origin (DO) of mezcal, which protects the intellectual property of 39 municipalities in Durango, 1 in Guanajuato, 81 in Guerrero, 570 in Oaxaca, 58 in San Luis Potosí, 11 in Tamaulipas, and 58 in Zacatecas. Michoacán is the most recently incorporated state to the national reserve of mezcal producers. It was included in 2012 with 29 municipalities (Pérez, 2016). As for production, 89.78% of the 111,420 hectares planted in 2016 is mechanized, 51.89% had technology applied to plant health, while 67.78% used technical assistance. On the other hand, 98.65% of the production is rainfed.

As shown in Figure 1, the main mezcal importing countries are: The U.S. in first place, followed by Germany, Japan, and the United Kingdom mainly.

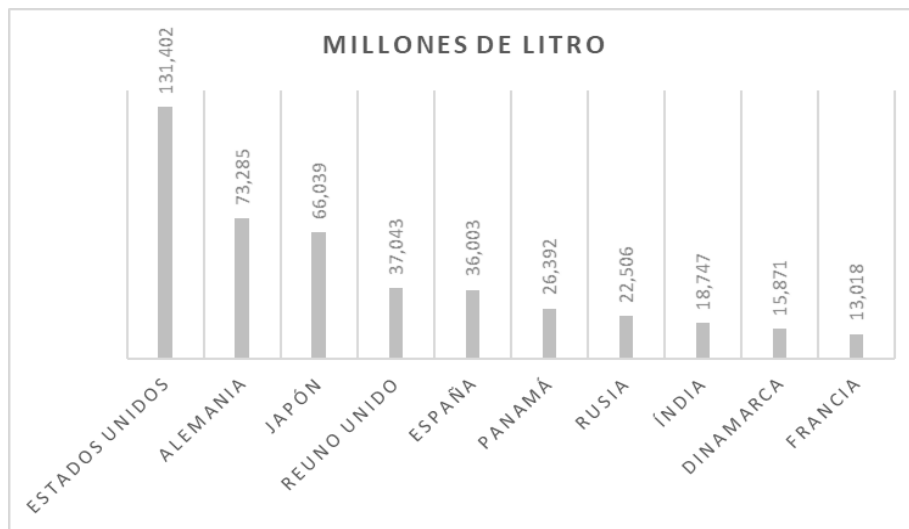


Figure 1. Main world mezcal importers

Source: SAGARPA, (2017).

Figure 2 shows Mexico as the main mezcal exporter in the world; consequently, it is also the largest producer worldwide, followed by South Korea and the Netherlands, among others. However, our country stands out in the export of this product.

