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## **Presentation of the Content**

In the first article we present, *Categorization of personal financial education practices* by AHUMADA-MALDONADO, Blanca Irene & SÁNCHEZ-LUJÁN, Bertha Ivonne, with adscription in the Instituto Tecnológico de Cd. Jiménez, as following article we present, *Financial Education for mipymes, a strategy of Education and Regional Development* by HERNÁNDEZ-HERNÁNDEZ, María Elena, with adscription in the Instituto Tecnológico Superior de San Martín Texmelucan, as following article we present, *Contributive culture as a participation mechanism for socially responsible companies in Mexico* by SOTO-RIVAS, Soledad, with adscription in the Tecnológico Nacional de México, Campus San Martín Texmelucan, as following article we present, *Quality management system at the Isla de la Juventud electricity company*, by GARIZURIETA-BERNABE, Jessica, CÁNOVA-HERRANDIZ, Adrián, GONZÁLEZ-BENÍTEZ, Rubén Álvaro and HERNÁNDEZ-RAMÍREZ, Juan Esteban, with adscription in the Universidad Veracruzana.

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## Categorization of personal financial education practices

### Categorización de las prácticas personales de educación financiera

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#### Abstract

Financial education provides people with knowledge and skills to manage money. The omission of the practice in individuals can generate economic problems in the personal, family and even their social environment. The study is qualitative with a descriptive scope and was based on the theory of social representations. The investigation was carried out with students of the Public Accountant career. The purpose was to recover the representations and social practices to propose a classification of the application of these. The results obtained from these applied instruments show that students excluded from their economic practices the resources of personal financial education, spend more than they receive and sometimes do not know the total amount of their income, savings are not part of their economy. The proposal contains 5 levels of classification of personal social practices about the knowledge and administration of economic resources that they have or intend to have in the future.

**Economy, Social Representation, Social Practices**

#### Resumen

La educación financiera provee conocimientos y habilidades a las personas para que administren el dinero. La omisión de la práctica en los individuos puede generar problemas económicos en lo personal, familiar y hasta su entorno social. El estudio es cualitativo con alcance descriptivo y se fundamentó en la teoría de las representaciones sociales. La investigación se llevó a cabo con estudiantes de la carrera de Contador Público. El propósito fue recuperar las representaciones y prácticas sociales para proponer una clasificación de la aplicación de estas. Los resultados obtenidos de esos instrumentos aplicados muestran que los alumnos excluyen en sus prácticas económicas los recursos de la educación financiera personal, gastan más de lo que reciben y en ocasiones desconocen el monto total de sus ingresos, el ahorro no forma parte de su economía. La propuesta contiene 5 niveles de clasificación de las prácticas sociales personales acerca de los conocimientos y la administración de los recursos económicos con que cuentan o pretenden contar en un futuro.

**Economía, Erepresentación Social, Prácticas Sociales**

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## Introduction

Poor management of personal financial resources among citizens is one of the world's major problems. Some individuals know how much they earn, but do not know how much they spend and invest. This is influenced by the consumption of goods and services by people who lack financial education. A large percentage of the population fails to prepare a personal budget to help them visualise their short-, medium- and long-term economic outlook.

Financial education can help people to better manage their resources. Currently, the demand for personal financial education (PFE) is still lacking in households. According to various studies, as well as reports from the (Organisation for Economic Co-operation and Development [OECD], 2015), there is an economic crisis in families worldwide. In this regard, Muccino (2014) states that the various economic organisations, international associations, governments and non-profit companies have become increasingly involved in this issue during the first years of the 21st century. This has generated an increasingly complex international socio-economic framework.

Some governmental institutions in Mexico, such as CONDUSEF, SECRETARÍA DE ADMINISTRACIÓN TRIBUTARIA, SECRETARIA EN ECONOMÍA among others, offer virtual PFE courses and diplomas, and even financial companies and governments have established agreements and programmes to provide this knowledge to individuals, some of them free of charge. One of the benefits that consumers gain from being financially educated is to help them budget and manage their income, save and invest efficiently and avoid becoming victims of fraud (OECD, 2015).

People can make a projection for the future, with achievable financial goals over time to avoid indebtedness or financial problems, as well as make provisions for their retirement. In this way, they gain a broader picture of their finances.

Conversely, the lack of personal budgeting and budget tracking has created economic problems for individuals, families and communities.

These conflicts involve the economy of countries and "the recent financial crisis has highlighted the importance of promoting social responsibility and the development of financial management skills for all people" (United Nations Children's Fund [Unicef], 2013, p.3).

## Development of Sections and Paragraphs of the Article with subsequent numbering

### 1. Justification

The desirability of individuals having PFE is more economic quality of life. According to the OECD, the perceived benefit of financially educated people is as follows:

The process by which financial consumers/investors improve their understanding of financial products, concepts and risks, and, through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, make informed decisions, know where to go for help and take any effective action to improve their economic well-being (OECD, 2015, p. 13).

