

## **Analysis of the competitiveness of agricultural companies: the case of fruit companies in the Soconusco region of Chiapas**

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**Abstract.** Since the 1990s, specifically with the commercial opening and thus the signing of the North American Free Trade Agreement, the agricultural policy of Mexico seems not to be encouraging effectively the investment in the field, likewise, in Mexico, the Plan Nacional de Desarrollo 2013-2018, details that the field presents signs of weakness reflected in a stagnation of productivity, competitiveness and profitability, is not inclusive and lacks a sustainable management of natural resources. In Order for agriculture to support the revival, growth and competitiveness of an economy, be it country or sector, it is necessary to generate long-term strategies that help to reduce the deficiencies that make up the fruit sector, through a model that Provide the basis for determining the factors involved in the competitiveness of the fruit industry. This research is considered pertinent, since in carrying out its objectives it will be able to benefit the companies that make up the fruit industry of the Soconusco region of the state of Chiapas, providing them with a perspective of analysis on the variables that contribute to their competitiveness. On the other hand, with the development of the work, it will generate a precedent that possibly serves as reference for other regions that want to determine the factors that affect the competitiveness of the fruit companies established in them. In This article an analysis of the competitiveness in the commercialization of the main fruit companies of the Soconusco region in the state of Chiapas. In the study it is considered as a dependent variable to the competitiveness and as independent variables to the quality, the price, innovation, certifications, and channels of distribution. In Order To do so, the measuring instrument was designed and applied, and open interviews were carried out to the managers of these companies.

**Key words:** Agribusiness, quality, competitiveness, fruit companies, Soconusco.

### **I. Introduction.**

In Mexico, fruit growing is one of the few activities within the rural sector that presents a positive balance in its trade balance, this due to the fact that in recent years the volume of fruit exported was 4.5 times that imported from 1961 to 2006 ( FAOSTAT, 2009), this has been possible thanks to the comparative advantages of tropical fruits, especially in terms of climate in relation to other countries.

Since 1980, the volume of fruit production has practically doubled, from almost eight million to 18 million tons. Fruit growing is one of the agricultural activities that generates the greatest utility, since the area cultivated with fruit trees represented 6.44% of the national, but the value of its production was 20.67% of the total in Mexico, which means that each cultivated hectare with fruit trees it was three times more profitable than the average of the rest of the crops (SIACO –SAGARPA, 2010). In this research work it is assumed that competitiveness is: “the capacity and attitude of a country or a company to compete for the conquest or permanence of a group of clients, which they choose from among various options in a free trade market ”(Bada C. and Rivas T., 2003).

Despite the above, fruit growing in Mexico has been losing relative importance over time. In 1988, the surface occupied by fruit trees was 9% in relation to the average for Mexico and the value it generated was 32%, while in 2008 the surface occupied fell to 6.44% and the generation of production value was 20.67%.

Despite the loss of relative importance, fruit growing generates indirect jobs as services; More than 326 thousand transportation units are used each year to transport products to the borders with Arizona, California, and Texas. There is also an economic spill of about 170 million dollars from the use of

almost 200 million cardboard and wooden containers to pack the products, in addition to various support to other sectors.

In the present work a qualitative digression of the competitiveness of the exporting companies of fruit products of the Soconusco region, Chiapas is carried out; from the attitude and how those in charge of them perceive competitiveness. The companies analyzed represent on average between 60 and 80% of the production and export of said species in the region, therefore it is pertinent to know the perception of their competitive performance, given their significance.

The approach used here allows detecting the perception that the productive performance, and its translation into the competitiveness of the company, have the direct actors, and it is quantified through a competitiveness indicator (dependent variable) constructed from the interaction of each one of the independent variables (quality, price, innovation, certifications and distribution channels).

## **II. Theoretical framework.**

In order to contextualize the problem that gives rise to this research, it will start with the analysis of the subject of agriculture, first general aspects will be disclosed, secondly, economic figures will be shown regarding their participation in the national economy and with the subject object of study, competitiveness, with sources from the years 2010, 2011 and 2013, being the most recent documents found at the time of starting this research.

