

Full Length Research Paper

Competitiveness strategy of Avocado exporting companies from Mexico to USA

Joel Bonales Valencia*, **Oscar Hugo Pedraza Rendón** and **José César Lenin Navarro Chávez**

Institute of Economic and Business Research, Universidad Michoacana de San Nicolás de Hidalgo Morelia, Michoacán, Mexico.

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This work investigated the competitive factors of 25 avocado exporting companies located in Uruapan, Michoacán (Mexico). This cradle in a census of the twenty-five exporting companies, with its organization, objectives and problematic production could be known. This research paper was focused on the knowledge of the main theories on competitiveness strategy. The article has the objective of identifying the companies of the avocado sector located in Uruapan, Michoacan, Mexico. Such identification is made in order to recognize the variables explaining its competitiveness and especially the higher performance in relation to those that are not part of the cluster, always considering that the competitiveness is here related to international markets; therefore, the export capacity will be a fundamental element to be taken into account. The hypothesis to be demonstrated is the following: The relation that exists between the exporting companies from avocado to the United States of America, located in Uruapan, Michoacán, and its competitiveness depends on the quality of the fruit that takes place for export, of its price, the used technology, the qualifications of its personnel, and of the channels of distribution.

Key words: Competitiveness, cluster, strategy, avocado, export.

INTRODUCTION

The opening of the U.S. market in November 1997 to the commercialization of Mexican avocado production was an excellent opportunity to develop a market in a culture that tended to consume natural foods, of good quality; within that a considerable amount of Mexican customary incorporating the avocado in its diet is included. Mexico's state of Michoacan, in particular the Uruapan municipality, is the largest producer of Hass avocados in the world. Proximity to the large U.S. market of 300 million habitants with high spending power was a unique business opportunity to take advantage of the efficient network of drug dealers with ample experience in the handling of the avocado.

The problem of the industrial sector in the radical process of commercial opening, adopted by Mexico as of the decade of the eighties, generated challenges and opportunities for several Mexican companies, but there was a question of competitive problems in customary companies to work in protected markets. These

distortions with serious social effects are related directly to the competitiveness. One critical issue for the Mexican avocado industry has been U.S. import regulations that have often denounced as green barriers. These regulations concern agricultural pesticide use as well as quality and maturity standards. In spite of the North American Free Trade Agreement (NAFTA), the U.S. has continued to impose six cents per pound tariff avocado imports from Mexico but not on avocado imports from countries such as Chile and the Dominican Republic. With the entry of Mexico into the General Agreement on Tariffs and Commerce (GATT) in 1986, the export of Michoacan's avocados has experienced a number of diverse problems. Noncompetitive intermediaries have assumed greater control over avocado commercialization and distribution. Strong U.S. policies protecting the U.S. California avocado industry have continued. The Mexican avocado sector is underorganized with production automation and commercialization having fallen behind that of other avocado producing countries such as Chile, Israel, the U.S., and Spain. There has been very little research on the competitive success factors of Mexican firms, much less those exporting to the U.S. By

*Corresponding author. E-mail: j_bonales@yahoo.com.

Table 1. Organizations in the study.

Nº	Companies	Nº	Companies
1	Agrícola TREDI, S.A. de C.V.	14	Empacadora El Durazno, S.A. de C.V.
2	Aguacates Frutas de Michoacán, S.A. de C.V.	15	Fresch Direction Mexicana, S.A. de C.V.
3	Aguamich, S.A. de C.V.	16	Frutas Finas de Michoacán, S.A. de C.V.
4	AMIMEX, S.A. de C.V.	17	Grupo Purépecha, S.A. de C.V.
5	AVOFRUT, S.A. de C.V.	18	Henry, S.A. de C.V.
6	Avopack, S.A. de C.V.	19	INDEX, S.A. de C.V.
7	AVOPER, S.A. de C.V.	20	Mc Daniel, S.A. de C.V.
8	Best Farmer, S.A. de C.V.	21	Misión de México, S.A. de C.V.
9	Calavo, S.A. de C.V.	22	San Lorenzo, S.A. de C.V.
10	Chiquita, S.A. de C.V.	23	Tropic de México, S.A. de C.V.
11	Del Rey, S.A. de C.V.	24	Vifrut, S.A. de C.V.
12	Dovi, S.A. de C.V.	25	West Pack, S.A. de C.V.
13	ECO, S.A. de C.V.		