As such, citizens living in first world countries enjoy a better standard of living in terms of personal finances than those living in developing countries. The problem of the lack of PFE is already global. Measures have been taken by the vast majority of countries, e.g. Garcia et. al. (2013) report that worldwide there has been an increase in actions to raise awareness among the population to make favourable changes in their economic and PFE levels.

This knowledge can help to prevent family and personal economic crises. Ramos et. al. (2017) define PFE as "the knowledge and application of specific human capital related to personal finance, which leads to financial decision-making, which if appropriate will bring about the financial well-being of the individual" (p. 270). In that sense, the individual who possesses the above skills and practices them in his or her personal finances is likely to have positive results in his or her personal economy. Countries with financially educated citizens are more economically empowered than financially illiterate ones.

The lack of or poor implementation of PFE has impacted on and harmed the economic life of countries, leading to financial problems at the personal (micro) and even national (macro) level. In this connection:

The poor financial culture of Mexicans is due to the lack of financial education, they have bad habits when acquiring financial services, they do not know their rights and obligations, they lack financial planning, it has a negative impact on their wellbeing and quality of life..., it does not help financial institutions to promote the economic development of the country (Amezcuca et. al, 2014, p. 21).

## 2. Problem

Currently, one of the most important global problems is the mismanagement of people's personal financial resources. The main factors influencing this are over-consumption of goods and services and lack of PFE. A large percentage of the population fails to draw up a personal budget to help them visualise their economic outlook. Some know how much they earn, but do not know how much they spend and invest.

This practice is favoured by financial institutions and formal and informal commercial enterprises that offer credit to individuals. This leads to a high number of individuals having credit cards with banks and businesses, which facilitates the inappropriate use of their finances. It is worth noting that much of this credit is due to over-acquiring or lack of planning due to a lack of PFE skills. In relation to this, Millan (2012) states that financial education from a very early age will enable the acquisition of knowledge and tools necessary for a person to avoid financial failure in society.

This serves as the basis of the problem that this research aims to address. This problem focuses on how people lack knowledge of personal financial education. Garay (2015) states that for an efficient administration of one's own financial resources, financial literacy is the necessary individual knowledge and skills; if university students in our country were financially educated, they would have accounting tools that could improve their quality of economic life.

## 3. Theoretical framework

It is considered important to recognise how individuals conceive of personal finances and their money management practices. In this sense, the Theory of Social Representations represents a theoretical basis that supports us in the identification of such conceptions and practices. This theory refers to the ideas, values, knowledge, norms and beliefs of a group of people, which will help to understand the reality they live in.

Social Representation (SR) is understood as the statement of the meaning of the thoughts, behaviours and habits of the experience of a group of people. In SR, people are distinguished from each other even though they seem similar. The union of individuals labelled by prioritised opinions according to ideals appropriates the reality constructed in a symbolic, dual system of information, opinions or beliefs (Abric, 1993; Moliner, 2016). Therefore, each representation in society identifies itself according to its own rules and norms established by the same group. To name a few: families, inhabitants of colonies, communities, states, countries.

Each representation displays experiences, beliefs and behaviours. These are the product of interaction with the society involved, with the influence of thinking and acting. Jodelet (2010) states that "SR constitutes the designation of multiple phenomena that are observed and studied at various levels of complexity, individual and collective, psychological and social" (p.134). The representation group can be family, diverse groups such as friendships, school, sports, religious, musical, that is to say, any group to which the individual belongs.

Nowadays, it is not indispensable to have money to carry out acts of commerce, due to the great diversity of means offered by traders for the acquisition of what they sell. To buy products or services by means of credit, set aside or interest-free months, money or goods are required to pay at the expiry of the term. The dictionary of Mexican Spanish mentions that money is: a means of payment and the object that represents it, to which an economic system assigns a value so that it circulates among the members of society and serves to buy things or carry out other economic operations; it can be a coin, banknote or a document of legal value (Diccionario del español de México, 2021).

At present in the world that moves by electronic means in commercial transactions, the form of payment can also be made virtually, refer Sevilla and Pedrosa (2016) it is also electronic money or any asset that can be used as a means of payment or collection. The definition of money proposed by the authors: it is the set of assets with which commercial transactions can be carried out, the most common of which are banknotes, coins, credit and debit cards.

As can be seen, man has had and still has the need to maintain order in his environment, without forgetting the economic aspect. It is because of that, that through history a diversification of means of payment arose, and it is likely that they will arise as the environment, trade and economy require it.

A social practice (SP) is considered as: people's economic behaviour, distinctions in their financial activities and customs, tastes for shopping in certain shopping centres, attendance at certain restaurants, places for recreation: "man gives meaning to the fundamental problems of science by subjecting them to the complex relationships between them and their environment, that is the activity of the human being on the environment where he develops (Camacho, 2006, p 155).

A high percentage of people feel accepted by their groups if they acquire the same things as the other members, be it clothes, accessories, cars, electronic equipment, household goods, the same places and hotels for holidays, according to Mora (2002), which can be visualised in myths, religion, beliefs and other collective cultural products; therefore, group consciousness transcends individuals as a coercive force.