It is an economic activity that is based on the use of resources that originate in the land, aided by human intervention: cereals, vegetables, fruits, cultivated pastures, fodder, textile fibers, energy crops and tubers, etc. Over time, two main types of agriculture have been developed, the first of which is known as rainfed or rainfed, it is carried out by taking advantage of groundwater, in addition to rain; and the irrigation system, in which the farmer adds water to the land through various irrigation techniques.

In Mexico, agricultural activity is considered of strategic importance as a fundamental basis for the self-sufficient progress and wealth of the country. On the other hand, it is known that economic growth is a function of the increase in the use of production factors: land, labor and capital; as well as technological change and innovation, which directly impacts the productivity of the field.

The National Development Plan 2013 - 2018 (2013), dictates the sectorial program of agricultural, fishing and food development 2013 - 2018, which reveals that approximately 26 million hectares are cultivable, in addition to being considered as a strategic component of production, annually An average of 22 million hectares are cultivated, that is, 85% of the total cultivable hectares. Of this reference, 26% do so with an irrigation system, while 74% are cultivated in rainforests. In the last forty years, the irrigated surface has practically not grown and its infrastructure with serious deterioration causes inefficiencies in the conduction and use of water. Despite the fact that the lowest percentage of cultivation is represented by the irrigated area, 60% of the value of the production is generated in it, while the temporary, considered as the largest volume of sowing, only contributes 40% of the production value, in addition to being increasingly exposed to the effects of climate change (droughts, floods, frosts, among others), which symbolizes a structural brake on its productivity.

On the other hand, and continuing with the analysis of numerical data, there is a study done by Ayala, Sangerman, Schwentesius, Almaguer, and Jolalpa in 2011, whose objective was largely to analyze macroeconomic indicators, to quantify the competitiveness of the agricultural sector in Mexico. The authors argue that the negative trend in competitiveness is a consequence of the Gross Domestic Product

-economic value of the final goods and services originated by an economy in a given period - Mexican Agriculture (PIBA), which, on the one hand, has had an Annual Average Growth Rate (TCMA) sustained of 1.23% between 1980 and 2009; and on the other, the contribution of the agricultural sector to the total national Gross Domestic Product (GDP) during the period 1988 - 2009 has been significantly reduced, as shown in the Figure. The published figures are significant, even though Mexico has enormous potential to produce greater surpluses of food, both for domestic consumption and for export, in a sustainable way in the long term.

Returning to the line of the last paragraph, where the researchers mention "the negative trend of competitiveness", in their document they describe that Mexico is the most open country in the world and presents an index of commercial openness abroad of 70%, however the same In writing, referring to other authors of origin, it indicates that it is one of the least competitive countries, occupying the 60th place in the 2009 global competitiveness report, falling 29 positions with respect to 1999, when it occupied the 31st position; This, in his opinion, indicates that the pillars that support growth in the medium term have lost stability and sustainability with respect to other countries.

According to data from FAO and the -United Nations Food and Agriculture Organization / Statistical Division (FAOSTAT) - (2010), the behavior of the additive revealed competitiveness index of the agricultural sector in Mexico is shown. According to the calculations carried out, the indices were less than zero, this represents a sign of negative competitiveness (according to the methodology of Hoern and Oosterhaven, 2006), in addition to indicating that Mexico is not specialized, nor does it have revealed competitive advantages . It should be noted that until before 1979 the trend was positive and, from that year on, it has been negative, continuing with a decreasing trend. It is appropriate to emphasize that, although the behavior is negative, as of 1985 the index is close to zero.

Among the conclusions presented by Ayala et al. (2001) establishes that Mexico is not suitable to face competition at the world level, in addition to not being efficient to export and commercialize in foreign markets constantly and also growing, unlike its imports which have developed at a higher rate. The ability to create, produce and sell agricultural products in the international market has not reached the expected expectations, imports have been greater than exports, so Mexico loses every day greater competitiveness in the international context.