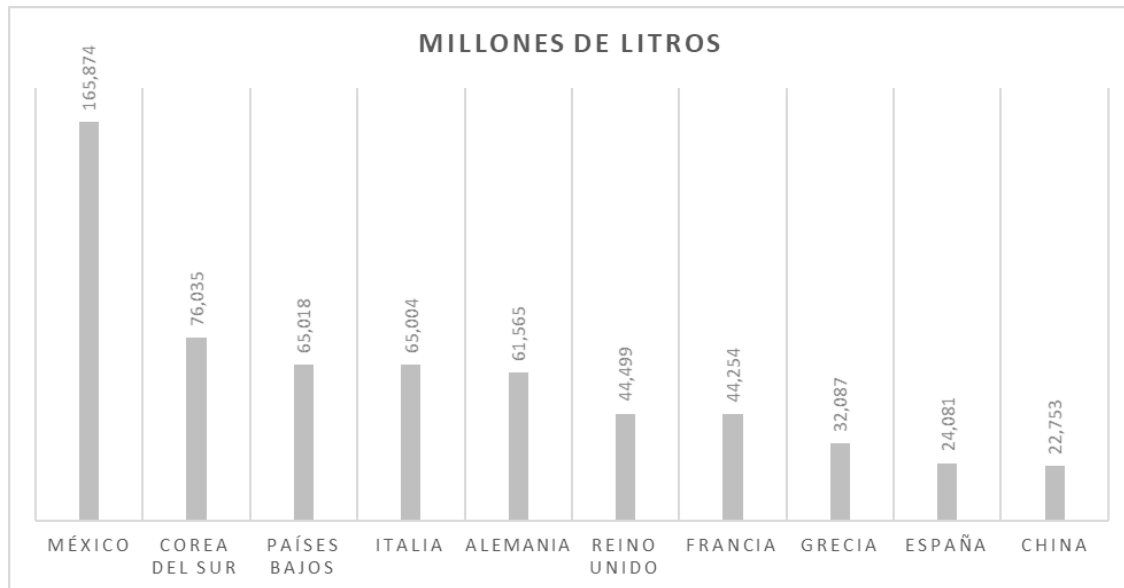


Figure 2. Main world mezcal exporters

Source: SAGARPA, (2017).

In the state of Michoacán, 26% of the municipalities have the mezcal DO. For most of these municipalities, their main activity is the production and commercialization of this beverage, so it is necessary to build a joint government-state-enterprise competitiveness strategy for its improvement. This would include product certification aimed at sustainable competitiveness. Mezcal micro-entrepreneurs have carried out their production processes in an empirical way, passing the knowledge from parents to children in a traditional way without documenting the activities carried out; this allows them to have a developed cultural background, but a very low capacity to standardize these processes. Five years ago, Michoacán’s mezcal zone obtained the DO; however, commercialization and sales have not increased there due to a low regulatory competitiveness in the mezcal industry in comparison with other states such as Oaxaca or San Luis Potosí (Table 4).

On November 22, 2012, the General Declaration for the Protection of Mezcal DO, published in the Official Journal of the Federation (DOF) on November 28, 1994, was amended to include the following Michoacán municipalities in the list comprising the territory of the mezcal geographical corridor: Acuitzio, Aguililla, Ario, Buenavista, Charo, Chinicuila, Coalcomán de Vázquez Pallares, Cotija, Cojumatlán de Régules, Erongaríuaro, La Huacana, Tacámbaro, Turicato, Tzitzio, Hidalgo, Salvador Escalante, Morelia, Madero, Queréndaro, Indaparapeo, Tarámbaro, Tancitaro, Los Reyes, Tepalcatepec, Sahuayo, Marcos Castellanos, Jiquilpan, Venustiano Carranza, and Vista Hermosa, which mainly use Magüey Cupreata as raw material (Chávez M., 2016).

Table 4. Production of certified mezcal by major states

Links in the production chain	Mezcal production certified by the main states							
	Oaxaca	Guerrero	Zacatecas	Durango	San Luis Potos í	Guanajuato	Tamaulipas	Michoac á n
Agave producer	212	24	4	9	2	4	3	0
Mezcal Producer	332	43	20	26	7	4	4	1
Packer	135	6	19	15	6	6	2	1
Trader	155	7	21	13	6	5	1	1
Service provider	2	0	0	0	0	0	0	0

Source: Author's design based on SAGARPA (2015).

The PRODUCE Oaxaca Foundation (2007), cited in Bautista (2015), features indicators on the agro industrial development of Oaxaca's mezcal. It highlights that 30% of all mezcal produced and bottled is exported to the European Economic Community (EEC).

As mentioned in the Introduction section, generally the studies related to the mezcal sector focus on the productive capacity, the variety of maguey as raw material for the production of mezcal, the different production processes, and above all, to the processes to industrialize mezcal, but they do not give enough attention to aspects related to the export competitiveness of producers who produce in an artisanal way, and who are also located within the DO area.

3. Methodological Framework

This research is explanatory and mixed but mainly quantitative. It aimed at assessing the incidence of variables productivity, technology, and organizational structure in the export competitiveness of mezcal-producing MSMEs in the states under study. For this purpose, fieldwork was conducted with the most appropriate tool for this kind of research; a sample of 100 surveys was applied with 39 questions each, estimated on a Likert-type scale. Once the data were obtained, they were processed in the SPSS program, applying the Pearson correlation coefficient test; this allowed to assess the impact that each of the independent variables has on the dependent variable, which is the main research goal. It is important to mention that there are no previous studies related to this research topic.

