ISSN: 2783-2678

International journal of Innovation in Management Economics and Social Sciences

Journal homepage: www.ijimes.ir

Int. J. Inn. Man. Eco. Soc. Sci. Vol. 2, No 2, 12-27. (2022)

Analysis of the competitiveness of the tobacco industry in Honduras in relation to international companies

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ARTICLE INFO

Received: 28 February 2022

Reviewed: 1 April 2022

Revised:8 April 2022

Accept: 20 April 2022

Keywords: Tobacco Industry, Competitiveness, International Companies

ABSTRACT

Purpose: The purpose of this study was to develop a model to measure the factors that influence the competitiveness of the tobacco industry in Honduras **Methodology:** An exploratory, descriptive and correlational methodology and a non-experimental design were used. A confirmatory factor analysis was applied to the scale of the model for the analysis of the variables. **Findings:** According to the model fit measure for a maximum likelihood estimation method, the congruence between a priori observation (hypothesis) and theoretical model is verified. **Originality/Value:** Competitiveness allows the tobacco company to enter the international market, offering products with the highest quality standards. A strategy based on quality, prices, training, distribution channels and technology translates into competitive advantage and allows companies to achieve market positioning.

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https://doi.org/10.52547/ijimes.2.2.12

1. Introduction

Currently one of the most popular words is competitiveness, it is an elusive concept studied by several business theorists [1]. According to the authors Wayne Pace & Stephan [2], one of the main objectives of companies is to be competitive, and also mentions that the measure of competitiveness differs according to the company's line of business, and is measured on the basis of: a) ability to remain in business and protect investments; b) achieving return on those investments and c) securing jobs for the future. This research analyzes the competitiveness in the specific area of the tobacco industry in Honduras, whose product is exclusively for export, and seeks to understand the correlation of the variables determined for this model and how they are closely related to the current acceptance of this product at the international level and its expansion in different countries in the European and Asian markets.

In the first section, the objective of the research is put into context and the companies under study are identified. In the second section, the literature review is carried out and the theoretical model that will be used to carry out the analysis is proposed. In the methodology, the scope of the research is defined, as well as the research design, the population and sample are identified and the data collection is carried out. In the fourth section, the statistical analysis of the data and the confirmatory factor analysis are carried out, in which the reliability and validity of the instrument are determined, as well as the correlation between the study variables and the testing of the hypotheses. In the last two sections, the conclusions of the analysis carried out in the research and the limitations of the study are presented. Finally, the bibliographical references that support the theoretical basis of this research are shown.

1.1. Objective of the research

The elements analyzed in the research present the tobacco exporting companies located in the eastern zone of Honduras, as for the study population is finite, so a census was conducted and proceeded to apply the instrument. As a result of the field work, a universe of twenty-five companies dedicated to the production, processing and export of tobacco was identified.

Tabla 1. List of surveyed companies

No.	Mercantile Company	No.	Mercantile Company
1	Plasencia Tabacos S.A	14	Fábrica de Tabacos y Puros Indios
2	Clasificadora y Exportadora de Tabaco S.A	15	Fabrica de Tabaco Centroamericana
3	Tabacos de Oriente S de R.L	16	Tabacos de Honduras
4	Agroindutrias Laepe	17	Camacho Cigars
5	Fabrica de Puros Internacionales	18	Honduras Cigars
6	Fábrica de Puras San Judas Tadeo	19	Ricos Cigars Honduras
7	Honduras American Tabaco S.A (HATSA)	20	Oscar Valladares Tabacco & Co.
8	Raices Cubanas S.A	21	Vogue Corp Danli
9	Tabacaleras Unidas S de R.L	22	Tabacos Oscar Valladares
10	Tabacos Danli S.A	23	Tabacos British
11	La Flor de Copan	24	San Jeronimo Cigars
12	Tabacalera Puros Aliados S.A	25	SR Cigars
13	Compañía Hondureña de Tabacos S.A		

The Table (1) shows the companies registered to export tobacco outside the borders of Honduras.

2. Literature review

In this section, a bibliographic review was made of the general concepts, principles and theories on which the multivariate analysis of competitiveness in the tobacco industry is based. The concepts to be considered are: competitiveness, quality, prices, and technology, among others.