The revealed additive competitiveness of the Mexican agricultural sector is less than zero and with a tendency to decrease, derived from macroeconomic indicators such as GDPA in relation to national GDP, nominal GDP per capita, the economically active agricultural population, productivity salary, Food self-sufficiency and the trade balance that showed a significant tendency to decrease, since there is no macroeconomic structure that is a column to sustain and therefore improve competitiveness.

Chiapas is one of the states of Mexico in which, due to the variety of climates, it is possible to find different plantations of agricultural crops that influence the feeding of thousands of families and others that are exclusively for local and national marketing as well as export. ; Such is the case of mango, which has its origins in Southeast Asia, mainly in India and which is later known throughout the world, however, something that differentiates and characterizes the state of Chiapas is the registration of a new variety. A fruit that, due to its organoleptic characteristics, is accepted for national and international consumption: the Ataulfo mango, which is currently one of the representative varieties of the country due to its acceptance in international markets, for which its value, economically speaking, is higher than others varieties.

In terms of volume of production, Chiapas ranks fourth in the country in Mango, while in value of production in pesos it ranks third and in exports Mexico is the main one, Internationally trading between 13.8% and 20% of what it produces and the rest is directed to domestic consumption, with the main importers being the United States (86%), Canada (7.5%), Europe (3.25%) and Japan (1.85%).

Currently approximately 17% of domestic production is exported, the remaining volume remaining and distributed in Mexico, 70% of this volume goes to the Abasto Plant and 30% to self-service stores. Chiapas takes over, nationally, the ataulfo mango market during the months of January to September, states such as Nayarit, Oaxaca, Guerrero, Sinaloa, Michoacán, Veracruz, Colima, Tabasco and Campeche are taking advantage of its commercialization.

The conceptual framework of competitiveness is referenced to the seventeenth century, specifically theories of international trade, the nature of which is focused on economic aspects. The main author, regarded as a mentor to these theories was David Ricardo (1817), who developed the methodology of competitive advantages. Classical economic theory bases the comparative advantages of a region or nation on the abundant endowment of basic factors of production (land, labor and capital) and, above all, in the relative abundance of natural resources.

As a result of globalization and a whole range of transformative elements such as new technologies, changes in consumption patterns and greater awareness of the preservation of natural resources, a re-conceptualization of the term competitiveness emanates, where comparative advantages as pillars of development move towards competitive advantages. These are created on the basis of product differentiation and cost reduction; technology, innovation capacity and specialized factors are vital.

Specialized factors are not acquired (as is the natural resource base), are developed and born of specific skills derived from education, training, technological know-how, research, specialized infrastructure, high coverage of support utilities and developed capital markets, among others. (Bejarano, 1998).

Bejarano also claims that comparative advantages are unique and competitors in other regions can hardly replicate or access them, because, in addition to meeting the unique needs of a particular industry, they require considerable and continuous investment to preserve and renew them.

Purely economic concepts begin to blend with social concepts such as: Quality of human resources, culture, quality of product or service, bargaining power, politics, conservation of natural resources and characteristics of space location. In this way, these factors add to the determination of competitiveness and tend to associate the concept with issues such as social effectiveness, economic performance and environmental sustainability.

The REA (2011) defines competitiveness as "ability to compete" and also as a "rivalry for the achievement of an end". Alongside this general nature, they coexist in the economic field, a wide gain from definitions of the term competitiveness that show differences in their content and are in many cases revealed as confusing and vague.

This fact has its origins in the difficulties encountered in the treatment of competitiveness among which stand out: it is a multidimensional concept; the complication when distinguishing between those factors that are the cause of the evolution of competitiveness and those that are the effect of it; or the presence of qualitative aspects of difficult valuation.

In this economic environment that has been talked about, its meaning could be interpreted as the ability of an individual, company, region, country, etc., to act on the competition that arises when interacting with another equal and thus generate something that is offered limitedly and in what many people are interested in. In this way, the agents who rival each other become competitors and the essence of competitiveness represents both the ability to rival, to indicate an agent's relative position in front of its competitors.

In terms of measuring competitiveness, in the same field, at least two levels can be achieved, macroeconomic and microeconomic. When measured from a macroeconomic point of view, it considers the ability of one country or of one national economy to compete with the rest. When referring to the microeconomic aspect, the business sector, i.e. the ability of firms to compete, is considered.

