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# **Journal of Business and SMEs**

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## **Presentation of Content**

In the first article we present, *Essential exporting competences for manufacturing Firms in Michoacan, Mexico*, by MOLINA-MARTÍNEZ, Rubén & CALDERÓN-GUTIÉRREZ, Argelia, with ascription in the Universidad Michoacana de San Nicolás de Hidalgo, as next article we present, *Methodology for Financial Physical Control of Inventories – MFPCI*, by BLEN, Erick, with ascription in the Instituto Tecnológico Superior de Martínez de la Torre, as next article we present, *Resources and capabilities that determine the competitive success of a shoe company in Ticul, Yucatán*, by CARRILLO-CÁMARA, Adriana del Rosario, MORALES-GONZÁLEZ, María Antonia and CANTO-ESQUIVEL, Ana María, with ascription in the Instituto Tecnológico de Mérida, as next article we present, *Strategies to diminish the rotation of personal, case of study in the hotel sector*, by OLGUÍN-RAMOS, Anahy, MARTÍNEZ-HERNÁNDEZ, Mariela Lizeth and BAUTISTA-LÓPEZ, Braulio, with ascription in the Instituto Tecnológico Superior de Tamazunchale.

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## Essential exporting competences for manufacturing Firms in Michoacan, Mexico

### Competencias esenciales para la exportación: Sector manufacturero del Estado de Michoacán, México

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#### Abstract

Human capital constitutes itself in the essential source of a country's wealth, which has a positive impact on a region competitiveness. Given the need to increase Michoacan's competitiveness to improve its exporting performance this paper analyzes which business competencies are most used by exporting firms executives. Our findings suggest that such executives have an advanced level of exporting competence, determined by three essential competencies in the following order: leadership, negotiation and communicative competence.

**Competencies, Business Competencies, Exporting Competence**

#### Resumen

La fuente esencial de la riqueza de un país es el capital humano, el cual, al ser más competente, incide positivamente en la competitividad de las regiones. Dada la necesidad de incrementar la competitividad de Michoacán para alcanzar un mejor desempeño en su actividad exportadora, se analizaron las competencias de negocios que emplea el capital humano de las empresas manufactureras en dicho Estado mexicano. Los hallazgos obtenidos en esta investigación permiten afirmar que los directivos de las empresas manufactureras exportadoras alcanzan un nivel de competencia exportadora avanzado, el cual está determinado por tres competencias esenciales: competencia en liderazgo, en negociación y en comunicación.

**Competencias, Competencias de Negocios, Competencia Exportadora**

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## Introduction

The process of globalization in which current economies participate has meant both challenges and competitive opportunities for industries in all countries. The management strategy focused on controlling and raising the quality of production has been left behind, gaining relevance the competencies with which human resources can contribute to the competitiveness of a firm. In this context, Mexico has considered the need to review and debate the most appropriate mechanisms for the formation of human capital. However, for companies to respond in the short term and face the pressure to obtain positive results, they must make changes in the way of adapting and directing the organization to achieve the expansion of their economic activity.

In this sense, although Mexico does not qualify as a developed or highly competitive nation, in the country you can find people and companies that are competitive worldwide, being many examples of national companies that export products, knowledge and best practices. What these world-class companies have in common is that they have accumulated human capital at levels comparable to those seen in developed countries. Thanks to this, they manage to transcend the obstacles imposed by material and institutional backwardness.

From this perspective, human capital is not just one of the factors that contribute to the growth of countries: it is the essential source of wealth. This paper presents the construct of export competition, developed from the review of the state of the art presented in the theoretical framework, which allows to identify which business competences put into practice the human capital of the manufacturing companies in the State of Michoacán to achieve a better performance in its export activity.

## The competitiveness of Mexico and the State of Michoacán

In terms of international trade, Mexico has focused on the diversification of markets for its products and services, through the signing of multiple trade agreements with other economies in the Americas, Asia and Europe. Thanks to this, the country is positioned as a gateway to a market that represents more than 60% of world GDP, with more than one billion potential consumers. (ProMéxico, 2018a).

According to the Ministry of Economy (ProMéxico, 2018a), Mexico is one of the countries most open to international trade, having twelve Free Trade Agreements (FTAs) that grant preferential access to the markets of 46 countries, in addition to nine Limited Scope Agreements within the framework of the Latin American Integration Association (ALADI), thirty-two Reciprocal Promotion and Protection of Investments Agreements with 33 countries, and be a member of the Trans-Pacific Integral and Progressive Association Treaty (CPTTP).

According to the Global Competitiveness Report 2017-2018 of the World Economic Forum, Mexico stands for the second consecutive year in position 51 of 137 economies evaluated. In Latin America, it ranks fourth in competitiveness, only behind the economies of Chile, Costa Rica and Panama (World Economic Forum, 2017).

This advance in the international competitiveness indexes is the result of the fact that, in recent years, Mexico has improved its business environment, mainly by maintaining political and macroeconomic stability, in addition to improving the efficiency of financial markets, business sophistication and the drive for innovation (ProMéxico, 2018b).

The results show that the structural reforms of the last sexennium, undertaken with the support of the Organization for Economic Cooperation and Development (OECD), have borne fruit, however the challenges persist.

At the national level, the Mexican Institute for Competitiveness (IMCO) publishes the State Competitiveness Index (ICE) every two years. In the ICE 2016 edition, the IMCO reports that the State of Michoacán fell to 29th place, from the 27th position it occupied in 2014. Michoacán reached 39.6 points of the 100 possible, below the national average of 49.5.

## Theoretical bases

### *Emergence and evolution of the concept of competence*

The notion of competition broke into the development of contemporary culture as a strong attempt to draw bridges between knowledge and its application, between theory and practice, between the underlying capacities and the exercise (Niño, 2012).

Since the last third of the twentieth century there have been numerous authors and researchers who have addressed the study of skills, especially, but not exclusively, from the field of business, for the selection and organization of human resources, and from disciplines such as industrial, labor and organizational psychology, and work sociology. More recently, the concept has had a greater diffusion from the educational and social spheres (Martínez & Carmona, 2009).

Although the study of competences shows a conceptual and disciplinary diversity, difficult to define, with very varied arguments for and against, this has not prevented the rapid extension of this approach at the international level.

The term and the idea of competence are due to the linguist Noam Chomsky, who in 1965 was the first to establish that there was a clear difference between linguistic competence and the performance of an individual, so in the 1970s, linguists, in a clear reaction to Chomsky, they began to focus their attention on communicative competence, a much broader and more dynamic concept than linguistic competence (Morel, 2007, citado por Jonnaert et al., 2007).

In the field of occupational psychology, what McClelland (1973) called "competence", has evolved to the "human resource approach by competencies", better known as "competency approach", which has been replacing, since the beginning of the eighties of the last century, to the traditional "personnel orientation" for a "human resource-based orientation".

In the field of occupational psychology, what McClelland (1973) called "competence", has evolved to the "human resource approach by competencies", better known as "competency approach", which has been replacing, since the beginning of the eighties of the last century, to the traditional "personnel orientation" for a "human resource-based orientation" (Lussier & Achua, 2011).

Although initially ergonomics and occupational psychology used the concept of competence to analyze the performance of operators in their work stations, workers are now conceived as a competitive resource of the company that must be improved.

From this new approach, we move from confrontation to collaborative relationships, extending a link between the social and the economic, considering employees as the human capital of the company (Martínez & Carmona, 2009) and that may even be sources of competitive advantage for the same (Daniels, Radebaugh & Sullivan, 2010). According to this idea, Agustín Ibarra (2000) refers that in the current "transformation of production processes", to increase productivity does not require only equipment and cutting edge technology, but also "new forms of management, organization, training and development of workers, which promote the rational and efficient use of resources and stimulate the creative and intellectual potential of all members of the organization" (Ibarra, 2000, p.97). In agreement with it, Tejada and Navío (2005) add that "the development of the added value of competences allows the subject to be competent beyond the basic requirements of a job" (Tejada y Navío, 2005, p. 2).

In 2005, the OECD presented the results of the Project Definition and Selection of Key Competences (DeSeCo), in order to provide a useful conceptual framework as a source of information for the identification of key competences and the strengthening of international surveys that measure the level of competence of young people and adults. The OECD concludes that "a competence is more than knowledge and skills. Involves the ability to face complex demands, relying on and mobilizing psychosocial resources (including skills and attitudes) in a particular context" (OECD, 2005, p. 4).

In parallel work, the Council of Europe published in 2001 the Common European Framework of Reference for Languages (CEFR), making clear and aligning the relationship between educational and labor policies that govern the Council and implementing a policy of competences in languages and in labor issue to favor mobility between countries (Council of Europe, 2002).

In Mexico, the Center for Research and Development, A.C. (CIDAC) has conceptualized competences more broadly, based on the definition of the OECD. According to CIDAC, competencies are defined as those skills and abilities acquired through a deliberate and systematic effort to carry out complex activities.

It is the ability that is achieved by combining knowledge, skills, attitudes and motivations and by applying them in a specific context: in education, work or personal development. A competence is not limited to cognitive elements (use of theories, concepts or implicit knowledge), but it covers both technical skills and interpersonal attributes. (CIDAC, 2014).

It is possible to affirm then that the concept of competence focuses on what is expected that an individual can achieve beyond the learning process; expresses the ability to transfer and apply skills and knowledge to new situations and environments, considering all aspects of performance and not just specific task skills. Thus, each individual, in equal capacities, faces the same task in a different way; This depends on the strategies used, how he uses his skills in practice to carry out the task or solve the problem and the disposition or attitude with which it is performed. This last element is the fundamental contribution of the competency-based approach. As expected, the concept has been evolving to facilitate its understanding, but it is always possible to identify the central concept identified by Niño (2012), which is to establish the relationship between knowledge and its application or performance.

#### *Labor competences*

Job skills, typically developed at the end of school age or at the beginning of productive life, have been the subject of their own study and categorization. Among the factors that contribute to a good job performance, Tejada and Navío (2005) highlight the importance of individual, relational, social and participatory skills.

Martínez and Carmona (2009) carried out a very complete analysis of different authors and of the different classifications of labor competencies proposed and they make two major classifications based on their bibliographical review: generic (those that can be present in all the works of an organization and that can be transferred more easily from one profession to another) and specific (specific to a specific profession or performance levels within an organization, very particular, hence, it is not possible to transfer from one profession to another).

On the other hand, Mora, García-Aracil and Vila (2006), review the competences of human capital, understood as those talents, skills, abilities, attitudes and values of graduates that contribute to raising productivity. These are perceived as the essential element in the path towards sustainable economic growth and the development of communities in an increasingly globalized economic environment, so that agents (students, educators, graduates, businessmen and decision-makers) are increasingly aware of its relevance.

In the national context and in an effort to identify the most needed competences among university students or among professionals in general, CIDAC (2014) conducted the National Survey of Professional Competencies. Although the group of researchers responsible for this project recognizes all the previous work that international organizations have done on "competences for the 21st century", they established their own categorization of competences considering that many of those identified in previous exercises are too vague or general. That is, many of these competences can and should be broken down into more specific competences (CIDAC, 2014).

#### *Central competences of companies*

From the point of view of human resources management (HRM), the competencies belong to the area of human talent management, which in turn constitutes the engine of socioeconomic development. The ARH refers to the activities that a company performs to staff its organization, while the management of human talent is part of the search for sustainable and sustainable socio-economic development with the ecological environment, a notion included in the definition of current competitiveness.

Thus, the quality of life and well-being of the individual, their environment and their country are sought in collaborative work, based on the realization of each person. According to Daniels et al. (2010), research confirms that superior human resources result in high productivity, competitive advantage and value creation. The same author reports that superior HR practices correlate positively with the company's financial performance and are one of the main indicators of increasing shareholder value (Watson Wyatt Worldwide, 2007, cited by Daniels et al., 2010).

In a way analogous to how people develop their skills, companies also develop core competencies, defined as the exclusive skills or knowledge that distinguish a company from its competitors.

Technically, a central competence is a perspective, skill, capacity or special technology that creates unique value for the company by generating a recognized flow that circulates through all the company's value activities, therefore, core competencies are essential for competitiveness and the profitability of the company (Daniels et al., 2010).