2.1. Competitiveness

When referring to the concept of competitiveness, it is indicated that it is a determining factor to be able to measure processes and the capacity to fix prices, taking into account that in the financial markets prices are established by supply and demand where there is free competition. According to Ibarra Cisneros *et al.* [3], an entity is able to recognize its level of international competitiveness when it is measured with similar companies that develop competitive advantages in a country that are generated by institutions, infrastructure and production process. According to Bernal & Lagarda [4], competitiveness can be approached from two perspectives, the first is a micro level at the internal level of companies and the second at the macro level by comparing on the stock markets based on international trade. For this reason, in the framework of open economies based on consumer products and large-scale production, positioning can only be obtained through competitive advantages and the correct use of mechanisms that allow companies to maximize their profitability.

Within this order of ideas, companies are always at the forefront of how to improve productivity through proper financial planning, having assets that generate higher turnover to materialize in profitability for shareholders; from the position of Mancha Navarro *et al.* [5], productivity at the local level is usually associated with factors such as lifestyle, labor supply and how companies are able to meet their obligations. "Competitiveness can be defined as the degree to which, under open market conditions, a country can produce goods and services that satisfy the test of foreign competition while simultaneously maintaining and expanding real national income" [6]. Finance has a direct relationship with profits due to the financial position of the company, from the position of the financial accounting information has long been highly sought after by the capitalist markets, since all investors are attentive to the financial results obtained from it [7].

From the most general perspective, business competitiveness is capable of generating competitive advantages based on production models that coincide in the manufacture of goods and services that translate into quality products at prices accessible to consumers. Using the words of Alexandros & Metaxas [8] point out that nations do not compete with each other, however, those that do compete with each other are the companies that in the course of their commercial operations try to become avant-garde and competitive entities in the financial markets. Therefore, these are the main bases for measuring competitiveness.

2.2. Competitiveness Models

In the context of an adequate corporate governance for companies, competitiveness is a management tool used as a strategy with the purpose of setting goals, defining objectives and establishing advantages by maximizing resources and productive factors in order to be able to adapt to changes by making use of the opportunities of the environment in which they are developed. In an environment of deep structural lags and numerous competitiveness problems, the lack of promotion mechanisms has been one of the main deficiencies of the modernization strategy [9].

Table 2. Competitiveness Models

MODEL	DESCRIPTION
Global Competitiveness Report (GCR)	This model was developed by the World Economic Forum (WEF) and its first version was created in 1979 with the objective of measuring competitiveness through the development of countries by means of 50 variables [10]. The theory is based on the following assumptions: macroeconomics, labor training, market efficiency, infrastructure, entities, business sophistication, innovation and speed of new technologies.
Focus of the World Competitiveness Center (WCC)	The World Competitiveness Report is considered the most complete and comprehensive report published since 1989 by the International Institute for Management Development [11]. This productivity index bases its theory on fundamental axes: economic performance, infrastructure, government efficiency and business efficiency in order to measure the different facets of productivity.
Model: Heritage Foundation	The Heritage Foundation publishes the Index of Economic Freedom [12]. The study includes 161 countries where the results are found with the highest levels of economic freedom and high indices of lifestyle. This competitiveness model integrates data in 10 categories, such as: tax rate (fiscal), monetary policy, cost of living (inflation) and regulatory framework of each country, being the most relevant to establish economic freedom.
ECLAC Model	This model, which was established by the Economic Commission for Latin America and the Caribbean (ECLAC), consists of a methodology for analyzing the competitiveness of countries based on a wide range of statistical data on the components of the trade balance, such information is recorded in the International Commodity Trade Database (COMTRADE) based at the United Nations [13].
Regional Competitiveness Index (UNDP)	This model was developed in 1996 by the United Nations Development Program [14]. This index measures adaptations that are capable of measuring competitiveness among countries by comparing factors of private and public sector companies. Among the categories that are analysed under this index are the following: Economy, government, natural resources, science, infrastructure, people and technology.
World Bank Global Indicators	The World Bank (WB) produces indicators to measure competitiveness in an open economy where there is free competition for public and private enterprises [15].. According to the indicators used for the analysis are the following: Business Survey Index, Index for Investing Across Borders, Gender (Women) Index, Business and Law Index and Doing Business Index.