In the same context, in order to be a member of a group, members must reproduce the actions of others, and this is how families each have different behaviours and jobs, as well as distinctive ones. Such as the type of food, the furniture in the house, entertainment, hobbies, among others. In this regard, it contributes to the formation of behaviours and communications orientation to solve problems, form social interactions, provide a pattern of behaviours these are reasons to constitute a representation and separate from science and ideology is what is called social representation (Mora, 2002).

Some individuals incur debts at Coppel and Elektra shops as part of their financial practices, purchase clothes, shoes, computers, mobile phones and motorbikes. They are attracted by the publicity regarding the payment of small installments despite the fact that they are subject to credit without having a fixed income, as Ahumada and Sánchez (2019) allude "university students ... exclude the administration of their income, they omit to apply the technical knowledge received in their professional profile" (p.31).

A benefit of becoming financially educated can be acquired by a person, because: "financial education provides the knowledge and strategies to improve the economic situation of people as long as they apply them" (Ahumada and Sanchez, 2018, p.13). Personal financial education (PFE) can also assist individuals in budgeting and monitoring their budget. Reatiga (2015) mentions that it is the set of knowledge, techniques and skills that allow us to plan, manage, increase and protect wealth through family teachings in the formation of life to manage money and family budget in an optimal way.

A characteristic of the influence of PFE on people's education is that they have a better quality of life, as well as greater opportunities for social well-being. PFE should be part of school education, as it has been stated that we are currently living in a time characterised by economic uncertainty, it is important globally to educate its citizens to help foster positive financial changes in individuals and households (Del Brío *et al.*, 2015; García *et al.*, 2013).

Nowadays, individuals are recommended to acquire management knowledge and put it into practice with their personal income, as Reus and Reus (2017); Polania *et al.* (2016) state, we currently live in a materialistic world in which money plays an important role in people's lives, however, despite its importance, not all of them know how it works, and understanding it is very complicated.

In the same vein, some economic theories point out that the ultimate goal is to make a profit, hence the importance of personal finance, which implies an administrative process that seeks to achieve victory in the family or personal economy.

Profit is no longer an exclusive goal of companies; citizens also need to spend less in relation to their income in order to have as a result a surplus generated by a good administration of their resources.

The budget is a way of managing money and for Hernández and Padilla (2003), it is "a distribution expressed in numbers" (p.115), this document can be made by week, fortnight, month, year, according to the needs of the person, in the planning the incomes as well as the disbursements of these periods are reflected.

For the distribution of inputs and outputs, it is recommended to consider short, medium and long-term goals. On the other hand, according to Burbano (2005); Enciclopedia de Economía (2012), budgeting implies a systematic process through which it is intended to value and forecast income and expenditure related to an economic entity.

#### 4. Research methodology

Para realizar cualquier proceso de trabajo es In this research its bases will be those of the qualitative method since "it does not intend to generalise in a probabilistic way the results to larger populations...nor to obtain representative samples, they are interpretative practices that make the world visible, transform it and turn it into a series of representations..." (Hernández, Fernández, & Baptista, 2018, p.9).

This study is descriptive in scope, "it seeks to specify important properties and characteristics of any phenomenon being analysed. It describes trends of a group or population" (Hernández *et al.*, 2018, p.108).

#### The process

The work was developed with a group of students in the 6th semester of the Public Accountant career, their ages range between 18 and 22 years old, 5 of them work, 4 are married and have a child each. Instruments were used to collect SRs, such as: questionnaire, induction tables, free association, associative chart, constitution of the set of terms, interviews and focus group.

It is worth mentioning that the present report is only a part of the research, and the results were taken into account for the classification of the levels.

#### 5. Results

The results obtained from the application of the instruments described above are presented in summary form. A repetitive form of the PS manifested in the SR in question is:

- In their private environments they exclude the administration of their income, they omit to apply the technical knowledge received in their professional profile by not keeping track of the money they receive.
- Personal budgeting is not part of their daily life, so they spend more than they earn.
- They practice other illegal alternatives such as informal savings, despite the knowledge exposed in their school environment of the benefits of formal savings and the dangers of informal savings.
- Their personal administrative practices are to spend more money than they receive.
- They neglect to draw up a personal budget.
- They spend more on entertainment than on school or sports.
- The vast majority are financially dependent on their parents and do not work.
- 10% of the participants in this study started to change their PS in the area of personal savings, as well as invited their relatives to start such practices.

#### 6. The proposal

Financial education is understood as the set of practices, skills, customs and family teachings that we have received throughout our lives for the good management of money and the family budget (Reatiga, 2015). In accordance with the analysis of the results obtained, a classification is presented of the PS of the individuals regarding the knowledge and management of the economic resources they have or intend to have in the future.