A core competence can arise from several areas, such as: product development, employee productivity, manufacturing skills, marketing imagination or executive leadership. You can also consider internal strengths of a company to effectively implement the strategies that allow them to develop capabilities and competitive advantages.

In recent years, many successful companies have developed core competencies based on one of the three basic strategies: operational excellence, product leadership and customer intimacy (Ferrell & Hartline, 2006). Daniels et al. (2010) explain that when companies have effective value chains (frameworks for dividing activities that create value in different processes) they can focus on developing their core competencies.

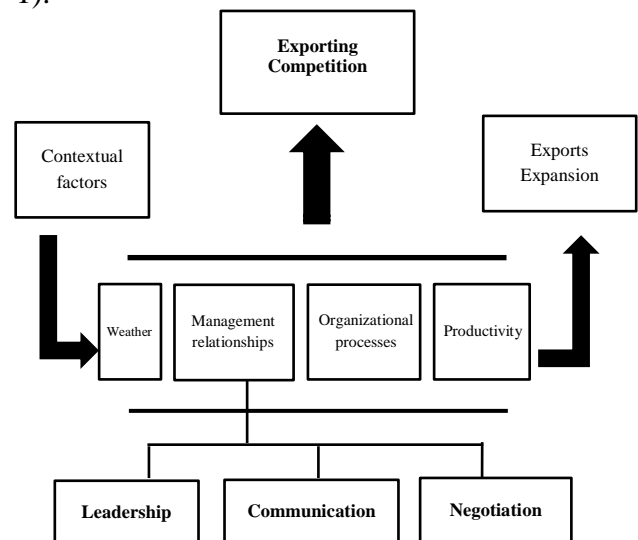
### *The export competition*

Reiljan and Tamm (2006) show how four essential aspects for the competitiveness of a company (area, scope, location and management) are integrated in a single factor that potentiates the international competitiveness of the company and conclude that, in turn, global competitiveness it depends on: 1) the possibilities and means accessible to the company; 2) a favorable business environment; 3) a positive management of the economic concept of the company itself; and 4) the international competitiveness of the company.

Analogously, Knight and Kim (2009) developed an intangible construct called "international business competition" (*International Business Competence, IBC*), concordando con Reiljan y Tamm (2006).

In the opinion of these authors, the competence to conduct international business represents an intangible resource of the company that generates an international performance superior to the interior of the companies. In this way, the positional advantage to compete in international markets depends on the following factors: 1) international orientation; 2) orientation to international markets; 3) international marketing skills; 4) international innovation; and 5) business skills within the firm, which give originality to the company, value and difficulty to be imitated.

This paper recognizes the existence of various contextual factors that affect the process for an export company to seek the expansion of its exports; However, the objective of the research carried out was focused on the study of the factors within the company itself, specifically the competences of the human resource. For the construction of the export competition construct, the leadership, communication and negotiation business competencies were selected, which have a direct impact on the company's work environment, the management of its relationships, its organizational processes and the productivity of the same company. (Figure 1).



**Figure 1** Components of export competition

Source: Authors

The export competition was determined through the measurement of the three independent variables communicative competence, leadership competence and negotiation competence, whose conceptual definitions are shown in Table 1.

Dependent variable	Independent variable	Conceptual definition
Export Competition  The entrepreneur or manager's ability to develop specific export capacities that allow them to identify and respond successfully and promptly to market opportunities.	Leadership Competence	Process of influence between leaders and followers to achieve organizational objectives through change (Lussier & Achua, 2011).
	Communication Competence	Representations and knowledge structures that are used both to transmit and to understand intentions (Council of Europe, 2002).
	Negotiation Competence	Process in which two or more parties come into conflict and try to reach an agreement (Lussier & Achua, 2011).

**Table 1** Conceptualization of the variables

Source: Authors

Therefore, the hypothesis is that competition in leadership, competition in communication and competition in negotiation determine the export competition of managers of manufacturing exporting companies of the State of Michoacán.

## Methodology

The research carried out is characterized as a mixed approach, of a non-experimental type, with a transversal design and an explanatory scope.

The measurement of the level of export competition demonstrated by the executives who participated in this study was carried out through the business competencies that effectively put into practice, particularly the competition in leadership, communication competence and negotiation competence.

To express the level of competence, a scale of five ranks was established: limited, basic, sufficient, advanced and expert.

The data collection instrument consisted of a survey (structured both in a printed version and in a digital version) consisting of two parts: the first integrated by questions to collect the demographic information of the respondent, and the second, consisting of 32 items that they measure various aspects of export competition using a Likert scale of five options with positive items, as well as a categorization item (item 20).

Given that the universe of export manufacturing companies located in the State of Michoacán is only fifty, a census of the total population of companies was carried out. Of the companies contacted, two responded that they no longer export due to changes in the market and seven expressly refused to participate in the investigation, citing safety reasons. After sending three dispersions of the survey by email, responses were obtained from 21 managers of manufacturing companies, which were automatically registered in a database hosted in the Google Drive service. In addition, in-depth interviews were conducted with 12 managers who expressed their willingness to participate in the study.

## Discussion and results

The measurement of the reliability of the data collection instrument yielded a value of Cronbach's Alpha of 76.7%, so that the data fall within the accepted reliability ranges.

The correlation analysis using the Pearson coefficient ( $r$ ), revealed a strong positive association between export competition and leadership competition, with a value of 0.84, as well as a considerable positive correlation between export competition and competition in negotiation, of 0.71. and an average positive correlation between export competition and communicative competence, of 0.58.

When calculating the coefficient of determination ( $r^2$ ) it was found that the competition in negotiation is determined, firstly, by the competition in leadership in a 70.95%; in second, by the competition in negotiation in a 50.75%; and finally, to a lesser degree, by communicative competence with 33.45%.

Export Competition		
	r	r <sup>2</sup>
Leadership Competence	0.8423	0.7095
Communication competence	0.5784	0.3345
Competition in Negotiation	0.7124	0.5075

**Table 2** Results for the Pearson correlation coefficient (r) and the determination coefficient (r<sup>2</sup>)

Source: Authors

The results obtained for the export competition of the manufacturing companies surveyed, in terms of their measures of central tendency, are shown in Table 3.

Number of surveys:	21
Half	130.143
Typical error	2.031
Median	129.000
Fashion	135
Standard deviation	9.307
Variance	86.629
Rank	37
Minimum	110
Maximum	147
Sum	2733

**Table 3** Measures of central tendency of export competition

Source: Authors

All responses to the research instrument were grouped into the two highest levels of competence (advanced and expert), with a minimum value of 110 points and a maximum of 147, so no response was recorded in the three lower levels (limited, basic and sufficient), as you appreciate in Table 4.

Level of competition	Frequency	Percentage
Expert	9	42.86
Advanced	12	57.14
Enough	0	0.0
Basic	0	0.0
Limited	0	0.0

**Table 4** Frequency distribution of export competition

Source: Authors

The statistical analysis shows an average of 130.14 points, which located on the respective scale show a generalized opinion that the level of export competition of the Michoacán manufacturers is advanced. Fashion is 135 points, which corresponds to an expert level of competence.

Folio	Export Competition Score	Folio	Export Competition Score
01	138	12	139
02	128	13	143
03	135	14	132
04	124	15	127
05	147	16	123
06	120	17	137
07	123	18	110
08	142	19	129
09	125	20	135
10	119	21	122
11	135		
Average value:			130.14

**Table 5** Export competition score of the 21 companies interviewed

Source: Authors

Table 6 shows the general ranking for the items that make up the research instrument, according to the individual average score recorded for each of them. The average of the scores per item is 4.08, with a standard deviation of 0.34. In the ranking item 20 is omitted, since it measures the number of languages handled by managers by means of a scale other than Likert.

Position	No. Item	Description	Punctuation	Position	No. Item	Description	Punctuation
1	25	Upward communication	4.81	11	30	Strategic alliances	4.10
2	4	Knowledge of the export process	4.71	12	28	Negotiation techniques	4.00
3	9	Evaluation of alternatives	4.62	13	2	Identification of objectives	3.95
4	10	Timely decision making	4.43	13	12	Adaptation to changes	3.95
4	33	Personal image	4.43	13	21	R.P. To the exterior	3.95
5	8	Authority	4.38	14	13	Networks of work	3.86
6	11	Problem resolution	4.33	14	26	Form of negotiation	3.86
7	3	Product update	4.29	14	31	Political savvy	3.86
8	6	Knowledge of the market	4.24	15	7	Goal evaluation	3.81
8	24	Media	4.24	15	17	Foreign language oral domain	3.81
8	32	Understanding other cultures	4.24	16	5	Ways market to	3.80
9	27	Bargaining power	4.19	16	29	CRM	3.80
10	1	Mission and vision	4.14	17	15	Staff training	3.76
10	23	Downward communication	4.14	17	16	Organizational structure	3.76
11	14	Time management	4.10	17	18	Foreign language written domain	3.76
11	22	R.P. inside	4.10	18	19	Foreign language certification	3.10

**Table 6** Overall ranking for the 32 items of the survey

Source: Authors

As shown in Table 6, items 25, 4, 9, 10 and 33 are those that recorded the highest average scores (above the mean plus one standard deviation). In contrast, the lowest average scores correspond to items 19, 15, 16 and 18 with scores below the mean minus one standard deviation.

Item 25, which refers to effective communication with employees, customers and suppliers, recorded the highest average score of the total number of items in the survey, of 4.81 points. In this, 80.95% of the managers always said to listen and process the information when it establishes communications with an actor related to the export process.

The second highest average score was obtained in item 4, referring to the knowledge of the process to export the products, with 4.71 points. This item also obtained the highest frequency of responses at the highest level of the measurement scale. In this way, 18 managers, equivalent to 85.71% of the interviewees, said they knew the process of exporting their products properly.

In the third position by average score was placed item 9, which measures the ability of managers to quantitatively assess the various decision alternatives, with 4.62 points. Here, most of the executives interviewed (66.67%) always claimed to apply a quantitative analysis on the export alternatives before deciding on any of them. In addition to the above, item 10, making relevant and timely decisions related to the export process, obtained an average score of 4.43. These last results coincide with what has been reported by several authors that one of the behaviors and competencies most demanded from leaders is their decision-making capacity, as well as their ability to identify alternatives and consequences of their actions (Daft & Marcic, 2010; Daniels et al., 2010; Lussier & Achua, 2011), in addition that these decisions must be effective and contribute to the achievement of the objectives.

Item 33 reported a value of 4.43, sharing the fourth position with item 10, also being the highest score within the variable of competition in negotiation. In this case, almost 60% of managers said they pay attention to their behavior and personal grooming are always consistent with the image that the company wants to project.

Regarding the lowest average scores, item 19, which refers to certification in the domain of a foreign language, recorded the lowest score of the total number of items that make up the survey, reaching only 3.10 points. Eleven executives in charge of the export process, equivalent to just over half of the interviewees (52.8%), have some certification in the use of a second language, while the remaining 47.62% do not. In this way, the certification of the foreign language represents an important area of opportunity to increase communicative competence. These results acquire greater importance considering that English and French are the languages of the two main export destinations of Michoacan manufacturing companies: United States and Canada.

In the same order of ideas, item 18, relative to the written domain of the target market language, ranked in the penultimate position of the ranking, reaching an average score of 3.76. Similar situation was presented with item 17, which measures the oral domain of the target market language, which ranked 15 out of 18 possible, with 3.81 points. All managers, except one, equate their level of written language proficiency to their level of oral proficiency. The distributions of answers are almost identical for the written domain and the oral domain of the language, with more than 70% of the opinions grouped in the levels of intermediate domain.

Less than a quarter (23.81%) of the managers of the export manufacturing companies refers to having an advanced level in the handling of a foreign language, despite the importance that this skill involves for the general learning of an individual, since this one The latter must be able to develop their linguistic, sociolinguistic and pragmatic skills to communicate effectively when proposing, solving and interpreting problems in various areas, skills that are considered essential for managers in charge of the export process. Similarly, the development of communicative competence improves the ability of an individual to acquire new knowledge and develop new specialized skills (Council of Europe, 2002). The fact that more than 70% of managers manifest an intermediate command of English seems to confirm that the learning of this language has ceased to be seen as an independent discipline and is part of the integral education of an individual (Graddol, 2006).