The Table (2) shows the main competitiveness models for the purpose of this research.

2.3. Tobacco industry in Honduras

According to data provided by the Chain Organization Performance Management Information System [16] of the Directorate of Production Chains of the Ministry of Agriculture and Rural Development of Colombia, tobacco cultivation worldwide produces approximately 4 million tons per year, and is grown in more than 120 countries, including Honduras. It provides about 40 million jobs worldwide and about 1.2 million additional jobs in manufacturing activities.

Now, tobacco is used to produce cigars, cigars and blends of tobacco for pipes, by-products that are made in some cases in an artisanal way and which are in great demand and are marketed internationally. According to León Lazaro [17], the important thing about internationality is the mentality with which the company faces the barriers and knows how to interpret the current global market as the scenario in which it will develop its global actions, as well as understanding that the means to remain competitive and grow is to know and prepare for internationalization.

Within this order of ideas and according to the above, the tobacco industry has a great economic and social impact in the countries, providing jobs to thousands of families; and according to their productive and commercial performance, they can grow and be competitive both in the national and international markets. In Honduras, the origin of tobacco goes back to the Mayan culture, and then in the 60's with the arrival of Cubans to the country and thanks to the cultivation of Cuban tobacco, Honduran tobacco

companies underwent a boom and over time have been part of the industrial and commercial development of the country. At present, production is centered in the region of the Jamastran Valley, located in the department of El Paraiso; around 100 million units of cigars are produced, ranking seventh worldwide in exports and second in America; cigar production is characterized by being exclusively handmade, achieving a worldwide position due to its quality [18,19,20].

These quality standards have allowed opening the international commercial market, being this an exclusive market, and exporting to countries such as the United States (90% of exports), Russia, Germany, Spain, France, Switzerland, Italy and others in Asia, such as Lebanon and Turkey, and expanding its market in other European countries. Honduras has about 250 brands, some of which have won international awards competing with major Cuban and European brands, positioning the country as a producer of quality tobacco; it has also been placed in the top 25 of the specialized magazine Cigar Journal, three cigars made with Honduran tobacco; the Honduran product is highly competitive and with a high level of acceptance in the international market thanks to the quality of the tobacco and the labor that produces the cigars, the supply of products and their marketing prices [20].

2.4. Diagram of variables

Within this order and in accordance with the objective of the research and the theoretical foundation of the latent variables, in order to dimension and interpret the relationship of the items of the instrument with respect to the variables and try to explain the measurement scales.