Source: Association of Producers and Packers of Avocado from Michoacan, A.C. (2009).

identifying the competitiveness factors for Mexican avocado exporting firms, this study will advance current knowledge about competitive factors for organizations in the Mexican agricultural sector that are dependent on exports to the U.S.

RESEARCH METHODOLOGY

Sample

The total of investigation elements that constitutes the area of analytic interest is all the companies that export avocado to United States of America, located in Uruapan, Michoacan, based on the work plan for the export of Avocado from Mexico to the United States of America from June of 2003, and modernized this way in August of 2009, the population is finite, for what you proceeded to make a census and to apply the questionnaire to each company with base in the list of exporters of Avocado Association of Exporters and Packers of Mexican Avocado obtaining the following thing: the universe is of ninety five companies that take place, they pack, they market and they export the avocado from Michoacan's State.

The sample for this research study were 25 Mexican companies that exported Michoacan's avocados to the U.S.A. The population that is registered by the Agencies of Government of the United States of America (United States Department of Agriculture, USDA) for the export of the Michoacan's are twenty-five companies and they are mentioned in Table 1.

Mexico (2009) participated with 34% of the world production of avocado. Of the 802,000 tons that were harvested in our country in 2009 in an extension of 98,150 hectares, Michoacan collaborated with 81%, with a yield average of 8 tons for hectare. Their exports ascended to 46,616 tons, being the main destinations of France (55%), Canada (16%), Korea (10%), Japan (7%), United States (8%) and Switzerland (4%). The mobilization of this great production volume toward the consumption centers and their distribution, among the population, requires that middlemen should be included in the modification process when running out of time.

General model Ex dice

The general model, in which the relation between the quality, the

price, the technology, the qualification and the channels of distribution presented/displayed like independent variables and the competitiveness like dependent variable is described in Table 2.

Methods

The research conducted is of scientific (hypothetical-deductive), correlational design to test the functional relationship of the variables in competitive models under study. Based on the theoretical framework, using the theory of competitiveness in the export sector, the following hypotheses were made:

General hypothesis

The relation that exists between the exporting companies from avocado to the United States of America, located in Uruapan, Michoacán, and its competitiveness depends on the quality of the fruit that takes place for export, of its price, the used technology, the qualifications of its personnel, and of the channels of distribution.

Working hypothesis

H₁: The application of the quality norms, the improvement of the system of control of quality and an adaptation of the system of inspection in the exporting companies from avocado to the United States of America, will bring like consequence for a greater competitiveness.

H₂: When determining a better price of the avocado, indicated by means of the market that supplies, its production costs and costs of commercialization; a greater competitiveness of the exporting companies from avocado will be maintained to the United States of America.

H₃: For greater use of technology, a greater competitiveness of the exporting companies from avocado to the United States of America is guaranteed.

H₄: The qualification, based by means of the organization and the investment helps to obtain a greater competitiveness of the exporting companies from avocado to the United States of

Table 2. Measures of central tendency and variability.

	Quality	Price	Technology	Training	Distribution channels	Competitiveness
N	25	25	25	25	25	25
Mean	29.40	19.72	20.56	24.68	20.56	114.9
Median	28	19	20	24	21	112
Mode	36	25	24	24	17	133
Standard deviation	4.87	4.34	2.74	4.66	3.34	15.8
Variance	23.75	18.87	7.5	21.72	11.17	248.5
Skewness	0.15	0.038	-0.28	-0.36	-0.05	-0.04
Kurtosis	-1.15	-0.71	-0.99	-0.25	-1.03	-1.4
Range	17	17	9	18	11	45
Minimum	20	11	15	14	15	89
Maximum	37	28	24	32	26	134
Sum	735	493	514	617	514	2833

Source: Obtained information of the field investigation.