There are several authors who agree that communication is an essential competence for managers and managers, integrating it within the soft skills that have long been preferred over hard (or technical) when hiring, since companies (particularly exporters) need adaptable and flexible managers who are able to communicate adequately and interact with a wide range of people, trained to learn and manage the constant change in organizations (AACSB, 2018, Mora et al., 2006, Mulholland, 2003 ; Shuayto, 2013), however this is not reflected in the managerial reality of Michoacan exporting companies.

Finally, items 15 and 16, belonging to the leadership variable, were also placed in the penultimate place of the average scores, both with a score of 3.76. The foregoing indicates that the managers of the exporting manufacturers must invest a greater effort in the training of the personnel who carry out the export process or, if they subcontract this service, make sure that the employees have the required expertise, in order that the functions and delegated activities are carried out effectively. Likewise, companies must make adjustments in the design of their organizational structure, seeking that it responds and adapts more efficiently to the enormous challenges involved in marketing its products beyond national borders.

## Conclusions

The findings obtained in this investigation allow to affirm that the executives of the export manufacturing companies of the State of Michoacán have an average level of advanced export competition, reaching 130.14 out of a possible 160 points, which is determined in the first place, by the competition in leadership, at 70.95%; in second, by the competition in negotiation, in 50.75%; and finally, by communicative competence, at 33.45%.

For the three business competences analyzed as independent variables, advanced average levels of competence were obtained, with the leadership competition being the best qualified, achieving 82.44% of the total possible score, followed by the competition in negotiation, which reached 80.73%, and finally the communicative competence, which obtained 79.78% of the total score.

This could explain why in a state as complicated and uncompetitive as Michoacán, there are companies that are capable of facing adverse conditions in key aspects of the business environment, such as security, rule of law and political stability..

Given that the managers of the export manufacturing companies have an advanced level of leadership, they have been able to carry out these companies, managing to take the step of only subsisting to seek sustained growth. However, most of the leaders who participated in this research must still make explicit their export objectives in the mission and vision of their companies to make them visible to all members of their organizations. This finding is related to the ability to communicate to staff and stakeholders what is desired for the company. The communicative competence is the one that represents a greater area of opportunity to increase the development of the export competition of the managers, registering the lowest average score.

On the other hand, when comparing the scores obtained by the total of managers for the export competition, against the size of the companies, it was possible to identify that more than half of the executives who reached the expert level of competence, are in front of the export process of large companies, also corresponding to managers of large companies the highest scores recorded. Similarly, about half of the executives who obtained a level of expert export competence work in companies that have been exporting for more than 20 years.

However, the level of export competition is not related to the size of the company's structure, nor with the years it has been carrying out the export activity, so it can be concluded, first, that the level of export competition reached depends on the personal effort of the manager and the resources he invests in his own training, seeking the realization of his goals together with the development of the company.

Second, managers with a high level of competence seek to work in large international companies, possibly with the long-term goal of developing a career within them and grow to achieve better management positions, while developing their level of competence exporter.

Likewise, it was discovered that there is a significant relationship between the level of export competition of the exporting manufacturers and the number of countries to which they export their products. Derived from these results, it can be asserted that, as Michoacan manufacturing companies increase their export competition, the number of export destinations can be increased, without necessarily having to increase the size of their structure, or require a certain number of years of experience in export.

## References

- AACSB International. (2018). *AACSB Industry Brief: Lifelong Learning and Talent Management*. Tampa, Florida: Author.
- Centro de Investigación para el Desarrollo, A.C. (2014). *Encuesta de Competencias Profesionales 2014*. México: Autor.
- Consejo de Europa. (2002). *Marco Común Europeo de Referencia para las Lenguas: Aprendizaje, Enseñanza, Evaluación*. Madrid: Instituto Cervantes.
- Daft, R., & Marcic, D. (2010). *Introducción a la administración*. México: Cengage Learning.
- Daniels, J., Radebaugh, L., & Sullivan, D. (2010). *Negocios internacionales: Ambientes y operaciones*. México: Pearson Educación.
- Ferrell, O., & Hartline, M. (2012). *Estrategia de marketing*. México: Cengage Learning.
- Graddol, D. (2006). *English Next: Why global English may mean the end of "English as a Foreign Language"*. United Kingdom: British Council.
- Ibarra, A. (2000). Formación de recursos humanos y competencia laboral. *Boletín Cinterfor*, mayo-agosto (149), 95-108. Disponible en: <https://dialnet.unirioja.es/ejemplar/143482>
- Instituto Mexicano para la Competitividad. (2016). *Índice de Competitividad Estatal 2016: Un puente en dos Méxicos*. México: Autor.
- Jonnaert, P., Masciotra, D., Barrete, J., Morel, D., & Mane, Y. (2007). Curriculum Change and Competency-based Approaches: A Worldwide Perspective. *Prospects*, XXXVII(2), 187-203. <https://doi.org/10.1007/s11125-007-9027-9>
- Knight, G. A., & Kim, D. (2009). International Business Competence and the Contemporary Firm. *Journal of International Business Studies*, 40(2), 255-273. <https://doi.org/10.1057/palgrave.jibs.8400397>
- Lussier, R. N., & Achua, C. F. (2011). *Liderazgo: Teoría, aplicación y desarrollo de habilidades*. México: Cengage Learning.
- Martínez, F. M., & Carmona, G. (2009). Aproximación al concepto de "competencias emprendedoras": Valor social e implicaciones educativas. *Revista Iberoamericana sobre Calidad, Eficacia y Cambio en Educación*, 7(3), 82-98. <https://doi.org/10.15366/reice>
- McClelland, D. (1973). Testing for Competence Rather Than for "Intelligence". *American Psychologist*, 28(1), 1-14. <http://dx.doi.org/10.1037/h0034092>
- Mora, J., García-Aracil, A., & Vila, L. (2006). Cómo recompensa el mercado laboral europeo las competencias de los jóvenes graduados universitarios. En R. Pedroza (Ed.), *Flexibilidad y competencias profesionales en las universidades iberoamericanas* (pp. 161-177). México: Ediciones Pomares.
- Mulholland, J. (2003). *El lenguaje de la negociación*. Barcelona: Gedisa.
- Niño, V. M. (2012). *Competencias en la comunicación: Hacia las prácticas del discurso*. Bogotá: ECOE Ediciones.
- Organisation for Economic Co-operation and Development. (2005). *Definition and Selection of Key Competencies: Executive Summary*. Paris: Author.
- ProMéxico (2018a). *Tratados de Comercio*. Disponible en: <http://www.promexico.mx/es/mx/tratados-comerciales-inversion>

ProMéxico (2018b). ¿Por qué México?. Disponible en: <http://www.promexico.mx/es/mx/por-que-mexico>

Reiljan, J., & Tamm, D. (2006). Differences in indicators related to export competitiveness: The case of Estonian wood sector firms. *Articles from the Annual Conference 2006*, 67-104. Disponible en: <https://www.etis.ee/Portal/Publications/Display/c858b115-674b-450d-936c-96c9fcb3b8ba>

Shuayto, N. (2013). Management Skills Desired by Business School Deans and Employers: An Empirical Investigation. *Business and Education Accreditation*, 5(2), 93-105. <https://ssrn.com/abstract=2239205>

Tejada, J., & Navío, A. (2005). El desarrollo y la gestión de competencias: una mirada desde la formación. *Revista Iberoamericana de Educación*, 37(2), 1-16. Disponible en: <https://rieoei.org/RIE/article/view/2719>

World Economic Forum. (2017). *The Global Competitiveness Report 2017-2018*. Geneva: Author.

**Methodology for Financial Physical Control of Inventories – MFPCI****Metodología para Control Físico Financiero de Inventarios MCFFI**

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**Abstract**

As a result of the observation and the different problems for inventory control in perishable items, arising in different companies dedicated to the export of agricultural products, is that this article proposes the use of a method of organization and control of inventory that allows At any moment, physically know the existence and location of the same, so that this allows to exercise a control both physically and financially. In addition, it proposes the use of Information and Communication Technologies to make this a self-managed and auditable model at any time required.

**Methodology, Inventory control, Organization****Resumen**

Como resultado de la observación y de los distintos problemas para el control de inventarios en artículos perecederos, suscitados en distintas empresas dedicadas a la exportación de productos agrícolas, es que este artículo propone la utilización de un método de organización y control de inventario que permita en todo momento conocer físicamente la existencia y ubicación del mismo, de forma que esto permita ejercer un control tanto en lo físico como en lo financiero. Además de ello propone el uso de las Tecnologías de Información y Comunicación para hacer de esto un modelo autogestionable y auditable en cualquier momento requerido.

**Metodología, Control de inventarios, Organización**

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## Introduction

Companies, regardless of the line of business, must clearly have a clear control over the management of their inventories, since these represent the asset that gives reason to their operational functioning.

Even companies dedicated to services, will have to maintain a control over this, since to a large extent on it will depend its correct functioning, cases such as restaurants or hotels, should have precise control.

The present methodology proposes, of course, the difficulty in controlling inventories of finished products, which have the main characteristic of being perishable. Since this represents a latent risk of loss due to poor inventory management.

The model that this document suggests, has been analyzed and simulated according to the data collected in different companies dedicated to the commercialization of agricultural products with a short shelf life that do not have a methodology that allows them to have physical - financial control of its products within the inventories of finished products.

Physically, an inventory exit system based on immediacy is used in this type of products, that is, First Entries, First Exits (FEFE), not only in accounting terms as the method suggests, but also in the physical handling of the product.

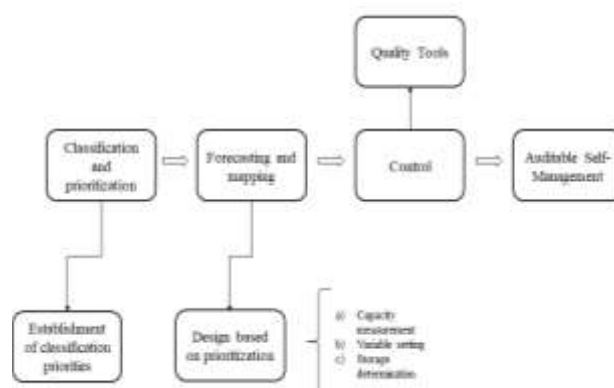
The First-to-Enter, First-to-Exit method is used for in-process production of products with a high level of expiration over time, that is, for perishable products.

This control is carried out in reality, with control and accounting documents. Due control, in these products, avoids losses due to products that are damaged by undue stagnation, in the production process or in the warehouses of finished products. (Villareal-Rincon, 2009)

Given the above, it is important to design a method that physically allows the proper and efficient management of the inventory management process in question.

## Method Structure

The inventory control model suggests a problem for stores (inventories) with products that have the characteristic of being perishable, that is to say that their level of rotation requires to be fast and precise in aspects of immediacy of output of products according to their frequency of arrival, for this, the methodology suggests the following steps: detailed classification, stroke and mapping; auditable control and self-management.



**Figure 1** Structure of the Methodology

Source: Own elaboration

The aforementioned steps are the result of a series of techniques already established adapted to the needs of this type of inventory, this methodology takes up statistical tools, simple cost analysis, as well as basic quality tools, which allow real-time control of the costs, rotation, location and supply of products.

## Case Study: Agricultural Products Baler

Agricultural products, have as their main characteristic their shelf life, since due to their nature, that is to say, a product that has not been processed, once ready for sale, has a certain time of life before being sold otherwise, the product goes into decay losing all commercial value.

As part of this exercise, we are going to assume that we have 3 products that are packaged within this hypothetical company that will be a packer of agricultural products, which exports them and after a cleaning and selection process, arrives at the warehouse where it would be inventoried for their respective sales.

The 3 products in question will be avocados, mangoes and bananas, which have different classifications, that is, for Avocado they have type A and B, mango type A and B and Banana type A, B and C, of which there is a history of sales, which leads us to the first step of the methodology.

It should be noted that the company's storage capacity is 4800 boxes, stowed in 10 storage racks with capacity for 8 pallets per rack; Each pallet has a capacity of 60 stowed boxes.

## Methodology

### a) Classification and prioritization

Continuing with the example of the research indicated, there are three products, which in turn have a classification. As a first case, it is necessary to prioritize which are the products with the greatest turnover in the inventory, regardless of the sale price as indicated by the ABC methodology, since what this method seeks is the detailed classification in rotation time to later move on to the Financial impact analysis.