<b>Level 1</b>	Does not know what a budget is and what it is for, ignores the amount of: their income, purchases without need, the benefits of saving; excludes the practice of recording expenses; knowing how to use credit is not part of their financial practices.
<b>Level 2</b>	Knows what a budget is and what it is for, however, ignores the amount of: their income, purchases without need, excludes the practice of recording expenses; knowing how to use credit is not part of their financial practices; similarly, the benefits of saving are ignored.
<b>Level 3</b>	Has knowledge of the use and benefits of budgeting, knows the amount of: income and unnecessary purchases, keeps track of expenses, knows how to use credit and has knowledge of the benefits of saving.
<b>Level 4</b>	Prepares his personal budget, knows the amount of his income and purchases without need, keeps track of his expenses, knows how to use credit and also sets aside an item for savings; all of the above is practised on a regular basis.
<b>Level 5</b>	He/she draws up a personal budget, knows the amount of his/her income and purchases without

**Table 1** Ranking by level of personal financial literacy  
Source: Own Elaboration

The levels described are applicable to the whole population, as they include the basic concepts of financial education.

In the study group, there were some important behaviours that are worth noting, which are described below:

- a. 6% are at level one due to the fact that they expressed: lack of knowledge in budgeting and managing credit. According to the classification in the table, the person is totally unaware of the basics of financial education, not even the technical vocabulary involved is part of their economic practices.
- b. 18% of the group reported not knowing the amount of their income, therefore, they are in the level two classification. In level two the individual knows the basic terms involved in financial education, however, in their financial practices they are excluded.
- c. Regarding level three focused on commercial entities, 25% are found, given that their actions are the omission of the correct administration of their economic resources, even though they know all the elements to carry it out, they simply prefer not to carry it out. In the categorisation at this level are people who have knowledge of budgeting, however, of the benefits of money management, everything that involves personal financial education is known to them, however, in their personal practices it is not a priority.
- d. 19% of the studied population is in level four, they regularly elaborate the distribution of their money, the characteristics of here, the individual, has knowledge of their personal income, the amount of purchases without need, the benefit of saving in addition to the above, knows how to use credit and elaborates their personal budget, however, the constancy in carrying it out is not part of their administrative practices. The percentage at this level is worrying, since they are students of an administrative career and part of their professional profile is the administration of other people's money.
- e. In the fifth level, 13% of the students know the amount of their income, record their expenses, avoid making unnecessary expenses, save and elaborate their personal budget, the young people are in the middle of their professional career, The characteristics of the classification made, the person elaborates his/her budget and carries it out as part of his/her financial practices, to do so, he/she must know the exact amount of what is involved in its elaboration, such as income, expenses, savings, credit at this level avoids purchases without requiring them, has control of his/her personal finances and budgets everything in order to have control of his/her personal economy.

## 7. Conclusions

It is desirable that students of administrative careers are established at levels four and five, since they will manage not only their own economic resources, but also those of other people and in some cases they will even elaborate short, medium and long term economic planning for the companies they are part of, however, if they do not know how to take efficient care of their own money, how will they take care of other people's money?

The lack of financial education can be the cause of economic and social problems, it is recommended that people be financially educated at home at an early age in order to make it a habit, and school can be another place to receive money management instructions.

Having a tool that shows the levels of implementation of PFE will support future research on the topic.

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## Financial Education for mipymes, a strategy of Education and Regional Development

### Educación Financiera para las mipymes, una estrategia de Educación y Desarrollo Regional

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#### Abstract

This paper presents the important role that Higher Education Institutions (HEIs) have for mipymes, which according to their resources and knowledge develop their main financial activities in most cases in an empirical way, which makes it difficult to develop effective actions that can support them in their profitability, growth and permanence in an increasingly changing market, which is why the need for external advice to support them to acquire financial education is highlighted. The work is based on the results of the study in which they participated as a member of the Network of Latin American Studies in Administration and Business, which was applied through an online form and in person, the level of reliability of the entire study was an adequate Cronbach's alpha ( $\alpha = 0.934$ ). Therefore, in this investigation the benefits that justify the collaboration of HEIs with this type of economic entities.

#### Resumen

En este trabajo se presenta el importante papel que tienen las instituciones de Educación Superior (IES) para con las mipymes, que de acuerdo a sus recursos y conocimientos desarrollan sus principales actividades financieras en la mayoría de las ocasiones de una manera empírica, lo que les dificulta desarrollar acciones efectivas que las puedan apoyar en su rentabilidad, crecimiento y permanencia en un mercado cada vez más cambiante, razón por la cual se destaca la necesidad de contar con una asesoría externa que las apoye para adquirir una educación financiera. La propuesta del presente trabajo está fundamentado en los resultados del estudio en el que se participó como miembro de la Red de Estudios Latinoamericanos en Administración y Negocios, el cual se aplicó por medio de un formulario en línea y de manera presencial, el nivel de confiabilidad de todo el estudio fue un alfa de Cronbach adecuado ( $\alpha = 0.934$ ). Por lo cual en esta investigación también se describirán los beneficios que justifican la colaboración de las IES con este tipo de entes económicos.