Table 3. Descriptive statistics and correlations.

Variable	Mean	σ	1	2	3	4	5
1. Quality	29.40	4.87					
2. Price	19.72	4.34	0.63				
3. Technology	20.56	2.74	0.83	0.64			
4. Training	24.68	4.66	0.55	0.58	0.66		
5. Distribution channels	20.56	3.34	0.28	0.27	0.39	0.38	
6. Competitiveness	114.9	15.8	0.85	0.81	0.89	0.82	0.55

Source: Obtained information of the field investigation. n=25. $p < 0.01$.

America.

H₅: To better selection of the channels of distribution, interpreted by means of the design and administration of the distribution channel and the boarding; a greater competitiveness of the exporting companies from avocado to the United States of America is obtained.

Questionnaire

Following a pre-test with 11 organizations, the interview questionnaire consisted of a total of 38 questions. Information was collected regarding: product quality, market price, production technology, personnel training, distributional channels, and overall competitiveness.

Product quality scale scores were based on 10 questions that asked respondents to define the quality of the product, norms of product quality, quality control systems, and inspection systems. Product price scale scores were based on seven questions regarding export market price and production costs. Production technology scale scores were based on six questions regarding technology used, the presence of technical consultants, the degree of modernization, and technology investment. Training level was determined by eight questions that asked about the provision of operational and administrative personnel training and technical qualification systems. The nature of product distribution channels was measured by seven questions that

asked about the nature of distribution channels and storage facilities used by the company. The overall competitiveness of companies was determined by thirty eight questions that asked respondents all about competitiveness.

In the design of the questionnaire the situation of indecision was not managed because it is not very probable that this happens. Also, they did not think about the individuals reactions to study as of agreement or in disagreement, but in such a way that allows obtaining the answers to the outlined questions. Therefore, the mensuration scale is integrated with the following assigned values 4, 3, 2, 1 that correspond to: totally of agreement, of agreement in general, in disagreement in general and totally in disagreement, respectively.

To evaluate to the mensuration instrument, the pre-test procedure was used, suggested by Bohrnstedt and the reliability coefficients of Cronbach- α .

The volume of data that was obtained when applying the questionnaire to all the companies that export avocado to the United States of America, located in Uruapan, Michoacan, is shown in Table 1. The information of the previous table, which concentrates on the indicators of each of the variables that are studied, is formed in Table 3.

RESULTS AND DISCUSSION

The companies that studied presented good

competitiveness, based on the results. The category was repeated more of 133 points. 50% of the companies are superficially (medium) of the value 112 points. The average of the companies is located in 114.9 points (good competitiveness). Also, 15.8 points are turned aside of the average (standard deviation). No company described like deficient its competitiveness (38 points). Companies 12, 17, 23, 2, 21, 13, 7, 24, 25, 5 and 10 (44%) described excellently their competitiveness. The scores tend to be located in average and elevated values. As far as the amount of dispersion of the data (variance) it was 248.5 points.

With respect to the variable quality, the effect that took place when applying the questionnaires to the study object was good quality. The medium one that was obtained was 28 points. The average that threw was 29.40 points, which indicate that the companies are in relation to the quality of medium one. Also 4.87 points are turned aside of the average. Only 9 companies (36%) described them with excellent quality, without arriving at the maximum value from 40 points. The slant that appeared in the quality of the survey companies was 0.154 points. As far as the amount of dispersion of the data it was of 23.75 points.

The information that was obtained when applying questionnaires to the exporting companies of avocado, with respect to the variable price was good. Since the average observed was 19.72 points, the category that was repeated more (fashion) was 25 points. 50% of the companies are superficially (medium) of the value 19 points. Also, 4.34 points were turned aside of the average. Only 8 companies (32%) described the variable price of their companies excellently, and only a single company obtained the highest level (28 points). The slant that appeared in the price of the interviewed companies was of 0.038 points, representing a positive slant because the average is greater than the medium one. As far as the amount of dispersion of the data (variance) it was 18.87 points.