For this, it is illustrated in the following Table in which there are hypothetically demanded amounts:

#### Agricultural Products Baler Monthly sales

Product	Boxes sold	% of participation
Type A Avocado	678	16.10%
Type B Avocado	578	13.73%
Type A Mango	645	15.32%
Type B Mango	566	13.44%
Type A Banana	610	14.49%
Type B Banana	546	12.97%
Type C Banana	587	13.94%
Total sales (Units)	4,210	

**Table 1** Monthly sales  
*Source: Own elaboration*

The participation of monthly sales of each product is important, since this will help us establish a prioritization of storage, since this will be based on demand, in order to ensure the supply of the product with the highest market share.

### b) Forecast and Mapping

Subsequently, the demand for each of the products must be analyzed in order to be able to prepare a production forecast (demand calculation), since this should serve as a parameter for storage within the warehouse, so that this speeds up both terms of physical transfer of the product as control and accounting.

The method for calculating the demand should be the one that is most convenient for the company, however the exponential smoothing method is recommended, for which the following formula is used:

$$F_t = F_{t-1} + \alpha(A_{t-1} - F_{t-1}) \quad (1)$$

It is suggested to use this method, since it is possible through it to make adjustments in  $\alpha$  so that the ideal forecast is found in the mix of products to be stored.

It is important to note that for this exercise an  $\alpha$  of 0.30 has been taken deliberately, however, as indicated in previous lines, there is the possibility of adjusting  $\alpha$  and thus specifying the maximum storage capacity.

#### Type A Avocado Sales

Month	Real	Forecast
January	678	678
February	669	675
March	701	683
April	656	675
May	634	663
June	656	661
July	712	676
August	654	669
September	666	668
October	654	664
November	645	658
December	657	658

**Table 2** Sales Forecast Type A Avocado  
*Source: Own elaboration*

Once this procedure is done for each of the products, a storage clearance should be established, which will be the difference in the highest quantity demanded minus the average amount of the forecast year.

$$hA = Q_{max} - Q_x \quad (2)$$

Once the storage clearance is established, it is added to the forecast month to establish the monthly storage forecast for each product.

**Average Monthly Sales Forecast**

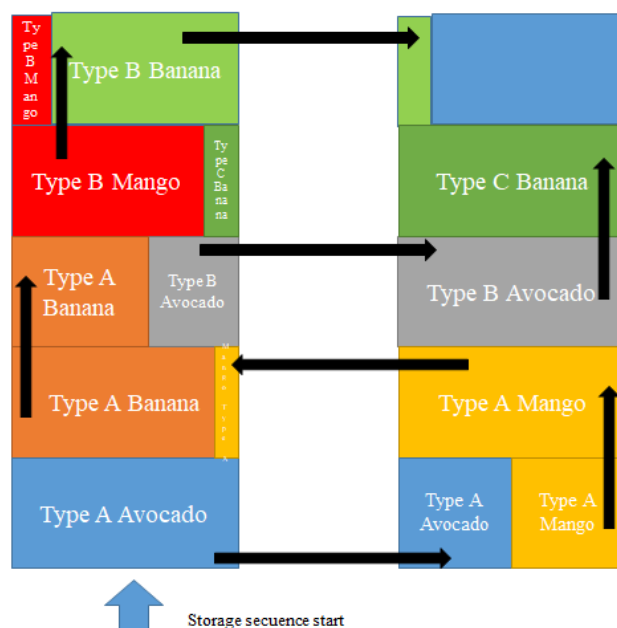
Product	Volume	Slack	Total storage	% storage	% acum
Type A Avocado	669	40	709	15.87%	15.87%
Type A Mango	636	38	675	15.10%	30.97%
Type A Banana	618	37	655	14.66%	45.64%
Type B Avocado	586	35	621	13.89%	59.53%
Type C Banana	579	35	614	13.74%	73.27%
Type B Mango	573	35	608	13.60%	86.88%
Type B Banana	553	33	587	13.12%	100.00%
<b>Total Forecast</b>	<b>4,215</b>	<b>254</b>	<b>4,469</b>		

**Table 3** Priority Storage Forecast

Source: Own elaboration

As we can see with this table, the maximum forecast storage is 4,469 units for the month in question, thus defining 93% of the storage capacity, leaving 7% of unused storage space, considering that. If for any eventuality there is an excess in the production of a particular product or else, it is used for some other storage task that is required, such as storing the same boxes used for storage.

Once delimited the quantities of products that must be stored following the logic of prioritization of sales (from the most demanded to the least demanded), they should be stowed in a linear manner, allowing the continuous flow of the product, as well as the stowage so that not only accountingly but also physically, a system of first entries first exits is used, in order to avoid losses in the inventory of finished products.



**Figure 2** Storage Diagram

Source: Own elaboration

As we can see in Figure 2, this diagram allows a storage sequence to be established in such a way that it is known at which physical point of the store the product in question is located.

The route is followed in a continuous way, this with the purpose of storing in the position closest to the exit, since these products such as in this case the Type A Avocado and Type A Mango, are the ones that have the greatest demand, therefore a higher inventory turnover.

The inventory rotation represents a basic criterion for physical accommodation, as this will determine the proximity to the exit of the finished products warehouse.

It is important to note that not all 100% physical spaces are necessarily being used as indicated on the map, since simultaneously the probability of sales reaching the maximum is low, as indicated in the forecasts.

c) Control

The mapping by itself will not represent a control mechanism, although it is true, it will serve as another tool in the planning of the inventory, it does not guarantee its proper functioning, therefore it is necessary to apply certain existing basic controls that conform a control system, using tools such as:

- *Kanban*: That allows to know the quantity, the physical flow that the merchandise will carry, the product in question, the clients (internal and external), collaborators and general data that allow to identify both the product and the process in which they are immersed, which serves as a supporting document of the Balance Score Card
- *Balance Score Card*: In which the most important indicators are detailed in relation to the processes related to production and storage.
- *Information and Communication Technologies*: That provide support through different electronic devices, both portable and fixed, and in turn serve as a source of consultation for process control.
- *ABC Costing sheets*: Given that the inventory management is to be efficient, both in terms of time and costs, it is necessary to use a system such as ABC Costing, which allows us to establish operational - financial efficiency parameters, in order to have a continuous and real-time evaluation of the cost or cost overrun of an inventory, as the case may be.

#### d) Auditable Self-Management

The added value of the proposed model lies in the ability to be a system that, with the support of information and communication technologies, can have real-time information that, when compared to the Balance Score Card, results in an audit process effective, not only in terms of carrying out the processes, but also in relation to the established budgets, both in terms of operating costs and in terms of expected demand.

### Conclusions

The use of this methodology, in which different inventory control and inventory techniques converge, allows us to conclude that by classifying the demanded products, it allows us to have a planning with a lower degree of uncertainty in relation to what is expected to be sold and in turn It allows us to plan the storage needs of the product.

At any given time, if our installed capacity could not be enough with what the forecast shows, it will allow us to look for alternatives that do not impact in terms of costs or efficiency, since the management of storage clearances, as well as the programmed rotation of the inventory gives as a result a flexible system to the storage needs of companies.

In addition, the use of information and communication technologies, as well as quality management techniques already known, will allow this inventory management model to give us a real-time reading of the information and be a self-managed methodology.

### References

Almanza Avendaño, V., Cusinga del Carpio, C., Escudero Cervantes, M. A., Ochoa Antezana, S. C., & Quintana Zagaceta, R. (2018). Plan de negocios de servicios de entretenimiento para el adulto mayor-Club Tayta.

Ávila Gualdrón, M. A., & Granada Corrales, M. L. (2018). Metodología para la identificación de indicadores de compromiso para la protección de infraestructuras críticas.

Calleja Bernal, F. (2002) Contabilidad de Costos. Pearson Educacion Mexico.

Departamento de organización de empresas, E. y. C (s.f.). Distribución en planta. Recuperado de <http://personales.upv.es/jpgarcia/linkeddouments/4%20distribucion%20en%20planta.pdf>

Figueroa Alemán, O. S., & Masache Narváez, V. E. (2018). Análisis de tecnologías de un centro de operaciones de ciberseguridad para un proveedor de servicios de internet (Bachelor's thesis, Quito: Universidad de las Américas, 2018).

Gaither, Norman & Fraizer, Greg. (2000) Administración de la Producción y Operaciones (Octava Edición). Soluciones empresariales

García Nava, J.A. & Paredes Hernández, L. M. (2014). Estrategias financieras empresariales. Recuperado de <http://www.editorialpatria.com.mx/pdf/files/9786074382037.pdf>



GONZÁLEZ REYES, D. J. (2018). DISEÑO DE UN PLAN ESTRATÉGICO DE SEGURIDAD INFORMÁTICA PARA LA PROTECCIÓN DE LOS RECURSOS INFORMÁTICOS EN EL LABORATORIO DE TELECOMUNICACIONES DE LA CARRERA DE INGENIERÍA EN COMPUTACIÓN Y REDES (Bachelor's thesis, JIPIJAPAUNESUM).

Gryna M, F. Chua, Richard. Defeo, J. Pantoja, J. (2004) Metodo Juran Analisis y Planeacion de la calidad. (Quinta Edicion) Pearson Educacion, Mexico.

Heizer, J. & Render, B. (2004). Principios de administración de operaciones. Recuperado de [https://books.google.com.mx/books?id=jVIwSsVHUfAC&pg=PA343&lpg=PA343&dq=distribuci%C3%B3n+fisica+en+tienda&source=bl&ots=FoIb7P4j4D&sig=ucvItemVKDPP4N4Of1qFbZy5Sr4&hl=es-419&sa=X&ved=0ahUKEwiM3N\\_vs7bUAhVE44MKHX1LAWAQ6AEISDAG#v=onepage&q=distribuci%C3%B3n](https://books.google.com.mx/books?id=jVIwSsVHUfAC&pg=PA343&lpg=PA343&dq=distribuci%C3%B3n+fisica+en+tienda&source=bl&ots=FoIb7P4j4D&sig=ucvItemVKDPP4N4Of1qFbZy5Sr4&hl=es-419&sa=X&ved=0ahUKEwiM3N_vs7bUAhVE44MKHX1LAWAQ6AEISDAG#v=onepage&q=distribuci%C3%B3n)

Martínez Flórez, M. (2009). Propuesta de mejoramiento de un centro de distribución de retail, a través de la distribución en planta y el rediseño de los procesos operativos de recepción, almacenamiento, alistamiento y despacho. (Trabajo de grado, Pontificia Universidad Javeriana). Recuperado de <http://www.javeriana.edu.co/biblos/tesis/ingenieria/tesisMFMartínezFlórez333.Pdf>

Mercadona reabre su nuevo modelo de tienda eficiente. Diario Córdoba. Recuperado de [http://www.diariocordoba.com/noticias/cordoba-local/mercadona-abre-torerito-nuevo-modelo-tienda-eficiente\\_1149906.html](http://www.diariocordoba.com/noticias/cordoba-local/mercadona-abre-torerito-nuevo-modelo-tienda-eficiente_1149906.html)

Muñoz Negrón, David F. (2009). Administración de Operaciones: Enfoque de Administración de Procesos de Negocios (1ra Edición). Editorial Cengage Learning.

Taha, H.(2004) Investigacion de Operaciones (Septima Edicion) Pearson Educacion. Mexico.

Torres, A. (2004) Contabilidad de Costos, Analisis para la toma de decisiones (Tercera Edicion) Pearson Educacion.

Park, Chen (2009) Fundamentos de Ingenieria Economica (segunda Edicion) Pearson Educacion Mexico.

Serperll, Alfredo. (2002). Administración de Operaciones de Construcción (2da Edición). Alfa Omega Grupo Editor

Sullivan, W. Wicks, E. Luxhol, J. (2004) Ingenieria Economica de DeGarmo. (Duodécima Edicion) Pearson Educacion Mexico.

Orellana, R. (2015). Adminsitracion de Inventarios en las distribuidoras de productos de consumo masivo en el municipio de Asuncion Mita Jutiapa (tesis de grado) Universidad Rafael Landivar, Jutiapa. Guatemala.