**Financial Education, MSMEs, Permanence**

**Educación Financiera, Mipymes, Permanencia**

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## Introduction

Financial education is a topic of great relevance before and after the COVID - 19 health contingency, that is why various institutions have addressed the issue and defined it, as is the case of the Banco del Bienestar (BANSEFI, 2016), the indicates that it is a process of developing skills and attitudes that, through the assimilation of understandable information and basic tools for resource management and planning, allow individuals: (a) make personal and social decisions of an economic nature in their daily lives, and (b) use financial products and services to improve their quality of life under conditions of certainty.

The Organization for Economic Cooperation and Development (OECD, 2005) defines it as:

*The process by which financial consumers/investors improve their knowledge of financial products, concepts and risks and, through information, instruction and/or objective advice, develop the skills and confidence to acquire greater awareness of financial risks and opportunities, to make informed decisions, to know where to turn for help and to take other effective measures to improve their financial well-being.*

According to the above definition Mejia (2022) highlights the following elements:

1. Recognize the interaction between personal and business finances.
2. Know where to go for advice.
3. Improve the understanding of the financial landscape, products and relevant financial concepts.
4. Through information, instruction and objective advice, develop skills, knowledge, aptitudes and confidence to:
  - Be more aware of both financial opportunities and financial risks.
  - Make informed business plans and related choices.
  - Manage your financial statements, planning and risks effectively in the short and long term.

- Make decisions that are in the best interest of the business taking into account the macroeconomic situation of the respective countries.

Financial education is a concept that is immersed in the life of all people and companies, since at some point they develop actions that have to do with investing, saving, obtaining a debt or granting a loan, however such activities are carried out in most cases with little or no information, resulting in the access, use and quality of financial products and services offered by the financial system to individuals and MSMEs, not being taken advantage of in the right way. In the particular case of MSMEs, they face an obstacle identified as lack of financial education on the part of the people responsible for financial decisions, which is not an inconsequential fact, unfortunately it has a negative impact that goes from limiting their growth and positioning to causing them to have a short life, According to figures published by the Center for the Development of Business Competitiveness (CETRO-CRECE) cited by Gestión (2013), only "10% of Mexican SMEs reach ten years of life and achieve the expected success, while 75% of new companies in the country fail and have to close their businesses only two years after starting their activities".

This does not mean that financial education is the main cause of their demise, but it is one of the factors that leads to negative consequences, as shown in the following information.

- Problems of MSMEs in Mexico
- MSMEs in Mexico show a low level of performance, and their permanence has a high degree of volatility, there are several reasons that affect the viability or operation, among which CONDUSEF mentions the following:
  - Limited resources,
  - Lack of adequate personnel,
  - Excessive indebtedness,
  - Inadequate cost management,
  - Low level of sales,
  - Low investment capital,
  - Inadequate financing options,
  - Lack of adequate strategy or management.

Each of these aspects is directly related to financial education, which is why one of the main causes of business failure is the lack of financial knowledge.

This situation experienced by MSMEs is of general importance in Mexico, so the region of San Martin Texmelucan in the state of Puebla is no exception, aware of this situation, the research professors of the Public Accountant Career of the Instituto Tecnológico Superior de San Martin Texmelucan (ITSSMT), had the good will to contribute to remedy this need that is present in the region, for which they present the following objective.

### General objective

To know the professional profile of the managers of the MSMEs in the region of San Martin Texmelucan, in order to generate means of financial education.

### Methodology to be developed

The research design was Non Experimental Transectional Descriptive. Transactional since the data collection was done only in one time. Non-experimental because it is not intended to manipulate variables. The study is descriptive because it is mostly focused on knowing and describing the variables, i.e. the repercussions of the lack of financial education.

This research is within a quantitative research approach because it makes use of data collection and statistical means.

The population of interest consisted of 399 participants from micro, small and medium-sized enterprises in the San Martin Texmelucan region, dedicated to commercial, transformation and service activities.

The data collection was carried out through an online form and after contacting the entrepreneur, the link was sent via text message. The application was carried out between February and June 2021.

The analysis and proposal of this work is based on the results of the study in which we participated as a member of the Latin American Business and Administration Studies Network (ReLAyN).

According to Posada, Peña & Aguilar (2022): The reliability of the scale at the level of the whole study had an adequate Cronbach's alpha ( $\alpha = 0.934$ ), the construct validity by confirmatory factor analysis reports a root mean square residual, RmSR (Root Mean Square Residual) of 0.08, all items of this version of the instrument have a p-value  $< 0.05$ .

### Results

Of the 100% of participants:

- 63.4% own microenterprises in the marketing line of business,
- 15.5% are engaged in processing
- 21.1% are engaged in the provision of services.

Regarding the length of time as owner of the business:

- 30.8% have been in business for less than five years,
- 20.8% between 5 and 10 years,
- 21.6% between 10 and 15 years and
- 26.8% more than 15 years.