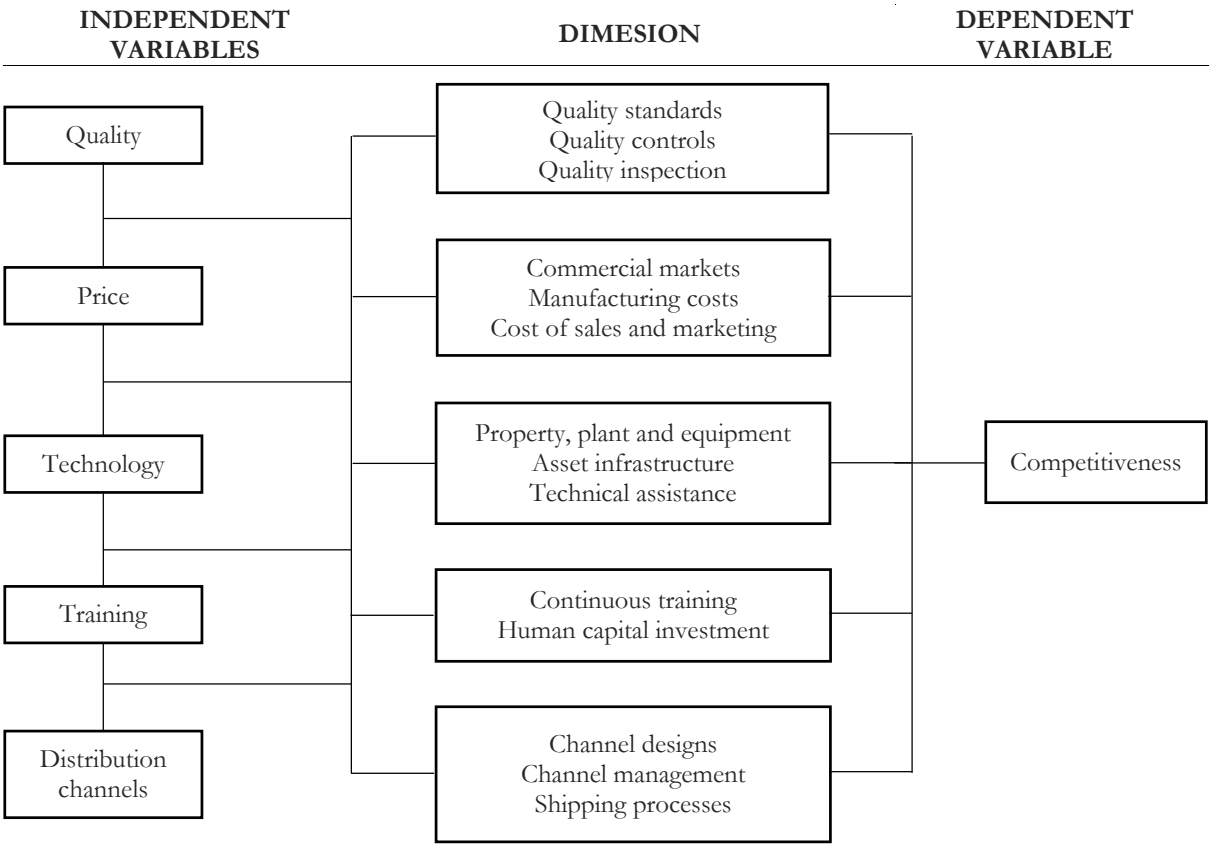

Fig. 1. Diagram of variables

The Figure (1) shows a general model detailing the relationship between quality, price, technology, training and distribution channels as independent variables and competitiveness as a dependent variable. Within this order of ideas, the most relevant theoretical aspects are methodologically presented in terms of describing the independent variables that describe the steps to structure the behavior in relation to the dependent variable.

2.4.1. Quality

The quality variable is an important factor in measuring the competitiveness of companies, as a determining variable in terms of the models that measure productivity. In the opinion of Raza *et al.* [21], quality standards based on the short and medium-term objectives of the companies are relevant to achieve the proposed goals. Within this context, Rodriguez & Lila Pabón [22] as a standard procedure consists of quality inspections of customers in order to obtain their perception of the product in terms of the raw materials used and to document any complaints. From the point of view of Montoya [23], having strict quality controls to measure the processes in order to optimize resources will generate synergy to establish comparative analysis through process graphs and establish how the quality of the products has evolved.

Quality standards are the guidelines against which the product is compared and is the starting point for the entity to dimension its quality controls and processes [24]. According to Aguilar Reyes & Simón Dominguez [25], an adequate control system is one that has the ability to identify errors and correct the deficiencies identified. Finally, to measure the quality variable, an adequate inspection system, as mentioned by Dueñas *et al.* [26], is the way to compare everything related to the characteristics of the product versus the quality standards.

2.4.2. Price

The price variable is a determining factor in the productivity model [27]. As stated by Calderón & Alvarado [28], the price is the monetary value that is quantified in income for the company and is the one that produces profitability; it is composed of the cost of production plus the desired profit margin. From the position of Ramírez & Ramírez [29], establishes that adequate efficiency and capacity in production will guarantee that the price can be measured with sufficient reliability and at the same time be able to integrate the selling price to establish a production equilibrium point. As stated by Ruíz Hernández *et al.* [30], product consumption depends directly on price, and for this reason a constant analysis must be carried out in order to take corrective actions to guide the mass consumption of products, and price is undoubtedly an important factor as a competitive tool to compete in the markets and try to overcome the main rivals that offer substitute products.

Within this framework, the market establishes the reference to quantify the price, in the opinion of Montaner [31] price and costs are the basic fundamentals to determine the viability and profitability of the company, so that export prices will depend on the competitors establishing maximum supply limits and demand is established by market price ranges.