UNED, U. N. (2010). Concepción del entorno de trabajo. Obtenido de [http://portal.uned.es/pls/portal/docs/page/uned\\_main/launiversidad/vicerrectorados/evaluacion-alidad/infraestructura/06guia%20de%20criterios%20de%20dise%c3%91o\\_251010.pdf](http://portal.uned.es/pls/portal/docs/page/uned_main/launiversidad/vicerrectorados/evaluacion-alidad/infraestructura/06guia%20de%20criterios%20de%20dise%c3%91o_251010.pdf)

Vallejo Cáceres, A. A. (2018). Propuesta de Sistema de Gestión de Seguridad de la Información para el centro de datos de la empresa Leterago del Ecuador SA (Bachelor's thesis, Quito).

Woodhead, Ronald. (2002). Método de la Ruta Crítica y sus aplicaciones a la construcción. Limusa Noriega Editores

## Resources and capabilities that determine the competitive success of a shoe company in Ticul, Yucatán

### Recursos y capacidades determinantes del éxito competitivo de una empresa de calzado en Ticul, Yucatán

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#### Abstract

The objective of this research is to study the economic activity of footwear at the business level of the municipality of Ticul, Yucatan, Mexico; It focuses on analyzing what resources and capabilities a shoe manufacturer company has with several years of operation in that municipality to remain in a highly competitive market. The research methodology is a case study of qualitative and descriptive scope in which resources and capacities are considered as categories of analysis. The results obtained indicate that the tangible and human resources, as well as the managerial capacities of production, sales and distribution are what determine the competitive success of the company. These results are expected to contribute to improving the development of the Ticul footwear sector because it is one of the main producers and the economic units established have the potential to grow and become more competitive.

#### Resources, Capabilities, Competitive

#### Resumen

La investigación tiene como objetivo estudiar la actividad económica del calzado a nivel empresarial del municipio de Ticul, Yucatán, México; el cual se enfoca en analizar con qué recursos y capacidades cuenta una empresa fabricante de calzado con varios años de operación en dicho municipio para permanecer en un mercado altamente competitivo. La metodología es un estudio de caso de corte cualitativo y con alcance descriptivo en el que se consideran como categorías de análisis los recursos y las capacidades. Los resultados obtenidos señalan que los recursos tangibles y humanos, así como las capacidades directivas de producción, ventas y distribución son los que determinan el éxito competitivo de la empresa. Se espera que estos resultados contribuyan a mejorar el desarrollo del sector calzado de Ticul debido a que es uno de los principales productores y las unidades económicas establecidas cuentan con el potencial para crecer y llegar a ser más competitivas.

#### Recursos, Capacidades, Competitividad

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## Introduction

For a company to become competitive, it must have the ability to maintain sustainable advantages over its competition over time, to differentiate its products and services by delivering added value to its customers and to expand its market share, all this in order to improve its profitability (Lanzas, Guevara and Duque, 2011). This sustainable advantage is the competitive advantage that the company develops, the one that is necessary to differentiate itself from the competitors through a unique value offer that makes the company the most preferred for customers (Porter, 1991).

Some authors such as Barney and Zajac (1994), Fong (2005), Hill and Jones (2009) and Grant (2010), mention that the competitive advantage is based on the theory of resources and capabilities, which consists in the exploitation of resources and the identification of the capacities to coordinate said resources and apply them towards productive use.

For this era of globalization in the case of the manufacturing sector in Mexico, González et al. (2012) argue that the only viable development strategy for the nation is an indiscriminate commercial opening where the country's economic authorities promote the idea that it is necessary to increase the competitiveness of companies. In this work, the research focused on the manufacture of footwear, being one of the branches that is within the manufacturing sector.

The National Chamber of the Footwear Industry (CANAICAL, 2016) mentions that Mexico has 8,225 productive units where 67% is located in Guanajuato, 20% Jalisco and 13% in the Federal District, State of Mexico, Yucatán, Michoacán and Puebla. Currently, Yucatán has 341 economic units (EU) that practice this activity and develops mainly in the municipalities of Ticul, Hunucmá, Mérida, Valladolid and Chapab (INEGI, 2017). Ticul, is the main producer of footwear, of the almost 40 thousand inhabitants that make up the population, 80% are directly and indirectly dedicated to the manufacture of footwear for both men and women.

Of the 341 EU established in Yucatán, 60% of them are concentrated in Ticul and offers more than 453 thousand pairs a year, employs more than one thousand people and is constituted as the traditional economic engine of the southern region of the entity, by what generates well-being in the families that are engaged in the activity (Mejía, 2013; Diario de Yucatán, 2017; INEGI, 2017). However, the footwear sector in that municipality has low productivity because it has artisanal processes and basic industrial equipment (Martín, Parra and Navarrete, 2015); raw materials at high prices because shoemakers buy individually and in small quantities, distribution channels are limited at the state level and have little penetration at the regional level; the administration is incipient, focused on the daily income of the company and not an administrative system that allows them to analyze the situation of the company and carry out strategic planning, some owners or managers have few managerial skills and, finally, human capital It is mostly made up of unskilled labor, they are artisans, they learn from the trade based on the experience they acquire while working in factories (Ríos, personal communication, 2017).

It is considered that many of the aforementioned problems can be improved by identifying the resources and capabilities that favor the competitiveness of companies and thus trigger the local footwear industry; For research purposes, it was determined to study the resources and capabilities that influence the competitiveness of a shoe manufacturing company in Ticul, Yucatán.

## Methodology

The design of this research is a qualitative cut case study, which explores a shoe manufacturing company (the unit of analysis) through detailed and in-depth data collection, using various sources of information (observations, interviews, and documents and reports) and reports a description of the case and the categories related to the problem statement. In relation to temporality, this case study falls into what Hernández, Fernández and Baptista (2014b) call temporary, because it takes place over a non-prolonged period (one year or less). The information is obtained from the field work, through a stay carried out within the company. The research focuses on contributing to improve competitiveness.

CARRILLO-CÁMARA, Adriana del Rosario, MORALES-GONZÁLEZ, María Antonia and CANTO-ESQUIVEL, Ana María. Resources and capabilities that determine the competitive success of a shoe company in Ticul, Yucatán. *Journal of Business and SMEs*. 2019.

Being a qualitative and non-quantitative study, categories of analysis and non-variables are determined, since research with qualitative approaches “focuses on relevant concepts in accordance with the evolution of the study that focuses on learning from experiences and points of view of individuals, value processes and generate theories based on the perspectives of the participants” (Hernández, et al., 2014a, p. 361). The analysis categories are the resources and capabilities focused on the internal structure of the company, which were measured or evaluated based on the theory of resources and capabilities, using the models of Grant (2010), Thompson, et al. (2012) and Hill and Jones (2009). The tool for collecting the information is a semi-structured interview and they were validated individually by the members of the tutorial committee, who are experts in the area and assigned by the Technological Institute of Mérida. In addition, pilot tests were conducted to determine the reliability of these.

The shoe manufacturer called "Company" for confidentiality reasons, was chosen through a survey conducted among the inhabitants of Ticul, who expose the company as one of the main ones due to its permanence and growth, since, it has more than 50 years old and is one of the ones that offers the highest number of jobs in the municipality. The actors or subjects of study are those who make up the company and the information collection tool is applied to them. Then, for practical purposes, each subject of study was assigned a code in which everyone carries the initial “E” of the interviewee and in table 1 they are listed with their respective gender, the area they occupy and the years of seniority within of the company.

Position	Gender	Years of antiguaty	Code
Directorate General	Male	30	EDG
Administration	Female	20	EAN
Administration Assistance	Female	30	EAA
Production and maintenance	Male	12	EPM
Wholesale sales	Male	11	EVM
Expo and fair sales	Male	10	EVE
Counter sales	Female	01	EMR

**Table 1** Coding of study subjects  
Source: Self Made

The interview guide has questions regarding the background and current situation of the company to know its overview and also to identify and analyze its resources and capabilities. The instrument is designed with four sections and the reagents are 46 to 74 in total, since they are formulated according to the level of each interviewee and the area / department in which he works. A general outline of the tool is presented in table 2.

Section	Item	Sub-item
Company Background	-----	-----
Current situation	-----	-----
Analysis Category	Type	Indicator
Resource	Tangible	Machinery and equipment
		Materials and supplies
		Plant or factory, facilities, factory location and / or store.
	Intangible	Brand
		Reputation
		Technology
	Human	Organization
		Division of labour
		Personal knowledge
Capacity	Directorate General	Academic training Leadership
	Development and research	-----
	Marketing	-----
	Sales and distribution	-----
	Production process	-----

**Table 2** General scheme of the semi-structured interview tool  
Source: Self Made

For the processing and analysis of the information obtained, recordings were made with each informant, which were later transcribed with the support of the “Groove Music” audio program. The information was captured with their respective question in the Word program, later the phrases and / or words that coincided between the CEOs and the rest of the staff were compared and marked, and in the end those results were compiled in the same document to be analyzed. and interpret them.

## Results and Discussion

A company owning a competitive advantage means that it has been able to establish a strategy that has given it greater benefits than the average of the industry in which it operates (Fong, 2005); These extraordinary benefits are obtained when the rate of benefits produced by their resources and capabilities is higher than necessary (Barney, 1994 cited in Fong, 2005).

With the above, the "Company" has been considered as one of the most competitive within the Ticul footwear industry, so its resources and capabilities are determined in this section according to the information obtained from the interviewees and based to which Wernerfelt (1984) points out that a resource (capacity) is everything that could be considered a strength or weakness of a given company. In addition, its competitive advantage is measured based on the following questions proposed by Thompson, et al. (2012): Is the resource (or capacity) competitively speaking valuable? Is the resource infrequent, rivals lack it?; this in order to compare their resources and capabilities with respect to their competition.

## Company Background

The "Company" manufacturer of footwear was founded in June 1960 by the father of the current CEO, the main reason was the demand for footwear that was being lived at that time. The founder started the company through his own resources, obtained from several jobs as a saddle and waiter, his income was used for the purchase of machines and tools for the production of shoes, he had the habit of investing what he earned and it was how he managed to start the "Company A".

Currently, the company is requesting loans to finance its costs and expenses, "financing and credit are very important, it is essential because that capitalizes us to support production, payroll and suppliers, while the client pays us" mentions the EDG informant.

During the company's growth cycle, it has gone through two specific situations: the trade union movement led by Efraín Calderón the "Charras" in 1970, for which the footwear industry had a setback, as several owners of the Shoe stores had to pay their participation in the strike with machines and tools, the solution to this problem was through savings and currently it is operated, "the investment is our solution, you have to invest to update," says the informant EDG.

Another relevant situation is that when the general director enters the policy, the solution for this moment was to entrust the company completely to the administrator, wife of the general director, who is the one who makes the decisions of the company for several years.

## Current situation of the company

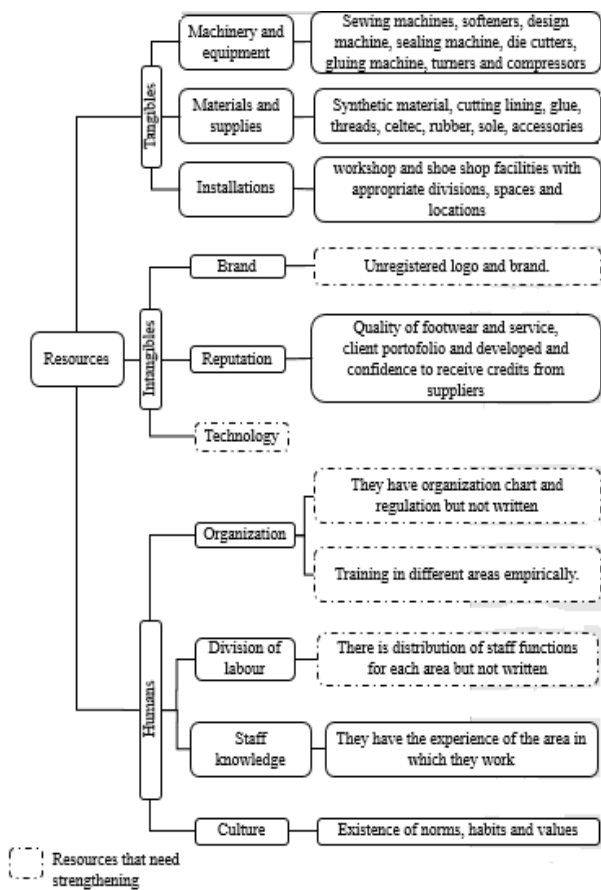
The company is currently constituted as a legal entity and has 25 employees without counting the general manager and the administrator. The company's sales are divided into approximately 80% wholesalers and 20% retailers; wholesale customers are located in the southern states of the country such as Yucatán, Campeche, Quintana Roo, Chiapas, Oaxaca, Tabasco and Veracruz; in the case of retail customers they come from the same state as Mérida, Tizimín, Valladolid, Motul, and "once a month through excursions people come from far away," the informant EAN mentions. The delivery of orders to wholesale customers is done in two ways: through the driver that the company has and shipping centers such as Express MG.