Of the owners, 60.9% are male and 39.1% are female.

A total of 28.8% have completed secondary education, 39.1% have completed high school, and 18.3% have completed professional studies. See Table 1.

Dimensions	Strongly disagree	In disagreement	Undecided	Agree	Totally agree	Average	SD
Financial inclusion	3.5	9.9	14.6	45.3	26.4	3.81	0.756
Self-efficacy and subjective financial knowledge	1.9	5.3	13.1	51.8	27.6	3.98	0.701
Behaviors for financial management	2.2	7.2	11.1	53.0	26.2	3.94	0.576
Loss forecast	10.1	17.0	19.1	35.3	15.3	3.30	1.139
Financial Attitude	0.6	2.5	7.0	56.4	33.3	4.19	0.533
Attitudes towards the purchase	2.7	6.8	14.4	50.2	25.6	3.90	0.751
Compulsive buying	17.0	22.6	17.6	29.6	11.9	2.95	1.250
Debt propensity	5.6	8.6	11.1	44.9	28.9	3.84	0.544
Risk perception	17.7	21.1	16.5	32.0	11.2	2.97	1.164
Valuation of money or materialism	15.1	22.3	16.4	30.8	13.9	3.05	1.075

**Table 1** Descriptive data of the financial literacy scale, percentages, mean and standard deviation  
Source: Posada, Peña & Aguilar (2022)

As can be seen in Table 1, there are unfavorable trends in the following dimensions: financial inclusion (3.81), claims anticipation (3.3), attitudes towards purchasing (3.9), adequate management of compulsive buying (2.95) and risk perception (2.97). According to this information, it can be concluded that the financial culture of the managers of the study entities in the San Martin Texmelucan region lacks education, values, organizational and individual conduct and behavior, which has repercussions on their actions to manage economic resources and emphasizes the need for support in the financial aspect to help them generate healthy finances, a crucial element to reduce their volatility.

### **Proposal**

As indicated above, the main objective of the project was to identify the areas of opportunity that MSMEs in the San Martin Texmelucan region have in terms of knowledge, skills and good habits in order to take advantage of access to and use of financial products and services, that is, to know their profile in relation to financial education.

This is with the intention of reducing the two-year life mortality rate that these types of organizations currently have; on the contrary, it is sought that they have a financial wellbeing that supports them to establish themselves, be competitive and also develop actions that help them mitigate risks such as those that occurred during the pandemic and post-pandemic period.

Therefore, by identifying the financial literacy gaps of MSMEs, we are in the best position to develop a financial literacy tool. This proposal involves the participation of two direct participants, teachers and students of the Professional Residency Program of the Public Accountant career of ITSSMT.

### **Benefits**

#### **– For the students**

In the case of students, the benefit is represented by a comprehensive training, which is given at the time of linking students with MSMEs that will allow, encourage students to use their knowledge acquired in class for the development of practical experiences in real situations.

Thus allowing the university student to have a professional performance before graduating, promoting comprehensive and meaningful learning that will strengthen the development of new skills, attitudes and values, which will facilitate their next insertion in the professional field in a timely and effective manner.

As stated by the United Nations Educational Organization, (2016) it is in harmony with the 2030 Agenda, which urges to devise comprehensive and integrated responses to the many social, economic and environmental challenges for students, since it will allow them to live a real work experience with MSMEs and link the knowledge acquired in their academic subjects to the solution of the particular needs of this size of companies.

#### **– For the Professional Residency Program**

At the moment that students carry out their Professional Residency, in most cases the main difficulty is that the companies do not have a defined project that the students can collaborate or develop, which presents a limitation for their acceptance, therefore, by having this financial education project they will be able to present themselves with a defined project and will only adapt to the company, based on a diagnosis and the needs expressed by the directors of the MSMEs.

#### **– For MSMEs**

They will have a good training option, through the design of a financial education program tailored to their needs, which will allow them to have a financial welfare, This action is in harmony with the institutional mission of ITSSMT (2021), which aims to:

To train professionals with an innovative sense, whose knowledge is based on scientific and technological research, who propose creative solutions to problems related to their region, to strengthen and improve the quality of life, linked to the productive sector and committed to the preservation of the environment.

## Conclusions

Through this project it was possible to identify the level of financial education of the managers of the MSMEs in the region of San Martín Texmelucan, this information allowed to have enough elements to design a means of financial education for this type of organizations, which will allow them to obtain training on financial literacy, At the same time, the resident students of the Public Accountant career will be able to present themselves to the company with a project that will allow them to transmit the formative knowledge acquired during their stay at the Institute, thus meeting a need of both participants.