4. Analysis and Interpretation of Results

This research arises from the need to know the causes that prevent and limit the possibility for mezcal producers from Oaxaca and Michoac á n, Mexico, to export their products to the international market. Three independent variables were selected: productivity, technology, and organizational structure. According to Ibarra (2017) and Catarina (2019), these are some of the variables that have an important impact on the competitiveness of a MSME; it does not mean that they are the only ones, but they were selected for the purposes of this research topic.

A Cronbach's Alpha test was applied to the survey items in which a value of .762 was obtained. This means that it is highly reliable for conducting the research work.

Table 5. Cronbach's alpha test

Reliability statistics	
Cronbach's Alpha	Number of elements
.762	10

Source: Author's design based on SPSS (2020).

According to what is observed in table 6, productivity has an important impact on a company's competitiveness in the mezcal sector. In the first place, most of them are micro enterprises, i.e., 66.7% of the survey respondents; to a lesser extent, some of them are small and medium enterprises (SMEs). This is in tune with the number of hectares that they produce: 38.3% of the respondents produce between 6 and 8 maguey hectares to obtain mezcal, and only 11.7% of the respondents had more than 11 hectares of land in production. In this context, the person in charge of most of the administrative and operational activities of the business is the owner himself; most of them are family businesses and have been inherited from generation to generation.

Table 6. Aggregate responses for Productivity

Variable: Productivity			
Indicators	Options	Frequency	Percentage
Area of agave currently under cultivation	4-5 hectares (ha)	16	26.7 %
	6-8 ha	23	38.3 %
	9-10 ha	14	23.2 %
	11-more	7	11.7 %
Expenditure from sowing to harvesting	31,000-40,000	1	1.7 %
	41,000-more	59	98.3 %
Sales market of the product (mezcal)	State Market	31	51.7 %
	National Market	29	48.3 %
Person in charge of sales	The producer directly	17	28.3 %
	A marketing company	26	43.3 %
	Points of sale of the business	17	28.3 %
Number of people working in the business	1- 10 people	40	66.7 %
	11- 30 people	17	28.3 %
	31- more	3	5 %

Source: Author's design based on our fieldwork (2020).

It is also important to mention that product commercialization takes place in the state and national markets with 51.7% and 48.3% respectively; products are delivered to intermediaries who often use their own labels to export to other countries without the producers' awareness. This happens because producers allegedly do not know the exporting procedures; therefore, it is easier for them to just deliver their production to intermediaries who eventually earn the most, as occurs in this and other sectors of Mexican economy.

This phenomenon is replicated in technology: producers sporadically allocate a small percentage of their income to purchasing machinery and equipment. The producers surveyed here declared not to do this because it changes the taste, aroma, and quality of the final product and because they belong to the area considered DO, so they must produce handcraft mezcal to keep the denomination. They affirm that all producers in the region make handcraft mezcal, but they are aware that using machinery and equipment would help them increase their production capacity and reduce their operational and administrative expenses. In any case, all those surveyed have the intention and wish to export their products to the international market.

Table 7. Aggregate responses for Technology

Variable Technology			
	Options	Frequency	Percentage
Percentage of income invested in machinery and equipment	5 %	58	96.7 %
	10 %	1	1.7 %
	15 %	1	1.7 %
The last time they purchased any machinery or equipment	1 year	2	3.3 %
	2 years	2	3.3 %
	3 years	4	6.7 %
	4 years	4	6.7 %
	4 years-more	48	80.0 %
Uses a computer to record transactions	Yes	8	13.3 %
	No	52	86.7 %
The business has a website	Yes	19	31.7
	No	41	68.3
Most producers in the region use machinery and equipment for their production.	Yes	0	0
	No	60	100 %

Source: Author's design based on our fieldwork (2020).

Regarding organizational structure, most respondents have family businesses, so the person who makes decisions in the company is the owner. There is no organizational structure within the companies, and they do not have defined policies that allow employees to know their scope and limitations within their work area. In addition, owners do not hire training services for their personnel as they assume that the personnel know their functions and obligations. This happens because there is no protocol for hiring personnel, and the labor force is obtained within the same region. For some stages of production, they sometimes must rely on personnel from other regions as unemployed people always look for a place to work. The level of schooling in the personnel is mostly basic and high school to a lesser extent. So, even having the conditions and characteristics to export, they are limited by the lack of information and knowledgeable personnel in charge of the exporting process.