The company is affiliated with CANACO SERVYTUR, which has received advice on sales and staff training. Although the company has participated in the talks offered within the chamber, this has not led to the owners having written mission, vision and business objectives, so they work as the situation occurs, however They are clear about their approach, which consists in the search for the "standard of good quality in the products, so that the clients leave satisfied, so we are constantly searching for modeling to satisfy all that is required with regard to fashion and design"(EDG).

Finally, the senior managers believe that the company distinguishes itself from the competition by having a shoe termination system different from the others, since they continue to apply the old cleaning process “which is to paint selvages, slice, paste, etc. , then the finish that others use is practically to pass the rag and fit the footwear ”(EAN), the company tries to take care of the quality of the finish; also, they strive to update themselves and want to do things correctly with each style, for example, they use quality materials and good lasts that correspond to the shoe, and in addition to focusing on quality, they also do it in fashion and price. With the latter they try not to raise their sales costs, because most of the sales are to wholesale customers. In a matter of how the company's staff reacts to changes in the environment, in their entirety they affirmed that they are available for any change, since they are aware that it is part of the company's turn.

**Resources**

This section focuses on the resources that the company has, in figure 1 they are broken down into tangible, intangible resources and, subsequently, the analysis process of each one is carried out.



**Figure 1** Resources of the “Company”

Source: Self Made

**Tangible Resources:**

Even though the company makes a semi-artisanal production, it has the essential tangible resources to produce footwear: the machinery and equipment it has are not all of its competitors. The materials and supplies ensure that they are of quality and use some that they consider give more to your product. Facilities and areas of operation are well divided and distributed, as well as suitable locations for your factory and point of sale.

**Intangible Resources:**

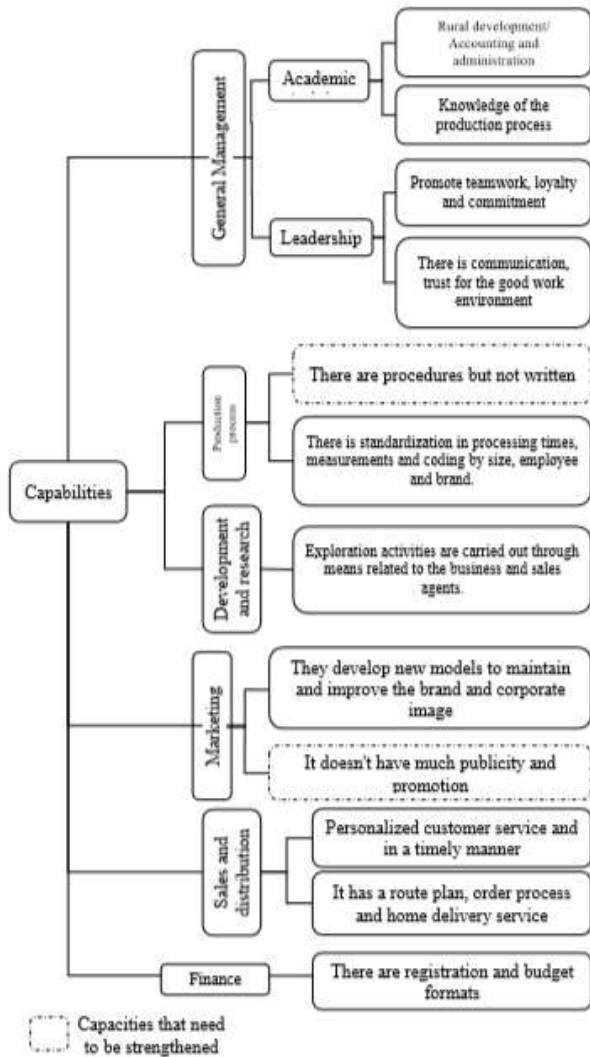
The company needs to strengthen its brand, since the logo and the name of the company do not have the registration before the Mexican Institute of Industrial Property (IMPI), however, the name of the company, because it is the name of a city and probable use of it by another company makes the registration process difficult to carry out. On reputation, it is perceived as good since it is recognized by both its customers and its suppliers for several years. With regard to technology, it is a resource which the company needs to strengthen, since, currently, the company is considered lagging, however, it is contemplated to enter this area to maintain and improve its permanence in the market.

**Human Resources:**

The company has adequate human resources from the division of labor, knowledge of staff and organizational culture, however, in relation to the organization it is necessary to strengthen it because it does not have a written organization chart and regulation, despite that do have jobs described and established. Staff training is given empirically and not always constantly.

**Capacities**

This section presents the capabilities of the “Company”. In figure 2, the general direction, production process, development and research, marketing, sales and distribution and finally finances are approached and then the analysis process of each one is carried out.



**Figure 2** Capabilities of the “Company”

Source: *Self Made*

### General Address:

The company has certain capabilities that have allowed it to remain in the market for several years. Initially, the directors of the shoe manufacturing company have the appropriate academic training to manage it, as well as have a leadership that promotes teamwork, loyalty and commitment among the rest of the staff.

### Production process:

This capacity should be strengthened since there is no written procedures manual, so that the company has become accustomed to working empirically, however, standardization processes have been established such as processing times, measurements and coding by size, employee and brand (either of the company or the wholesale customer).

### Development and research:

The company conducts activities to explore fashion trends and customer needs through sources such as internet, specialized magazines and sales agents.

### Marketing:

They develop new models to maintain and improve the image and brand of the company, however, the areas of advertising and image of the point of sale should be strengthened.

### Sales and distribution:

Another important capacity that has been a competitive advantage for the company is its ability to carry out sales through personalized customer service in a timely manner, as well as in the distribution of footwear for wholesale customers.

### Finance:

The company's finances are reflected in registration formats, although this registration is carried out manually, it has not been a limitation for the company to manage all its expenses and costs.

### Conclusions

The tangible resources of the company that are competitively valuable and rare:

Machinery and equipment. This has been indispensable to carry out the semi-handmade production process of footwear, if to improve the production process other machinery or equipment is required, the company considers the acquisition of a new one.

Materials and supplies. All the materials and supplies that the footwear requires are used and always try to acquire the best quality and add accessories to give more to the footwear.

Installations. The factory and the point of sale have the appropriate facilities and area divisions that have allowed the members of the company to work in a more organized and efficient way.

The company's intangible resources that are valuable competitively and infrequently:

Reputation. They try to take care of the quality of the footwear and the service that they offer to their clients, which influences them to have clients of several years; They have also obtained that the providers give them the confidence to grant them credits since they have kept a payment history in a timely manner. This resource has been essential for the company to remain up to date in the market and continue.

The company's human resources that are valuable competitively and infrequently:

Staff knowledge the staff has the knowledge and experience in the area that works because most of them for several years have been dedicated to the activity of making shoes. Culture. The work environment built by the members of the company has a positive influence on its competitive development.

The company's capabilities that are valuable competitively and infrequently:

### **General direction**

The company is directed not only by the CEO but also by the administrator, who is the person with the full authorization for decision-making, both have degrees related to the turn of the company and the sectoral environment that surrounds them, and both They come from families dedicated to shoemaking. In addition to having the knowledge, both have leadership skills that have contributed to communication, trust, teamwork, loyalty and commitment.

### **Development and research**

The activities of exploration through means related to the turn of the business and sales agents have been essential for the company to keep constantly updated regarding the trends of footwear models.

### **Sales and distribution**

The personalized customer service has helped the company generate customers for several years and can also expand beyond the state of Yucatan. By having a route plan, order process and home delivery service allows order deliveries to arrive at their destination in a timely manner.

### **Finance**

The company seeks to fully register all its expenses and costs to assign a fair sale price, which allows it a profitable profit to continue operating in the market.

### **References**

Barney, J. B., y Zajac, E. J. (1994). Competitive Organizational Behavior: Toward an Organizationally-Based Theory of Competitive Advantage. *Strategic Management Journal*, 5-9.

Cámara Nacional de la Industria del Calzado (CANAICAL). (2014). *Industria del Calzado en México*. Recuperado de <http://www.canaical.org/industria-del-calzado.html>

Diario de Yucatán. (2017). Impulso a la producción de calzado en el sur yucateco. Recuperado de <http://yucatan.com.mx/merida/politica-merida/impulso-la-produccion-calzado-sur-yucateco>

Fong, R. C. (2005). *La teoría de los recursos y capacidades. Fundamentos microeconómicos*. México: Universidad de Guadalajara.

González, M. M. L., Olmedo, C. B., Vázquez, L. R., Rueda, P. I., Portos, P. I., Sánchez, V. A., Bouchain, G. R., y González, A. A. L. (2012): *Globalización y dinamismo manufacturero. México y otros países emergentes*. UNAM Instituto de Investigaciones Económicas. Recuperado de [http://biblioteca.clacso.edu.ar/gsd/collect/mx/mx-030/index/assoc/D12820.dir/pdf\\_674.pdf](http://biblioteca.clacso.edu.ar/gsd/collect/mx/mx-030/index/assoc/D12820.dir/pdf_674.pdf)

Grant, R. M. (2010). *Contemporary Strategy Analysis*. Spain: John Wiley and Sons Ltd.

Hernández, S. R., Fernández C. C., y Baptista, L. M. (2014a). *Metodología de la Investigación*. Mc Graw Hill.

Hernández, S. R., Fernández, C. C., y Baptista, L., P. (2014b). *Estudio de casos. Material complementario: capítulos adicionales*. En R. Hernández Sampieri, C. Fernández Collado, & P. Baptista Lucio, *Metodología de la Investigación*, 1-31. México: McGrawHill.

Hill, C. W., y Jones, G. R. (2009). *Administración Estratégica*. México: McGraw Hill.

CARRILLO-CÁMARA, Adriana del Rosario, MORALES-GONZÁLEZ, María Antonia and CANTO-ESQUIVEL, Ana María. Resources and capabilities that determine the competitive success of a shoe company in Ticul, Yucatán. *Journal of Business and SMEs*. 2019.



Instituto Nacional de Estadísticas y Geografía (INEGI). (2017). Directorio Estadístico nacional de Unidades Económicas. Recuperado de <http://www.beta.inegi.org.mx/app/mapa/denue/default.aspx>

Lanzas, D. A. M., Guevara, J. Y. P., y Duque, V. C. J. (2011). Propuesta para potenciar la competitividad en las empresas de confecciones del AMCO a partir de las cinco disciplinas. *Scientia et Technica*, 59-64.

Martín, C. E. V., Parra, A. F. Y., y Navarrete, C. R. A. (2015). La industria del calzado de Ticul, un panorama hacia la competitividad. AMECIDER-CRIM, UNAM. Recuperado de <http://ru.iiec.unam.mx/id/eprint/2975>

Mejía, J. (2013, diciembre, 30). Época de bonanza para el sector zapatero en Yucatán. *Milenio Novedades*. Recuperado de <https://sipse.com/milenio/epoca-de-bonanza-para-el-sector-zapatero-en-yucatan-68400.html>

Porter, M. E. (1991). *Ventaja competitiva. Creación y sostenimiento de un desempeño superior*. Buenos Aires: Rei Argentina, S.A.

Suárez, H. J., e Ibarra, M. S. (2002). La teoría de los recursos y capacidades. Un enfoque actual en la estrategia empresarial. *Anales de estudios económicos y empresariales*, 63-89.

Thompson, A. A., Gamble, J. E., Peteraf, M. A., y Strickland, A. J. (2012). *Administración estratégica*. México: McGraw Hill.

Wernerfelt, B. (1984). A Resource-Based View of the Firm. *Strategic Management Journal*, 5, 171-180.