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## Contributive culture as a participation mechanism for socially responsible companies in Mexico

### La cultura contributiva como mecanismo de participación de las empresas socialmente responsables en México

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#### Abstract

Contributive culture is a slope of democratic culture in the sense of citizen participation, which is aware of the role that taxes have in a state system. Corporate social responsibility can have tax edges in a dynamic of commitment to collective well-being, for example in Mexico taxes represent 55.65% of total federal income for the year 2022. In turn, Income Tax participates with 52.57% of the total taxes, while the Value Added Tax with 30.77% and the Special Tax on Special Production with 12.81%. The purpose of this article is to contribute to the promotion of a contributive culture based on the statistical analysis of the Federal Income Law and its relationship with the distribution of public spending, as well as knowledge of the rights and obligations of taxpayers. taxpayers. For this, a theoretical journey of corporate responsibility is made from a paradigm of competitiveness that integrates a collective well-being through the timely conscious participation of the payment of taxes, taking into account principles of legality and justice of taxes.

**Contributive Culture, Participatory Democracy, Taxation**

#### Resumen

La cultura contributiva es una vertiente de la cultura democrática en el sentido de participación ciudadana, la cual es consciente del papel que tiene el tributo en un sistema estatal. La responsabilidad social empresarial puede tener aristas tributarias en una dinámica de compromiso con un bienestar colectivo, por ejemplo en México los impuestos representan el 55.65% respecto al total de los ingresos federales para el ejercicio de 2022. A su vez el Impuesto Sobre la Renta participa con el 52.57% del total de los tributos, mientras el Impuesto al Valor Agregado con un 30.77% y el Impuesto Especial de Producción Especial con el 12.81%. El presente artículo tiene la finalidad de contribuir en el fomento de la cultura contributiva a partir del análisis estadístico de la Ley de Ingresos de la Federación y su relación con la distribución del gasto público, así como del conocimiento de los derechos y las obligaciones de los contribuyentes. Para ello se hace un recorrido teórico de la responsabilidad empresarial desde un paradigma de competitividad que integre un bienestar colectivo a través de la participación consciente oportuna del pago de los impuestos atendiendo principios de legalidad y justicia de los impuestos.

**Cultura Contributiva, Democracia participativa, Tributación**

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## Introduction

The tax culture promotes a virtuous circle between social awareness in the timely payment of taxes and the obligation of the State in the efficient administration of public resources to achieve the common good. Although the measures to create a contributive culture are diverse, the very purpose is to achieve a social commitment through the ethical values of participation in the state machinery. Therefore, the Contributory Culture is a concept that exceeds the tax and tax collection sphere, it has to do with everything that implies a social conscience and a way of living together and procuring the common good, the good of all.

Different institutions in Mexico are interested in promoting such participatory democracy. Among them, the Procuraduría de la Defensa del Contribuyente (PRODECON) and the Servicio de Administración Tributaria (SAT), which maintain close coordination and have attended to the claims of taxpayers, in the sense of facilitating compliance with obligations and defending the rights of taxpayers before the resolutions and determinations of the authority.

Both institutions seek the application of the law and its procedures, but always considering that individuals have all the information and advice to be able to make the right decisions, to be able to carry out the appropriate procedures and to have the necessary tools, in a healthy legal-tax relationship, based on trust and transparency.

In societies that intend to continue with the model of the State as administrator of public finances, it is necessary to promote a culture of taxation not only for the purpose of contributing to the tax in an equitable and responsible manner, but also to request accountability from the administrative entity.

### 1. Background

Since the last two decades, taxes have been an important source of income for Mexico, representing more than 44% since 2007, to make up nearly 56% of the Federation's Income Law in 2022.

Suggestions from global bodies such as the OECD (2019) urge the establishment of fiscal policies to increase tax revenue collection and reduce oil-related revenues. The improvement in tax administration is a political banner that has been promoted by the different sexenios of the last 20 years. However, the fight against tax evasion and avoidance has been necessary to make tax collection more efficient.

Several studies refer to the need to improve tax administration and to promote a paradigm shift in the so-called tax culture. There are several factors that have an impact on low tax collection. For example, in the research by Benavides, Villa, Pérez del Peral, Venegas, & Colla (2013), cited in Leal (2018), 866 surveys were applied among citizens of Mexico City, and it was detected that when the taxpayer in Mexico does not perceive the benefits of his taxation, a greater tendency to evasion persists, as well as a strong association between this tendency and his self-justification as a tax evader (Benavides, *et al.*, 2013, pp. 18-30). This shows that Mexican citizens may not be paying their taxes because of the suspicion that resources are being diverted without being effectively applied to public spending, thus justifying the tax evasion they rationally commit.

There are several studies that refer that the subjective factor in tax collection is rooted from generational education. Thus Leal (2018) points out that by including the credibility factor as a motivator of tax compliance, a new feature with subjective characteristics is presented to the present research, which forces the review of the phenomenon from the approach of education through the history of Mexico, and its connection with governance. In this regard it is possible to highlight that since the reminiscence of colonization and the post-revolution of 1910 in the country, caciquismo lasted more than thirty years, being around the year 1970 when the presidentialist system continued to dominate a country scarce in education, through civil organizations and the ruling classes, to the extent that the excess of paternalistic and providentialist oppression made the population understand that the only way to face their problems was to resort to the "official intermediary of power", in the form of pleading to the authority (Gonzalez, 1975, pp. 46-144), which can only be understood as corruption.