2.4.3. Technology

The technology variable, as expressed by Nolazco [32], is a determining factor in measuring competitiveness for companies because they must make investments in their property, plant and equipment assets to modernize and update production processes on a large scale. As stated by David *et al.* [33], technological advances guarantee an exponential growth in the cost of production that will be

reflected in quality and price, in addition to the fact that advances in technological investments are at lower cost in emerging economies.

Using the words of Mora Cordova & Lituma Loja [34], technical consultancy, whether local or foreign, guarantees greater competitiveness, which translated into knowledge is the key to success for companies, and therefore forms part of the perfect Science-Technology-Production trinomial.

2.4.4. Training

The training variable is decisive because the human capital factor is one of the driving forces to support competitiveness. As stated by Mejía & Bravo [35], human capital is known as the set of activities and functions that guide companies through their skills and abilities to achieve institutional objectives. On the other hand, it is necessary to establish training programs to standardize personnel functions, as established by Fiszbein *et al.* [36], and it is of utmost importance that new personnel be trained and provided with induction materials so that they can have support material. In the words of Egusquiza [37], the human resources personnel in charge of applying training to employees should apply techniques in their management to obtain better results and that this contributes to the labor welfare of employees, middle management and management positions.

2.4.5. Distribution channels

The distribution channels variable, according to Acosta [38], is the way in which the product is brought to final consumers through marketing strategies, establishing the appropriate channels that can minimize transportation costs by making use of export regulations and procedures. In the words of Álvarez Sepúlveda & Jiménez Rubio [39], the channels and means of distribution improve the competitiveness of the companies because when the sector that consumes the product and the regions are known, in addition to the geographical positions, they will contribute to determine the costs that originate to export the product outside the national borders. In the words of Enrique *et al.* [40], he states that the transportation of products is a determining factor in the supply chain and how the company interacts with customers and suppliers of goods and/or services that are transformed into income for the company, which is directly related to competitiveness.

2.5. Research hypothesis

H1: The application of quality standards, through the improvement of the control system and an adequate inspection of the production system in tobacco exporting companies, is positively associated with competitiveness.

H2: Determine a better price for tobacco, if it indicates through the market that supplies, its production costs and marketing, will keep companies more competitive.

H3: The greater the use of technology, the greater the competitiveness of tobacco exporting companies is guaranteed.

H4: Training, adopted by the company through organization and investment in human capital, helps to achieve greater competitiveness of tobacco exporting companies.

H5: The better the selection of distribution and shipping channels, the greater the competitiveness of tobacco exporting companies.

3. Research methodology

3.1. Scope

The scope of this research is exploratory, descriptive and correlational; exploratory, since there is no research on this topic in the country, and it is intended to consolidate the results of the research; descriptive, since it seeks to analyze the characteristics and components that indicate that Honduran tobacco companies can be competitive; and correlational, because it aims to determine the relationship between the factors and/or variables that make Honduran tobacco companies competitive in the global market [41] .

3.2. Design

The design for the present study is a non-experimental research, since the phenomena were observed for analysis without altering them in their natural environment, i.e. in existing, unprovoked situations [42]. The analysis was carried out using the statistical data processing tool SPSS (Statistical Package for the Social Sciences) and a confirmatory factor analysis (CFA), which is a multivariate statistical technique [43] that allows the evaluation and corroboration of the results [44]. [43] that allows to evaluate and corroborate to what extent the variables measured theoretically fit the data [44], i.e. to analyze the relationships between the observed variables (indicators) and one or more factors (latent variables) [45]; through CFA it is possible to formulate and test much more concrete and specific hypotheses [44].

3.3. Population and sample

For the present investigation, the population "set of all cases that match a series of specifications" [41], was identified based on the census of 25 companies dedicated to the production, processing and export of tobacco, located in the eastern zone of Honduras.