## Strategies to diminish the rotation of personal, case of study in the hotel sector

### Estrategias para disminuir la rotación de personal, caso de estudio en el sector hotelero

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#### Resumen

Con la determinación de este trabajo, la empresa tendrá presente cuales son los indicadores (condiciones de puesto, salario, motivación, ambiente laboral y capacitación) que afectan directamente a la rotación de personal y así poder darle énfasis en los indicadores que no se está trabajando correctamente, permitiendo así reducir la tasa de rotación de personal actual en la empresa. Cada uno de los indicadores se efectuó mediante el diseño de cuestionamientos en instrumentos tales como; entrevista aplicada al gerente de recursos humanos y encuesta dirigida a los colaboradores donde solo se consideró la muestra de 255 colaboradores de los diversos puestos de trabajo de la organización. Los resultados obtenidos en la entrevista y encuestas muestran en forma precisa los principales problemas que tiene la organización, dando como referencia donde se tienen que realizar mejoras con beneficio tanto para la empresa y como los colaboradores. Mediante al análisis de los resultados se observó que el indicador de ambiente laboral que existe en la organización presenta deficiencias en las estrategias que se desarrollan, ya que la mayoría de los colaboradores dicen están inconformes con las actividades que se ejecutan para crear una buen ambiente laboral.

#### Rotación, Personal, Estrategias

#### Abstract

With the determination of this work, the company will bear in mind which are the indicators (conditions of position, salary, motivation, labor environment and training) that they affect directly to the job turnover and this way to be able to give him emphasis in the indicators that one is not working correctly, allowing to reduce this way the rate of current job turnover in the company. Each of the indicators was effected by means of the design of questions in such instruments as; interview applied to the manager of human resources and survey directed the collaborators alone where it was considered to be the sample of 255 collaborators of the diverse working places of the organization. The results obtained in the interview and surveys show in precise form the principal problems that the organization has, giving as reference where improvements have to be realized with I am of benefit so much for the company and as the collaborators. By means of to the analysis of the results was observed that the indicator of labor environment that exists in the organization presents deficiencies in the strategies that develop.

#### Rotation, Personal, Strategies

**Citation:** OLGUÍN-RAMOS, Anahy, MARTÍNEZ-HERNÁNDEZ, Mariela Lizeth and BAUTISTA-LÓPEZ, Braulio. Strategies to diminish the rotation of personal, case of study in the hotel sector. Journal of Business and SMEs. 2019. 5-15: 26-34.

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## Theoretical foundation

### Job rotation

For Mondy and Noah (2005), “the rotation of staff is when employees change from one position to another to generate more experience in their area”.

Job rotation is defined as the mobility that is generated by employees to gain more experience in their area.

The job rotation is mainly given, when the employee is no longer satisfied with the activities carried out within their work area, for this reason there is the opportunity to rotate the job at the same hierarchical level and with capacity requirements Similar.

The advantages of job rotation is to provide a broad training experience for each person, taking into account that their capabilities will be greater and thus give the administration greater flexibility for the work schedule, as well as fill vacancies and Once you have an employee motivated by the new activities you will carry out. Consideration should also be given to the disadvantages that job rotation may cause, since costs will be produced for the new training that the employee will receive and there will be a reduction in productivity due to the change of position, since in the previous one it was facilitating savings to the company for the skills he had acquired over time. Another disadvantage is that employees have to adapt to the work rhythm of their new position, new boss and the latter to have someone different with different ideas.

### Staff turnover

Personnel turnover is defined as the fluctuation of entry and exit of personnel between an organization and its environment, that is; the exchange of people that is defined by the volume of individuals who enter and leave the company.

**Different authors define staff turnover as:** The fluctuation of personnel between an organization and its environment, this means that the exchange of people between the organization and the environment is defined by the volume of people who enter the organization and those who leave it.

It is usually expressed through the percentage relationship between admissions and withdrawals, and the average number of workers belonging to the organization in a certain period; It is usually expressed in monthly or annual rates. (Chiavenato, 2001).

Personnel turnover is the number of workers who leave and re-enter in relation to the total of a company, sector, hierarchical level, department or position. From this same definition it follows that the number of workers who leave and are not replaced by others should not be considered as part of the rotation, if a certain number of workers becomes part of the company, but not to replace others that existed before this refers more to the growth of the institution. (González, 1994).

The rotation of personnel is closely related to the loss of productivity, which has made companies focus on solving this problem and worrying about the value that their human assets.

In any company it is normal and healthy for there to be income and departures of personnel for the normal development of the same, it is worrying when it exceeds a certain level of rotation in a short and negative period for both the Company and for employees since they interrupt the pace normal work and established processes.

Generally, staff turnover is expressed through a percentage relationship, over a period of time. It is almost always expressed in monthly or annual rates to allow comparisons, develop diagnoses or promote actions.

According to Chiavenato, (2005): Staff turnover is not a cause in itself, but an effect of certain phenomena produced inside or outside the organization, which condition the attitude and behavior of the staff. It is a variable dependent on internal or external phenomena that affect the organization. Managers responsible for finding the human talent that is required in the organization are concerned about the increase in staff departures or losses, which means that staff withdrawals are compensated with new admissions in order to maintain the appropriate level, in In a certain way, staff turnover is healthy as long as it is not constant so that the organization finds an imbalance.

**Recruitment and staff selection****Recruitment of personnel**

Personnel recruitment is the process by which the qualified and suitable applicants are identified and attracted to the company to occupy a specific position. In order for this work to be carried out efficiently, it is necessary to define the profile that the applicant must meet. It is important and necessary that factors such as skills, experience, characteristics, professional level and other aspects that are required for the particular position are considered. (Business Grows, 2011) Personnel recruitment is done in two ways, the same as: internal and external recruitment.

**Internal recruitment**

Internal recruitment focuses on filling vacancies that arise through the relocation of employees active in the organization, this can be done as follows:

- Transferred from other locations of the company.
- Transferred by promotion.
- Ascended by Merits.

**External recruitment**

External recruitment consists of spreading vacancies in different media and that people are informed, this is done through the following sources:

Spontaneous candidates: They are those people who send their resumes to the company by various means and at different times.

Online employment agencies: These are agencies that serve as intermediaries between the applicants and the company.

Press announcements: They are used at a time when the company needs specific characteristics to fill a specific job, marking aspects such as age, title, skills and experience.

**Causes of staff turnover**

According to Reyes (1993), "staff turnover has various causes, we could first of all divide them into causes of forced rotation and causes of voluntary rotation", it is important to distinguish both concepts:

- Forced causes: they occur when management decides to end an employment relationship with an employee due to an economic need due to a bad adjustment between the employee and the organization. Forced causes are the result of difficult decisions to make, which have a great impact on the organization and especially on the employee who loses his job, it should be noted: due to termination of employment, death, permanent disability, illness, retirement.
- Voluntary causes: they occur when an employee decides, for personal or professional reasons, to terminate the relationship with the employer. Voluntary causes can be avoided or inevitable. The inevitable voluntary work breaks are due to vital decisions of the employee that go beyond the control of the employer, it should be noted: by resignation of the worker; that it is possibly the cause that this wing reaches of the employer (search for better remuneration, search for professional development, inadequate work relationships, absence of any progress or promotion in a considerable time), for the type of work the employee is satisfied (for example, problems of alignment with the organization's policies and culture, inadequate working conditions), for personal or family reasons, for poor selection and accommodation, for instability, labor dissatisfaction

Rosas (2006) also states that: The causes of the high turnover rate are due to poorly executed or undefined organizational policies within an organization, it also states that they can be related to some short-term factors of the business sector. Some internal policies that would be possible causes of rotation are mentioned below. of personal:

**The salary policy of the organization**

- The benefits policy of the organization
- Professional growth opportunities located within the organization
- The type of human relationships developed within the organization
- The organizational culture developed within the organization

- The policy of recruitment and selection of human resources
- The criteria and training programs for human resources

#### Means of intervention

Miranda (2009) in his research on retention strategy says that: Retention actions are those administrative practices aimed at "not letting go" to individuals located in key positions within the company. Far from becoming actions that seek to "make employees feel good", what is at stake is the permanence of that differentiating factor that is expressed in the historical legacy of learning, materialized in the knowledge that people have and that configures what that some call the new basic economic resource, "knowledge".

The important thing to know the causes of staff turnover is to be able to establish strategies that help the reduction of these within the organization, if it is not possible to implement strategies that help the retention of personnel, consequences can be generated regarding costs, recognition, compliance, quality of service, loss of knowledge, distrust, among others.

As Hernández and Mendieta (2013) say that "The phenomenon of staff turnover for employers is a problem, since any strategy of quality, productivity or improvement in employment requires a certain workforce." On the other hand, Malik (2003) says "If you want to avoid the failure to deprive companies and people of their results, then the rotation of jobs should only be done with caution, and only in certain phases of a person's professional development".

According to, Hernández and Mendieta (2013) that the salary is important but it is not final and taking Dess and Lumpkin (2003) as a reference:

Money is a motivating factor, but it is probably not the only one. Other factors may be both personal and professional labor relationships among team workers; the freedom to set schedules; flexibility in the work environment; good relations "boss-subordinate"; feelings of freedom and achievement, etc.

Although these motivating factors are difficult to assess and may vary among employees, one can expect staff retention rates to increase. The implementation of new, better and strong strategies to reduce rotation is not easy for the organization, however, it is necessary for managers to put that point on the agenda and see the need to analyze them and even more important to implement them to counteract rotation and preventing people with high potential from leaving the company, for reasons that may be available to them.

#### Rotation rate

There is a mathematical relationship to better understand the movement of staff, which is why the staff turnover rate will be defined, according to the author Victor Arias defines the staff turnover rate as the average number of people working during the year in the company. (Arias V., 2006)

#### The turnover rate is:

The calculation of the turnover rate is based on the volume of entries and exits of personnel in relation to the resources available in a certain area of the organization, within a certain period of time and in percentage terms. (Rosas, 2006)

Based on this, it is inferred that if the turnover of personnel calculated in an organization is equal to zero, it would demonstrate a stagnation in the company, if, on the contrary, there is a high turnover rate, the organization would be presenting a state of fluidity of personnel that it should counter the area of human resources; The ideal staff turnover rate for a company would be the one that allowed retaining good-quality staff, and replacing staff with minor performances and in turn difficult to correct within a feasible and economic framework for the company.

Rosas (2006) states that "There is no number that defines the ideal turnover rate, but a specific situation for each organization based on its problems and the market's own external situation."

### Rotation Index Calculation

The calculation of the turnover rate is based on the volume of income and departures of personnel in relation to the employees available in a certain area of the organization, within a certain period of time and in percentage terms (Chiavenato, 2007).

A rotation index equivalent to zero should not be desirable by any institution, as this causes stagnation and in some cases an aging of the institution. In the opposite case of a high index it would reflect a state of fluidity and entropy in the organization, with which it would not be able to properly retain or take advantage of its human resources (Chiavenato, 2007).

A staff turnover rate of zero would demonstrate a state of total stagnation of the organization. On the other hand, a high turnover rate would reflect a state of fluidity and entropy of the organization that could not properly establish and assimilate its human resources.

The ideal turnover rate would be the one that would allow the organization to retain a good quality staff, replacing the one that presents performance distortions that are difficult to correct within a feasible and economical program. There is no number that defines the ideal turnover rate, but a specific situation for each organization based on its problems and the market's own external situation. (Chiavenato, 2007)

### Staff turnover rate for human resources planning

$$\text{staff turnover rate} = \frac{I+S}{2PE} 100$$

Where:

I = Personnel income in the period considered.

S = Departures of personnel in the period considered, voluntary as well as by decision of the organization.

PE = Average staff employed in the period considered.

This equation expresses a percentage value referring to the employees that circulate in the organization in relation to the average number of employees. It is generally used for human resources planning

### Staff turnover rate for calculating people losses

$$\text{Rotation rate} = \frac{S*100}{PE}$$

Where:

S = Departures of personnel in the period considered, voluntary as well as by decision of the organization.

PE = Average staff employed in the period considered.

This partial equation can hide the results, not considering the income of human resources and that modify the volume of available human resources, but when it comes to analyzing the losses of people and their causes, this equation should be used.

Personnel turnover index that tries to analyze the losses of personnel, which lead people to leave the organization (only disengagements are considered at the initiative of the worker)

$$\text{Staff turnover rate} = \frac{R*100}{(\sum_1^S N/n)}$$

Where:

R= Spontaneous waivers to be replaced

$\sum_1^S N$ = Sum of the number of employees at the beginning of each month.