### **Variable 1 Product quality.**

Quality is a concept used very often today, but in turn, its meaning is perceived in different ways (Vásquez, 2007). Throughout history many authors and institutions have given their own definition of the term quality:

- Ishikawa (1986) defines quality as "developing, designing, manufacturing and maintaining a quality product that is the most economical, useful and always satisfactory to the consumer".
- W. Edwards Deming (1989) argues that quality control did not mean achieving perfection, rather achieving efficient production with the quality it hopes to obtain on the market.
- Jurán and Gryna (1998) expose quality as "the suitability for use satisfying the needs of the customer".
- ISO 9000 (2000) defines quality as the degree to which a set of inherent characteristics meets the requirements.

However, the term quality according to Vasquez (2007) should be understood by the managers, administrators and officials of current organizations as the achievement of customer satisfaction through the proper establishment of all its requirements and compliance with efficient processes, thus allowing the organization to be competitive in the industry and benefit the customer with reasonable prices.

John Barker (1997) asserts that quality is the key to entering and competing in 21st century markets, but also to ensure business success. According to Barker's assertion it is clear that the only option to satisfy the external customer or consumer is to apply quality as a strategy in the direction of the business, while still considering aspects that markets define, due to their dynamism.

### **Variable 2 Product price.**

The importance of price is that in addition to being an economic and mathematical decision, the price takes into account the psychological impact on the public and the reactions of the competition. Throughout history many authors and institutions have given their own definition of the term price:

- Philip Kotler: "Amount of money charged for a product or service, or the sum of the values consumers give in exchange for the benefits of having or using the product or service."
- Miguel Santesmases: "Point at which the monetary value of a product is equaled for the buyer with the value of making the transaction for the seller. Value that the buyer gives in exchange for the profit he receives for the acquisition of a good or service".

- Alejandro Lerma: "It is the monetary value that is charged (paid) for the disposal of a good or service, either cash or credit, discounted or un discounted."

### **Variable 3 Product innovation.**

The management of innovation in the product, according to Escorza (1997) is understood as the steps or strategies that are carried out to achieve a result: innovation. This is now one of the most effective business strategies to achieve added value and ensure survival and competitiveness in increasingly demanding and global markets.

The reason for its selection is that the management of innovation applied in the organizational environment, guarantees competitiveness and therefore the duration of companies in the market, to the extent that when faced with the changing situations of the environment in specific times, it generates added value for the company and its customers.

### **Variable 4 Certification Compliance**

It can be said that the regulatory framework from which quality management is structured in the agricultural sector is the family of ISO standards on which most of the protocols and codes of conduct for this sector have been built.

Among the most important and contributing to the structuring of quality standards is ISO 9000 which describes the fundamentals of quality management systems and the terminology used; ISO 9001 specifies the requirements for quality management systems applicable to any organization that decides to initiate improvement processes, usually with the intention of meeting specialized market requirements; ISO 9004 provides guidelines that consider both the effectiveness and efficiency of the quality management system, the objective of this standard is to improve organizational performance and customer satisfaction; ISO 19011 provides guidance on audits of quality management and environmental management systems. To this large family are also added the ISO 14000 group of standards which are responsible for regulating the criteria of compliance with environmental management, which for the agricultural sector has become an essential element in the growing specialized markets.

### **Variable 5 Distribution channels for the marketing of products.**

Any business organization maintains business relationships with other entities in its environment to survive in an environment characterized by becoming increasingly global, competitive, and uncertain.

Kinnear and Taylor (1998) in their Market Research book, which are cited by Páramo and Ramírez (2007), point out that a distribution channel is the "set of organizational participants who perform all the functions necessary to get a product to the final purchaser":

The authors Gultinan et al (1998) indicate that a distribution channel is a set of organizational participants who perform all the functions necessary to get a product from a seller to reach the final buyer. They note that the distribution system could include primary participants (wholesalers or retailers taking ownership and risk) and specialized channel participants (carriers, cargo agents, public warehouses, commissioners who market and move the product).