For a representative sample of the population, Kline [46] suggests that the number of subjects for the sample analysis be done by the number of cases per parameter, considering as ideal (recommended) 20:1 between the sample size and the parameters, where Jackson [46] describes the N:q rule; according to this and for the purposes of this analysis the sample size was considered in terms between the number of cases (N=20) and the number of parameters of the model that require statistical estimates (q= 5 variables); where :

$$N = 20\ (q) == 20 \text{ x } 5 = 100 \quad (1)$$

Given the above in Eq. (1), a minimum sample of 100 surveys was obtained, and a total of 138 were applied.

3.4. Data Collection

The data collection was done in a period from October 25, 2021 to January 20, 2022, with a Likert-type measurement scale dimension 5 and the instrument was developed and applied online through the Google Forms tool. The instrument was developed and applied online through the Google Forms tool. The variables theoretically based were considered and applied to the 25 companies registered for tobacco exports and oriented to managers and key personnel, obtaining a total of 138 surveys.

4. Analysis of results

For the following analysis, statistical analysis and confirmatory factor analysis were carried out.

Statistical analysis

For this study, parametric and nonparametric tests were carried out since these "allow not only to describe data but also to generalize the findings determined in samples to the population from which the samples were drawn" [47], as well as to obtain a measurement instrument with reliability and validity [47], and the aim was also to obtain a measurement instrument with reliability and validity; for the purposes of this analysis, a significance level of 0.05 was considered.

a) ***Cronbach's alpha***

The authors Domínguez-Lara & Merino-Soto [48] maintain that it is important for a measurement instrument to have evidence of validity and reliability, the latter consists of determining the stability of the responses, in other words, this has a bearing on the precision of the results obtained by an instrument, so that according to Paredes et al [49], "a test is reliable if when applied repeatedly to the same subjects and under identical conditions, the same results are obtained".

Table 3. Reliability statistics

Cronbach's alpha	Cronbach's alpha based on standardized items	N of elements
0.912	0.911	38

As can be seen in Table (3), Cronbach's alpha was used to determine the reliability of the internal consistency of the instrument scores [50], the reliability of the scale scores in the sample is 0.912; this indicates that the items analyzed have a high degree of consistency.

b) KMO and Bartlett

Within this order of ideas Santos Sánchez [51] refers that validity "is the degree to which the instrument measures what we want to measure and the factor model is usually proposed as one of the methods of construct validation". The fact that an instrument is reliable does not mean that it has validity, since "the instrument may lack validity because it does not measure what it is intended to measure or what it is said to be measuring" [52].

For this reason, the Kaiser-Meyer Olkin adequacy test (KMO) and Bartlett's test of sphericity were calculated in the spss program in order to determine the validity of the instrument, verifying through these tests whether the structure of the data is appropriate for factor analysis [53].

Table 4. Statistic 2. KMO and Bartlett Test

Kaiser-Meyer-Olkin measure of sampling adequacy		**0.849**
Bartlett's test for sphericity	Approx. chi-square	**2475.556**
	gl	**703**
	Sig.	**0.001**

The Table (4) shows the so-called sample adequacy measures, which are the indicators of these tests.

Bartlett's test of sphericity has a significance value of 0.001, which reveals that the degree of intercorrelation of the variables is very high, i.e. the null hypothesis that the variables analyzed are not correlated in the sample or that there is no correlation between variables in the sample is rejected. According to the results in the table, the KMO is 0.849, whose acceptance parameter is values between 0.5 and 1, so it can be concluded that an instrument is appropriate for its application.

Table 5. Summary element statistics

	Media	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of elements
Element stockings	2.035	1.158	3.216	2.058	2.776	0.270	38

Table (5) makes a statistical summary of the measures of central tendency and dispersion, in which the sample is described with a data average of 2.035 around which the items (variables) are located, and with a variance of 0.270, so it can be concluded that it has a tendency of 0.519 to change the valuation of the items above or below the mean.