N= Number of months in the period

This equation tries to analyze the reasons that lead people to leave the organization, neglecting the separations at the initiative of the company itself. This allows you to analyze the outputs that are a consequence only of the attitudes and conduct of staff.

1. Personnel turnover rate by departments, considered as subsystems.

$$\text{Staff turnover rate} = \frac{I+S+2R+2T}{2PE}$$

Where:

I = Personnel income in the period considered

S = Departures of personnel in the period considered, voluntary as well as by decision of the organization.

PE = Average staff employed in the period considered.

R = Personnel receipt by transfer of other subsystems.

T = Personnel transfers to other subsystems.

This index considers the internal flow of personnel through the various subsystems of the organization.

### **Objectives**

The main objective is to determine the causes that generate staff turnover and develop strategies, aimed at improving the retention of workers, through the development of an organizational diagnosis.

### **Methodology**

A descriptive quantitative methodological design was used using surveys and interviews. In addition, a probabilistic sampling of the finite population was carried out, taking as a reference the universe that are the 250 collaborators who are working in the organization in various jobs.

### **Development and selection of instruments**

In the design of instruments to collect data was performed; interview for the human resources manager where the processes that are carried out were questioned, the communication he has with the collaborators and the existence of the current staff turnover with the main objective of "Knowing the operation of the human resources department in the face of human talent with the one that counts the company", this interview is made up of 15 open questions.

Survey for the employees of the company has as its main objective "to identify the variables that directly affect the rotation of personnel in the different departments of the company" for this in the structure of the survey was divided into two parts: aspects of each collaborator such as; position, age, level of study and time in the company, part two consists of the segmented questioning in personnel turnover indicators which were considered; conditions of position, salary, motivation, work environment and training resulting in 16 questioning including closed-type and multiple-choice questions, which facilitated its tabulation, analysis and interpretation of results. Likert scale was used.

### **Information processing**

**Phase 1:** In the presentation of the project, a meeting was held on Wednesday, September 5, 2018, where they attended; general manager of human resources, deputy manager of human resources, human capital analyst and department heads, providing each member with a link of the project to be carried out in the company also presented some slides and they were explaining each of the aspects and actions to be carried out in a certain time.

**Phase 2:** To calculate the turnover rate of the company, the casualties recorded from the opening of the hotel that was in May 2016 to 2018 were taken into account, where the data were captured by month and year, for the calculation the data were entered in the "Excel" program considering the loss of people formula. The formula was applied by month and year of the periods of registered losses obtaining the results, a graph was made in "Excel" and I get an interpretation of it. Finally, a comparison of the results per year was made.

**Phase 3:** A database was designed in the "Excel" program where the results were captured for each section of the survey of the various collaborators.

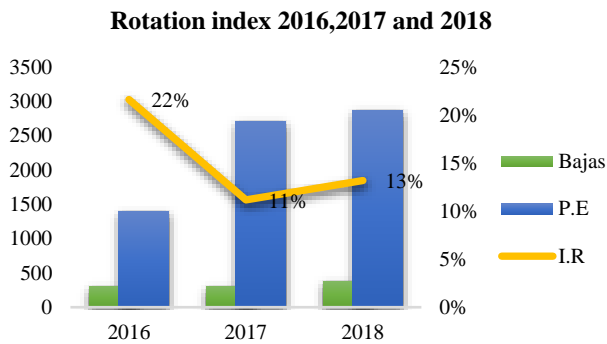
**Phase 4:** In the analysis of the interpretation of the results obtained in the application of the instruments designed for the human resources manager and the collaborators of the company, the results were collected in a database created in the "Excel" program with the objective of having Easier to identify the main causes that directly influence the high level in the turnover rate in the different areas and positions of the company.

**Phase 5:** A count of the most mentioned observations was made by performing a tabulation considering a total of people observed of 55 employees, obtaining as a product a graph where the factors that also intervene in the rotation of personnel in the company are identified.

**Results**

Year	Downs	P.E	I.R
2016	303	1400	22%
2017	303	2709	11%
2018	379	2872	13%

**Table 4** Staff turnover rate of 2016-2018  
Source Authors, 2018



**Graphic 1** Rotation rates  
Own Elaboration Source 2019

As you can see the turnover rate in the 2 years of 8 months began with a high turnover rate and currently obtaining a 15%. This tendency of the company personnel to resign is an important challenge for a Human Resources specialist taking as a reference that the turnover of personnel must be reflected in a dynamic and constant balance through the control mechanisms that self-regulate this rotation of employees, allowing to retain professionals who add value to the company. In order to carry out the analysis of this phenomenon, it is essential to resort to the different theories that the authors maintain about the variables that influence the people-organization relationship. These variables include both the motivations, objectives and interests that human beings possess in order to remain satisfied and therefore productive in companies.

**Determination of sample size**

$$n = \frac{Z^2 p * q N}{e^2 (N - 1) + Z^2 p * q}$$

Where:

- n = Sample size
- N = Population or universe
- Z = Confidence Level
- p = Probability in favor
- q = Probability against
- e = Sample error

**Stock Substitution**

$$n = \frac{1.96^2 0.5 * 0.5 (250)}{.05^2 (250 - 1)}$$

$$n = \frac{3.8416 (0.5) * 250.5}{0.0025 (250 - 1)}$$

n = 151.684

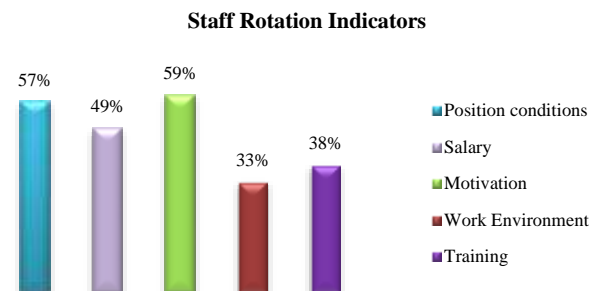
n = 152 Collaborators

**Collaborator Survey Result**

Indicator	%
Position conditions	57%
Salary	49%
Motivation	59%
Work environment	33%
Training	38%

**Table 5** Final results of the indicators  
Preparation: Own, 2018

Currently the company's employees stressed that the perceived work environment is not adequate to feel good when performing their work in their work area and also the training provided to new ones is not enough to publicize the work to perform and the use of various equipment to use. The causes of staff turnover were obtained by the instruments applied in the company such as; the interview to human resources manager, survey of collaborators and tour to the different jobs, which was obtained as a product to identify which were the direct variants that intervene in the rotation of personnel in the company, below are the factors obtained:



**Graphic 2** Rotation Indicators  
Source Authors, 2018

- Insufficient salary
- It does not offer benefits
- The training provided unsatisfied
- Bad staff selection
- Assigned Shifts



- There is preference in collaborators
- Unwanted Work Climate
- Low work projection
- Uniform problems
- Excessive job title
- Conflict between collaborators
- Better job opportunities
- Family problems
- Direct boss does not perform a good role
- Difficulties in adaptation

Based on the information obtained, some strategies were designed that are intended to contribute to reducing staff turnover:

Investigate in the competitive market, the salary scale of the various jobs to compare the level of the hotel business.

Design an evaluation instrument on Organizational Climate in both hotel brands, this so that there is a notion about the employees' feelings.

Design an evaluation instrument on Organizational Climate in both hotel brands, this so that there is a notion about the employees' feelings.

Provide leadership workshops for all leaders of the different departments of the company.

Design a survey leaving the company.

Improve the process selection process in the interview.

Design a training plan.

Provide the human resource with skills, through courses, training, workshops on: customer service, total quality, satisfied customer, staff motivation, teamwork, self-esteem, values and moral principles, professional ethics, and organizational climate.

### **Contribution**

By identifying what are the factors that cause the high turnover rate, intervention proposals were generated that will help to improve some procedures and provide solutions to labor information situations, which will be beneficial for the company to reduce costs and ensure personnel for the organization, it is only enough that the different departments get involved in the activities proposed by the human resources department.

It should be noted that the results shown here are the first ones that have been generated so far that the contribution to obtain the diagnosis and propose strategies to reduce staff turnover is revealed.

### **Recommendations**

Execute the intervention proposals recommended in the different indicators and evaluate the results.

Provide the same treatment to employees and that there are no marked differences by hierarchical level.

Pay more attention to the ideas that may arise from the collaborators, they propose to improve the service, since in these the organization can find a way to do the most practical activities and thus maintain a high quality index for guests.

Maintain frequent communication with the different departments.

Take into account each of the proposals that were offered for each factor that was detected that influences the turnover of personnel in the company, having the benefit of retaining a large majority of employees with a good working environment.

Make all employees involved in all activities carried out by the human resources department.

### **References**

Arias, V. (2006). *Administración de Recursos Humanos para el alto desempeño*. México: Trillas.

Chiavenato, I. (2001) Administración de los Recursos Humanos. (1ª edición). México: Mc Graw Hill.

Chiavenato, I. (2005). Administración de los recursos humanos. México: Mc Graw Hill

Chiavenato, I. (2007). Administración de Recursos Humanos. Octava edición. México: Mc. Graw Hill

Crece Negocios. (2011). Reclutamiento y Selección de Personal. Obtenido de <http://www.crecenegocios.com/el-proceso-de-reclutamiento-y-seleccion-de-personal/>

Dess, G. G. & G. T. Lumpkin. (2003). Dirección estratégica: creando ventajas competitivas. Madrid: Mc Graw Hill Interamericana

González, R. Características de la gestión estratégica de recursos humanos en empresas españolas en función de su grado de esfuerzo y formación. Española: Cidec

Hernández, Y., Hernández, G., & Mendieta, A. (2013). Modelo de rotación de personal y prácticas organizacionales: Historia y comunicación social. Vol. 18., pp.837-863.

Malik, F. (2003). Job Rotation: Fases en el desarrollo personal. Capital Humano N° 166.

Mondy, W., R. & Noe, (2005). Administración de Recursos Humanos. México: Pearson Educación.

Reyes, P. (1993). Administración de personal. (1ª edición) México: LIMUSA

Rosas, J. (2006). Rotación de personal. Obtenido de universidad autónoma metropolitana : <http://148.206.53.84/tesiuami/UAMI13478.pdf>

# Instructions for Scientific, Technological and Innovation Publication

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Text in Times New Roman No.12, single space.

General explanation of the subject and explain why it is important.

What is your added value with respect to other techniques?

Clearly focus each of its features

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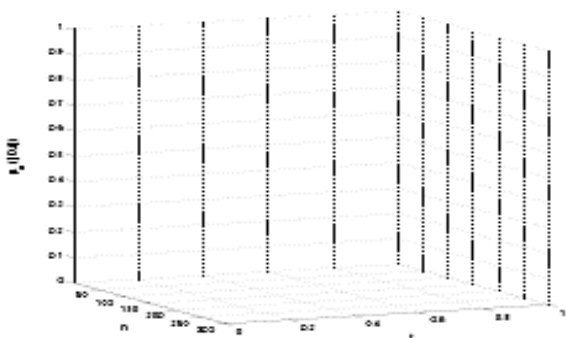
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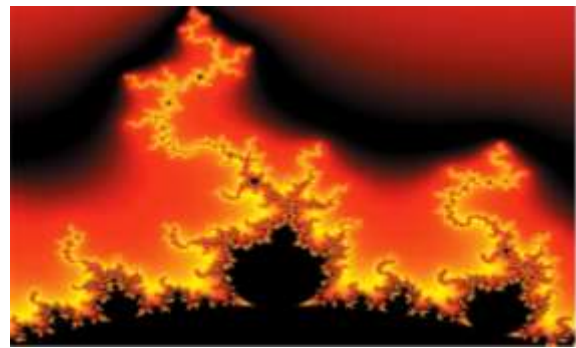
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$$Y_{ij} = \alpha + \sum_{h=1}^r \beta_h X_{hij} + u_j + e_{ij} \quad (1)$$

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## Methodology

Develop give the meaning of the variables in linear writing and important is the comparison of the used criteria.

## Results

The results shall be by section of the article.

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Tables and adequate sources

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Indicate if they were financed by any institution, University or company.

## Conclusions

Explain clearly the results and possibilities of improvement.

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