Other members called facilitators, such as banks, market research companies, merchandising retailers and others, may also participate in the distribution channel. Gultinan et al. (1998) similarly state that distribution is classified into commercial and physical aspects.

The commercial aspects refer to the channel system used by the company to reach the final consumer such as wholesalers, retailers and retailers. The physical aspects are the activities developed to ensure the timely supply to intermediaries such as transportation, inventories, order management, product handling and storage.

Distribution channels are then to be the ones that make marketing efforts a reality and are one of the main supports in end-consumer satisfaction.

### **Operationalization of Independent Variables.**

Based on Padua (1996), Bonales and Silva (2003) integrate the concepts of dimension and indicator, to give congruence to the existing relationship between variables and their indicators. In order to schematize this, a table was constructed that shows the congruence, the indicated coherence that allows the operationalization of the concept of competitiveness; likewise, the research instruments were elaborated.

In order to make the instrument easy to review by respondents and reliable, it was designed based on the Likert scale. For this purpose, it follows Kerlinger (1997) who says that in measuring competitiveness, one rule to follow is to assign "numerical values 1 to 4 to an enterprise according to its competitiveness. If its competitiveness is excellent, assign the number 4. If its competitiveness is deficient, assign the 1. Assign, to the companies between these limits, numbers between the limits".

Previously each one of the variables has been hierarchized and operationalized, after that we proceeded to collect data that allows us to approach the quantification and to look for its expression and mathematical analysis.

To achieve the above quantification is required to determine the level of measurement to be used. In this regard, Rojas Soriano (1997) indicates that there are four levels of measurement: a) Nominal or classificatory, b) Ordinal, c) Interval and d) Ratio. Each of these levels represents a different type of assignment rule, number or measurement scale.

In the literature reviewed, a scale of measurement by interval is applied to analyze the information obtained, in order to ascertain the perception that agricultural enterprises in the Soconusco region have of their competitiveness. A Likert type scale is used, which considers a number of positive and negative statements about an attitudinal object, so that the individuals involved in the process, when responding, indicate their relationship by assigning a number to each one (Padua 1996), the response and its corresponding numerical coding is:

Totally		agree		5
Overall		agreement		4
Neither	agree	nor	disagree	3
In	general	disagreement		2
Strongly disagree				1

Kerlinger (1997) indicates that the Likert type scale "is a set of attitude elements considered to be approximately of equal "attitude value" and each of which, the subjects respond with varying degrees of agreement or disagreement (intensity)".

In the design of the questionnaire, the situation of indecision was eliminated because it was considered that this situation was unlikely to occur. Since it was desired to have answers to the questions posed, the measurement scale was integrated with the assignment of the following values: 4, 3, 2, and 1, corresponding to: 4 Totally agree, 3 Generally agree, 2 Generally disagree, and 1 Totally disagree, respectively.

On the other hand, in the application of the questionnaire there are two basic ways of proceeding, giving the interviewee the questionnaire, giving him/her time to answer it, or reading the question, with the researcher himself/herself writing down the answer he/she has given. In this research we proceeded to operate according to the first basic form; in one way or another this allows us to assume that the interviewee read more than once and became familiar with the question, in this sense we went to collect the questionnaires answered a week after they were delivered.

Bonales and Sanchez (2003) consider this form to be the most appropriate since when it is done in the second basic form described, the respondent normally adds comments that at that time may be "impertinent and intransigent" for the researcher; therefore in this research the application was done in the first form.

Taking into account their own experiences in the application of this and other types of questionnaires and other fieldwork carried out, each of the respondents was asked to give an interview to tell us their ideas and opinions about the development of agriculture in Soconusco and the causes of its current situation. This is taken up in a contextual manner in this work.

Once the measurement scale has been established and the answers to each of the established questions are four for each of the questions in the questionnaire, and given that the Likert type scale is additive, the score for each questionnaire is obtained by adding up the values obtained for each and every one of the questions. Therefore, considering that the questionnaire has 36 questions and the maximum rating value is 4 and the minimum is 1, the maximum score is 144 ( $36 \times 4$ ) and the minimum value is 36 ( $36 \times 1$ ). Thus, the scoring scale is between the values of 36 and 144.