Table 8. Aggregate responses for Organizational Structure

Variable Organizational Structure			
	Options	Frequency	Percentage
Who makes decisions in the company	The owner	55	91.7 %
	The Manager	2	3.3 %
	The Board of Directors	3	5.0 %
There is a Chief of Staff	Yes	53	88.3 %
	No	7	11.7 %
Each staff has specific functions to perform	Yes	58	96.7 %
	No	2	3.3 %

The company has its short, medium, and long term plans in writing.	Yes	57	95 %
	No	3	5 %
The staff receives training	Yes	15	25 %
	No	45	75 %
The company has an organization chart	Yes	2	3.3 %
	No	58	96.7 %
Recruitment method for workers	By interview	11	18.3 %
	By recommendation	49	81.7 %

Source: Author's design based on our fieldwork (2020).

The following table displays the Pearson Correlation Coefficient Test. It shows a high correlation between the productivity and technology variables with a .459, but not with the organizational structure variable with -.411. A perfect negative correlation is observed when the coefficient equals -1, and a perfect positive correlation happens when the coefficient equals +1. This statistical method proves the existing negative incidence between the independent variables and the dependent variable. In this case, the latter corresponds to the export competitiveness of mezcal-producing MSMEs in the studied regions.

Table 9. Pearson's Correlation Coefficient

Variables		Productivity	Technology	Organizational Structure
Productivity	Pearson Correlation	1	.459**	-.411**
	Sig. (bilateral)		.000	.000
	N	100	100	100
Technology	Pearson Correlation	.459**	1	-.235*
	Sig. (bilateral)	.000		.018
	N	100	100	100
Organizational Structure	Pearson Correlation	-.411**	-.235*	1
	Sig. (bilateral)	.000	.018	
	N	100	100	100

Source: Author's design based on our fieldwork (2020).

5. Discussion

According to Larios (2016), Mexico has just over 4, 000,000 companies, and only 6, 700 are large companies; the rest are MSMEs and represent 99.8%, generate 52% of GDP, and contribute 72% of formal jobs. However, it is the most affected sector in terms of lack of support, understood as public and private financing, advice, training, and linkage with potential customers nationally and internationally. Hence, a very small percentage of all MSMEs in Mexico are engaged in exporting their goods and services to other countries.

This marginalization experienced by the MSMEs is even more evident in the activities related to the primary sector.

Mezcal producers have historically suffered from these limitations, and it is predictable that they will continue this way given the isolated efforts they have made as a sector. They have failed to obtain the expected benefits, and it is not because of a lack of quality in their products, or lack of knowledgeable producers to generate products; the problem is directly related to regulatory, legal, and control aspects within the regulating agencies in this activity.

6. Conclusions and Recommendations

According to the statistical data analyzed, it is possible to prove the hypothesis raised at the beginning of this research: variables Productivity, Technology, and Organizational Structure have a significant impact on the export competitiveness of mezcal-producing MSMEs in the states under study. This is the main reason why even having all the elements and capacity, they are still immersed inside the state and national markets instead of taking the next step to export their products directly. It does not mean that mezcal does not have export quality, in most cases it does, but intermediaries who take the biggest profit by taking advantage of the producers' lack of knowledge in this sector carry out exports. Therefore, we suggest that producers organize and operate under the legal figure of Rural Production Society (SPR in Spanish) to take advantage of their strengths and generate a single marketing and export scheme for their product.

The framework of this research was delimited to the export competitiveness of the mezcal producers of the states under study and the factors mentioned, as well as producers belonging to the DO area; however, derived from this study, there will be the possibility of delving into the issues related to the DO and its scope, given that it seems more of an obstacle for producers than a competitive and comparative advantage, as well as carrying out an analysis of the different forms of organization and cooperation to facilitate the process of exporting their products directly to producers, including professionalization, among other topics of interest.

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