Analysis of Variance

The ANOVA table seeks to produce tests of equal means, among the options the Friedman test was chosen, which is considered a non-parametric test and is part of the ANOVA parametric equivalent, for this study the f-test of this table was replaced by Friedman's chi-square test, as well as the Tukey's additivity option that will generate a multivariate contrast where:

- *H0 the average of the means of the variables/reagents is equal, with 95% reliability*
- *Ha In at least one variable the mean is different, with 95% reliability.*

Table 6. ANOVA with Friedman's test and Tukey's test for non-additivity

			Sum of squares	gl	Root mean square	Friedman's Chi-square	Sig
Inter subjects			525.661		3.809		
Intrasubjects	Between elements		1389.882a		37.564	2307.504	0.000
	Waste	Non-additivity	3.043b	1	3.043	9.112	0.003
		Balance	1704.864	5105	0.334		
		Total	1707.908	5106	0.334		
	Total		3097.789	5143	0.602		
Total			3623.450	5281	0.686		

Overall average = 2.04

a. Concordance coefficient of W = 0.384.

b. Tukey's estimate of power at which observations must be made to achieve additivity = 0.698.

In Table (6) the Inter subjects represents the variability between subjects and the Intra subjects represents the residual variability, where degrees of freedom are 138 and 5143, and with a significance of 0.000, which is less than 0.05, so the null hypothesis that the average of the means of the variables/reagents is equal is rejected, that is to say that there are significant differences in the mean concentrations; likewise the hypothesis of additivity is rejected at the 5% level.

Confirmatory factor analysis

By means of this analysis (CFA), the aim is to test hypotheses, established a priori based on the approach of a theoretical model that specifies the relationships between the variables, the errors and the observed variables, as well as to establish the parameters to be estimated [54]. This model was tested and validated using the AMOS26 program.

Figure (2) shows this measurement model, which "tries to explain how a set of empirically measured variables are a reflection of other latent variables, i.e., not empirically observable" [54].

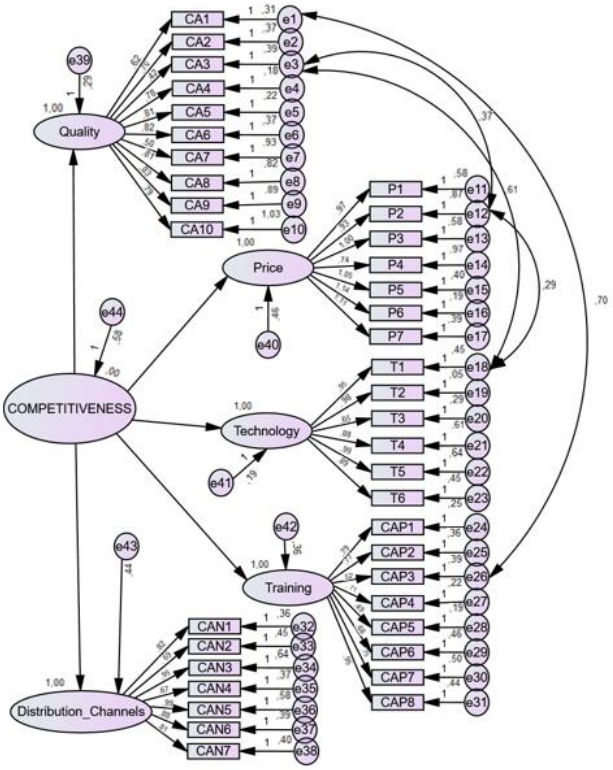

Fig. 2. Variable model

Chi-square = 2475.556; gl = 703; p= 0.001

In the path analysis the relationships between the variables are observed, according to [46], within the first order variables, quality, price, technology, training and distribution channels were classified. In this order of ideas, a Chi-square of 2475.556 was obtained, so it is deduced that there is no discrepancy between the covariance matrices, indicating that the model is representative of the data.

Table 7. Goodness-of-fit index

Adjustment index	Expected	Retrieved
Chi-Square x2 (CMIN)	> 0.05	2475.556
Discrepancy between χ2 and degrees of freedom;(CMIN/DF)	< 5	3.511
Goodness-of-fit index (GFI)	0.90 - 1	0.881
Normalized fit index (NFI)	0.90 - 1	0.886
Root mean square error of approximation (RMSEA)	< 0.08 (preferably, less than .06)	0.057
LO 90		0.051
HI 90		0.063
Root mean square residual ratio (SRMR)	< 0.08 ; closest to 0	0.066
Comparative Fit Index (CFI)	0.90 - 1	0.935
Non-normalized fit index (NNFI or TLI)	0.90 - 1	0.927

The Table (7) shows that the maximum likelihood method was used for the estimation of the parameters, showing the expected fit measures and those obtained from the AFC.