The questionnaire applied is structured with two questions to identify the company and 36 questions focused on competitiveness, divided as described below.

1. Nine questions define the product quality, the application of quality standards, the quality control and inspection systems.
2. Six questions about how the company assumes the formation of the export price (if it considers it), how it perceives the behavior of its production and marketing costs.
3. Six questions determine the degree of innovation that the company has, if it has technical advisors or consultants, the modernization of machinery and equipment as well as the investment made in this area.
4. Eight questions are to know the certifications required for the commercialization of its products, costs and requirements.



5. Six questions are established to know the distribution channels, the organization and the transport used to get the product to the final consumer.

The data in this table were analyzed using Excel and SPSS for MacOs. A statistical analysis was carried out based on: a) frequency distribution, b) measures of central tendency and variability, c) product - moment Pearson correlation coefficient (r), determination coefficient (r<sup>2</sup>).

### III. Method.

In order to have the most significant representation possible, various directories or lists of companies located in the state of Chiapas were consulted and specifically that these will carry out their productive activity in the Soconusco region. Among them we have:

1) The one processed by the Ministry of Economy of the State Government, which, in order to integrate the companies, crosses the information between the list of importers of the SAT and the PITEX - Maquila directory of the Ministry of Economy of the Federal Government.

2) The directory of exporting companies in Chiapas of the Chiapas delegation of the Bank of Foreign Commerce.

3) The national directory of exporters of the Banco de Comercio Exterior (same that was consulted online on January 5, 2019).

Ten organizations were chosen by crossing the information from these three directories, using a non-random sampling, which consists of leaving the units that the researcher considers to be representative, based on previous knowledge of the subject matter. Once the organizations to be studied were determined, the difficulties of locating the person or persons in charge of them were considered, as well as their willingness to answer the questionnaire (Table 1).

**Table 1. Selected companies.**  
**Source: Own elaboration from Directories and field work.**

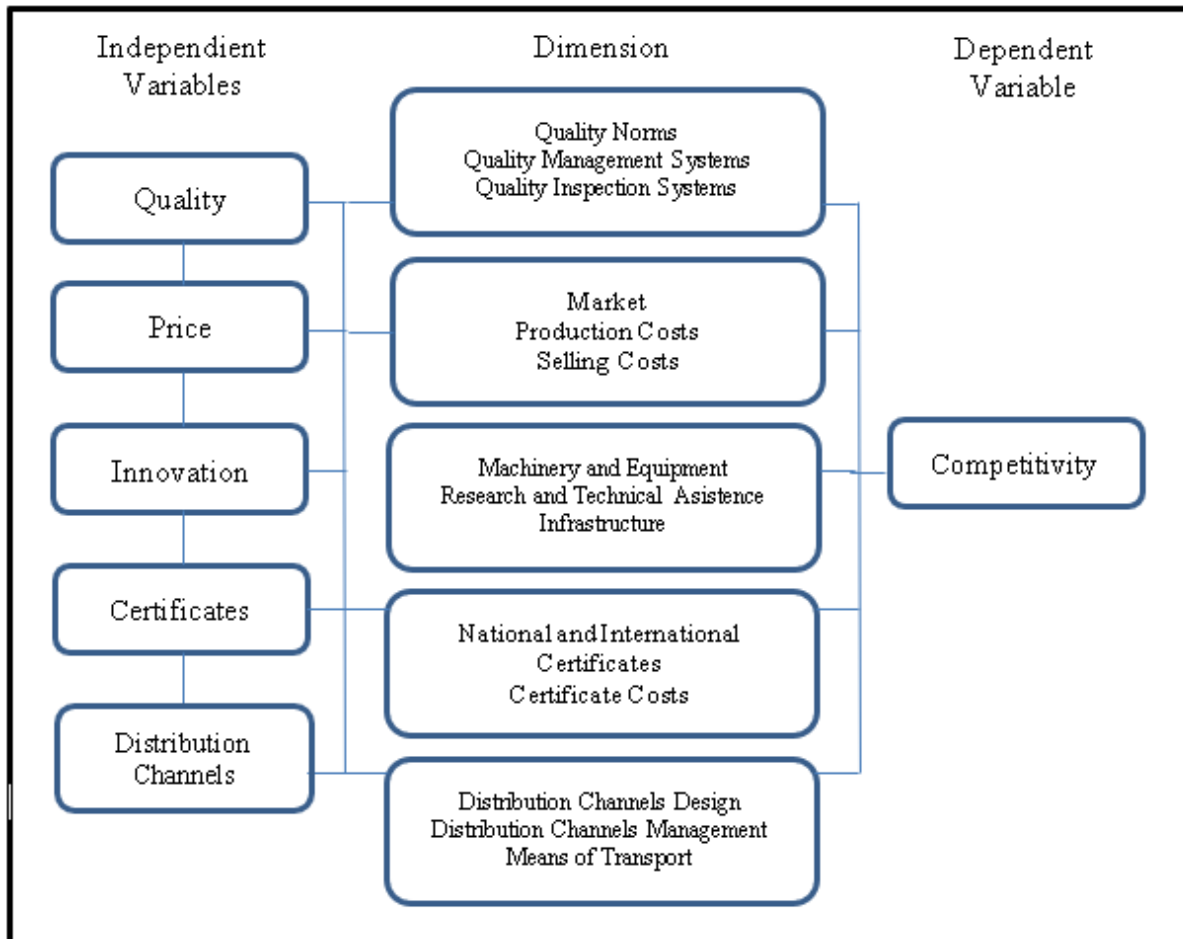
Name of the company	Product(s) for export	Number of employees	Sale in dollars	Target market
Asake	Mango Banana	From 251 to 500	Hasta 5, 500, 000	United States
El Manantial de Chiquirichiapa	Banana Tropical Flowers Mango	From 251 to 500	50, 000	United States