Test of hypothesis

The general hypothesis that affirms the relation that exists between the exporting companies from avocado to the United States of America, located in Uruapan, Michoacán, and its competitiveness depends on the quality of the fruit that takes place for export, of its price, the used technology, the qualification of its personnel, and of the channels of distribution, was proven (Table 2). The first hypothesis affirmed that with one better quality obtained by means of the application of the quality norms, the improvement of the system of control of quality and the system of inspection in the exporting companies from avocado to the United States of America, will bring a like consequence of greater competitiveness, it presented or displayed an index of

considerable correlation (r) positive of 0.850 (Table 2); whereas its coefficient of determination (r^2) were of 0.723, which means that a narrow entailment between the two variables exists.

The second hypothesis test showed that a positive correlation of 0.811 was obtained considerably; whereas its coefficient of determination were 0.658 to determine a better price of the avocado, indicated by means of the market that supplies, its production costs and costs of commercialization; a greater competitiveness of the exporting companies from avocado will be maintained to the United States of America.

The third hypothesis test, since it turned out to be the highest correlation of all the variables that studied (0.888) what means that there exists a very noticeable association between the two variables because when a high degree of technology, translated in machinery and modern equipment is controlled, use of technical attendance and infrastructure; a greater competitiveness of the exporting companies from Avocado to the United States of America is guaranteed, whereas its coefficient of determination (r^2) were 0.789, which represents that a positive entailment between the two variables exists considerably.

The fourth hypothesis that affirms that through a qualification based by means of the reeducation of the human resource, the integral systems of qualification and the investment; it will mean a greater competitiveness of the exporting companies from avocado to the United States of America is approved. The previous thing which is based on the correlation (r) between the qualification and competitiveness of 0.820 and the determination coefficient of 0.672, symbolizes that a positive entailment between the two variables exists considerably.

The last hypothesis of this investigation test, because of better selection of the channels of distribution, interpreted by means of the design and administration of the distribution channel and the boarding; a greater competitiveness of the exporting companies from avocado to the United States of America is obtained. The previous thing, based on the relation between the channels of distribution and the competitiveness, according to the correlation of Pearson (r), was positively averaged at 0,550, whereas its coefficient of determination was of 0,303. The reason is the narrow entailment that exists between the two variables.

Conclusions

The companies that export avocado of Uruapan, Michoacan to the United States of America, are competitive in 44% of the studied cases. The companies that turned out to be competitive were: 12, 17, 23, 2, 21, 13, 7, 24, 25, 5 and 10. 3, 50% of the companies are superficially (medium) of 112 points. In average, the companies are located in 114.92 (excellent competitive).

However, 15.76 units of the scale are turned aside of the average.

One determined that the independent variables (quality, price, technology and qualification) strongly affect the competitiveness, since a positive entailment between the independent variables and the dependent variable with exception of the distribution channels exists, where an effect was minor. Large quality affects the 0.850, 0.811, 0.888 and 0.820 channel competitiveness and the technology of the price qualification of distribution in 0.550.

As it is observed, those that greater influence has it are the technology, followed of the quality and finalizing with the distribution channels.

The general hypothesis and the five hypotheses of work that were formulated validate in their totality. A code of commerce practices is due to establish fruits to implanter a customs Control of the labeled one, veracity of the information and the certification of the quality that the export avocado shows, with base in an official mark at the time of exporting itself. The precooked one that occurs to the avocado is due to carry in plastic boxes of 400 kg. The truck must happen through a cold water curtain to 6°C, with the purpose of lowering the temperature quickly to 100%; without curing it is introduced to the cold cameras.

It is required to invest in qualification; to carry out a good handling of human, technological and financial resources to establish efficient networks of distribution, with a service of quality, considering the price, punctuality in the service, quality in the product and security in the delivery of the product, that is to say, everything a process of development based on the satisfaction of the consumers.

The channels of distribution are due to select more adapted to export to the United States of America; the tradition has been to sell wholesalers. Once selected the channel, it must be administered properly since an organization common in charge does not exist to distribute the avocado in the United States of America, if she had her exporter would not compete to each other.

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