According to the above, a Chi-square of 2475.556 was obtained with which a comparison was made in the variables and the statistical values, according to what was expected, this is higher, so it can be concluded that there is an acceptable adjustment of the analysis between the data of the sample and the theoretical model. The discrepancy value for the degree of freedom CMIN/DF is 3.511 and is ≤ 5 and according to the author Marsh & Hocevar [55] there is an acceptable fit.

For the Goodness of Fit Index (GFI) we used a fit value between 0.9 and 1.00, with this indicator we seek to achieve a minimum discrepancy necessary to achieve a perfect fit, the value obtained is 0.881, although the minimum expected is 0.9, the value obtained is close to what indicates a reasonable fit,9 the value obtained is close which indicates a reasonable adjustment and the adjustment of the normalized adjustment index (NFI) is 0.886, according to this value the model could be considered should be substantially improved, but nevertheless for being close to 0.90 like the GFI indicates a reasonable adjustment.

Root Mean Square Error of Approximation (RMSEA) is an index that measures the difference between the covariance matrix observed by the gl and that predicted. For considerations of this model, the RMSEA is 0.057, whose value ranges between 0.05 and 0.08, so these values are considered acceptable.

The root mean square residual ratio (SRMR) is evaluated according to the following parameters: a) ≤ 0.05 adequate fit; b) values between 0.05 > SRMR ≤ 0.10, acceptable fit and c) > 0.10 poor fit; According to this order of ideas, this model has a SRMR of 0.0662, so it is considered an acceptable fit. It is important to clarify that for some authors the value of an adequate fit is less than 0.08, so that despite the discrepancies between authors, it is considered a model with a fit within the expected limits.

Among other important parameters, the comparative fit index (CFI) and the non-normalized fit index (NNFI or TLI), whose values are CFI = 0.935 and NNFI = 0.927, indicate that these values present a reasonable fit.

Table 8. Hypothesis testing

HYPOTHESIS	OBSERVATION	
H1: The application of quality standards, through the improvement of the control system and an adequate inspection of the production system in tobacco exporting companies, is positively associated with competitiveness.	0.56	Not rejected
H2: Determine a better price for tobacco, if it indicates through the market that supplies, its production costs and marketing, will keep companies more competitive.	0.33	Not rejected
H3: The greater the use of technology, the greater the competitiveness of tobacco exporting companies is guaranteed.	0.049	Rejected
H4: Training, adopted by the company through organization and investment in human capital, helps to achieve greater competitiveness of tobacco exporting companies.	0.12	Not rejected
H5: The better the selection of distribution and shipping channels, the greater the competitiveness of tobacco exporting companies.	0.46	Not rejected

According to the confirmatory factor analysis, four of the five hypotheses could be accepted, whose correlation was higher than 0.05, however, it can be observed that the rejected variable is technology, so it can be deduced that this is due to the fact that in the tobacco industry, in terms of machinery and equipment does not represent a great incidence because the production of this product is artisanal.

5. Conclusions

With respect to the factorial analysis carried out for this model, it can be concluded that the factors of quality, price, training and distribution channels are closely related to and indicate the competitiveness of Honduran tobacco in the international market; with respect to technology, in spite of rejecting its hypothesis, the value is very close to the established limit, so it has a smaller impact on competitiveness.

The measures of fit obtained from the confirmatory factor analysis for the maximum likelihood estimation method show an acceptable model fit, which means that through this analysis most of the hypotheses were verified, where there is agreement between the theoretical model and the sample data.

6. Limitations

The study presented some limitations of different types:

- Methodological, including lack of: a) previous studies on the tobacco industry in Honduras; b) reliable information, since there is no official information on the industry in the country, statistical data and information on the companies; c) availability of reliable data, because although there is an association of producers, not all are registered, only 13, and for the purposes of the research, 25 were identified in the eastern zone, which is why there is no official record at the country level and therefore limits the scope of the analysis.
- Limitations for the researcher, including access to confidential information, which limits access to personnel and documentation.

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