San José del Río	Banana	From 101 to 250	2, 500, 000	United States
Grupo COVA	Tropical Flowers Mango Banana	From 251 to 500	5, 500, 000	Canada United States
Grupo Vasti	Banana	From 501 to 1000	5, 500, 000	United States
Las Pampitas	Banana	More than 1000	20, 000, 000	United States
Agroindustrias Unidas de México	Coffee	From 51 to 100	20, 000, 000	Austria South Korea Japan United States
Exportadora de Café California	Coffee	From 51 to 100	20, 000, 000	Japan Europ United States
Sector de Producción Mazatán	Banana	From 51 to 100	50, 000	United States
Naturafрут Bautista	Mango	From 251 to 500	5, 500, 000	Canada United States

A survey was applied to these companies that identified five independent variables; following the methodological proposal of Bonaes and Silva (2003), these variables were operationalized based on 36 questions.

The general model is shown below (figure 1), which describes the relationship between quality, price, innovation, certifications and distribution channels sent as independent variables and competitiveness as a dependent variable.

**Figure 1. Variables Diagram**



Source: Modified from Bonaes & Silva (2019).

#### IV. Results

This data set allows the construction of a matrix that will give the final global results by company and in the group of companies.

**Table 2. Data concentration matrix from the competitiveness questionnaires (by variable).**

Company	Quality	Price	Innovation	Certificates	Distribution Centers	Competitiveness

1	33	22	16	19	15	105
2	31	21	15	20	15	102
3	32	21	13	20	14	100
4	32	21	13	20	15	101
5	32	21	14	20	15	102
6	36	25	19	27	17	124
7	30	23	17	27	22	119
8	30	23	17	27	22	119
9	33	21	16	23	16	109
10	29	23	20	23	19	114
<b>TOTAL</b>	<b>318</b>	<b>221</b>	<b>160</b>	<b>226</b>	<b>170</b>	<b>1095</b>

Source: Own elaboration from questionnaires applied in field work.

In the methodological section, reference has been made to the model to be used, the operationalization of the variables, the scales used. All this results in a matrix that has been called the data concentration matrix from the competitiveness questionnaires (per question).

Since one of the main objectives of the research was to determine the variables and the impact of each of them in the definition of the competitiveness of agricultural companies in the Soconusco region of the state of Chiapas, especially those that have a tendency to export.

Taking into consideration the theoretical analysis, and from the field information obtained from the application of the survey questionnaires and the open interviews, it is perceived that the variables that significantly determine competitiveness are: quality, price, innovation, certifications and channels of distribution.

The results of the applied survey show that in the perception of those who responded to it, their companies are competitively good, 50% of them are above the median (107 points), no company is considered deficient in terms of its competitiveness, three companies rate its competitiveness as "excellent". Scores tend to be medium and high. The dispersion (variance) was 79 points (table 3).

Regarding the quality variable, the majority answer is that its production is of good and very good quality. The median obtained is 32 points, the average that was obtained is 31.74 points (table 5). This indicates that the companies are above the median in terms of quality. Likewise, 1.98 points deviate from the average. Six companies -60% consider their quality to be excellent. One of them obtained the maximum value of 36 points.

Regarding the price variable, the management of this variable is "regular", since the mean observed is 22.06 points and the category (mode) that was repeated the most was 21 points. 50% of companies are above the value of 21.5 points (median). Only 40%, 4 companies, rated the price variable as very good and no company achieved the maximum level (28 points).

Regarding the innovation variable, the companies rated their innovation from very good to excellent (60%), since the category that was repeated the most (fashion) was 16 points. On average they stand at 15.84 points. Two companies (20%) rated their innovation as excellent.

With reference to the category of certifications, most of the companies revealed that they have deficiencies in it, 50% are below the average (22.3 points) since the category (fashion) that was repeated the most was 20 points. Only 30% of the companies approached the value to be obtained in this area (28 points) by obtaining 27 points.

Regarding the aspect referring to the distribution channels, the companies are distributed equally between those that have a good to excellent knowledge of their channels, and those that have a regular knowledge of them, since both groups represent 50% of all companies. Only 20% of companies consider their knowledge of distribution channels very good.

## V. Conclusions

The concept of competitiveness is born in the economic field, also the main models of competitiveness emerge from this field, to mention a few, there are: (a) those that study the total productivity of the factors, (b) those immersed in competitiveness and economic cycles, (c) those that are outlined towards market structures and competitiveness at the national and international level, and (d) those that are oriented to the performance of the open economy in relation to competitiveness (Gómez, 2011).

Motivated by the theoretical and practical interest in competitiveness, Porter in 1985 proposed his own model, the author adopts the concept of competitive advantage and applies it to national industries, opening up the concept applied initially and for a long time to the countries. In the model, it offers an alternative to the explanations of competitiveness, focused on the determinants that make an industry more competitive: demand, strategy, rivalry of companies, pressures, and capacities of the company (Labarca, 2007).

Berumen (2006) points out that the determining factors for the competitiveness of companies are concentrated in two types. On the one hand, those referring to price and costs, that is, when a company stands out for being more competitive by offering a good or service at a lower price than the competition, and which, in turn, reduces costs as part of the strategy. On the other hand, it relates them to the quality of the products, the incorporation of technology, the efficiency of production flows, the training of workers and collaboration networks with other companies.

According to the exercises carried out in the present work, it was found that the producers of fruit products in the Soconusco region of the state of Chiapas, consider that their company can produce with a quality and competitive prices, that they have a solid knowledge and management of the distribution channels, most of them consider that their production techniques are adequate.

It is important to note that the results allow us to observe the perception of the respondents regarding the good management of quality, a variable slightly correlated with price.

However, the above is a bit contradictory since when measuring the level of competitiveness of these companies it is found that indeed the quality and price variables have a high level of competitiveness, not the innovation and certification variables.

A separate case is that of the distribution channels variable, since although there is a channel in which they have a level of dominance, this is focused on land transport (road) to the United States and Canada, finding other aspects to consider as are the state of the road infrastructure and the limitations of this means of transport, in addition to the concentration or dependence on a single market.

It can be concluded that the perception of competitiveness is often subjective since, as has been analyzed in this work, the level of competitiveness is made up of various variables and the fact that one or one of the variables is mastered does not necessarily mean that a certain company be competitive.

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