With regard to the ethics of the collection institution in Mexico, the Tax Administration Service (SAT), determined the responsibility of its management in safeguarding the values assigned to the public sector, with the creation of committees and official bodies with the purpose of avoiding corruption and any administrative irregularity. The SAT assured that in view of the global economic scope, prevention would be required in the formative education of government leaders and officials to avoid the violation of ethical values, since only with this would it be possible to gain the trust and credibility of the citizenry towards the authority (Servicio de Administración Tributaria, 2005, pp. 134-136).

Bernal, Varela, & Guerra (2017), detect the need for a new contributive culture, where a change in the paradigm between the public power and the governed citizens is achieved by abandoning the current custom attached to hedonism and indifference, in exchange for an ethical culture that promotes the common good (Bernal *et al.*, 2017, pp. 3-4).

Tributes have certain important legal characteristics, as pointed out, among others, by M. Queralt and L. Serrano cited in Lara (2009): They constitute the most typical exponent of public revenues; They normally tax a certain manifestation of economic capacity; They are resources generally of a monetary nature, although sometimes they may consist of the delivery of non-monetary goods, among others.

In advanced societies, the obligation to contribute to public spending is generally clear, because it is reflected in the welfare of the community. They are also clear about the destination of their contributions and their tax system is precise and without obscurities, so that their authorities are aware that they cannot surprise the governed; all of the above means that by having greater legal certainty they comply with their obligations in a better way and as a consequence do not require monumental auditing bodies, with the consequent discharge of the jurisdictional bodies in the attention of citizens' disagreements (Lara, 2009).

It is a well-known fact that the State, in order to satisfactorily carry out its activities, requires an indispensable economic support.

For logical reasons, this support must come mostly from the citizens or governed, who are the ones who directly benefit from the works and services of public interest provided by the State. Especially in the present times, in which both the continuous demographic growth and the technological and scientific advances demand from the State an ever wider field of action and objectives. In this regard, Serra Rojas states: "Public activities, called public functions by some authors, are services that a society cannot do without, such as justice, national defense, police, transportation, educational and economic activity of the State, public credit and others".

Ramírez (2007) points out that the tax structure is a financial system that limits or contracts private spending, thereby allowing public spending; the way in which this financial system extracts resources from private agents is through the establishment of various taxes that can be levied in general terms on income or consumption.

In order for a tax structure to be able to collect the same amount of resources while affecting economic growth less, it is necessary to make it more efficient. According to Stiglitz (2002: 483-508) in Ramírez (2007), for a tax structure to be efficient, five fundamental attributes should be observed: economic efficiency, administrative simplicity, flexibility, political responsibility and fairness.

Therefore, the strategies for proposing a tax culture should address the distribution of welfare in society, through values of equitable distribution and justice. The spheres of participation proposed by Rawls (1997) are required in the study of participatory democracy. Corporate social responsibility is a strategic goal that seeks to explore the relationship between competitiveness and corporate social values.

The contributory culture is related to a welfare state, understood by Navarro (2006) as a set of public institutions providing social services, aimed at improving living conditions and promoting equal opportunities for its citizens.

The study of fiscal policy is necessary to discover categories of analysis such as the relationship between social policies and the tendency of companies or so-called taxpayers to contribute.



The study of populism proposed by Covarrubias and Cruz (2021) allows relating new paradigms of participatory democracy with the need to modify the paternalistic state for a state that promotes participatory democracy, which includes conscious taxation by taxpayers who are aware of their fiscal rights and obligations.

## 2. Methodology

The research design is analytical and explanatory based on the hermeneutic study of federal tax legislation, various publications of laws and budgets of the federation from 2007 to 2022, annual reports of the distribution of tax payment and receipt of public expenditure, as well as budget packages of the S.H.C.P. The statistical analysis of the levels of collection in the OECD, Latin America of the organizations and regions to which Mexico belongs and its relationship with macroeconomic factors is prioritized.

## 3. Results

In the task of raising more revenue, the following indicators should be kept in mind to guide action: a) tax burden, tax revenue collected as a percentage of GDP; b) tax compliance, percentage of absolute potential actually collected; c) equity, direct taxes as a percentage of total revenue collected. Those who have more should pay more; d) neutrality, so as not to distort the decisions of economic agents (the existence of all kinds of incentives and special treatments makes the tax system not very neutral); e) competitiveness, taking into account, without it being the determining factor, what happens in other countries (tax rates are neither the only nor the main factor to evaluate the competitiveness of a country. If they were, there would be no tax differences in the world. There even are -and very large ones within the countries that make up the European Union)-and, f) financial stability, public deficit over collection (Tello, 2015).

Countries in Africa, Latin America and the Caribbean (LAC), and Asia and the Pacific are more dependent on taxes on goods and services and corporate taxes, while OECD countries are more dependent on social security contributions and personal income taxes.

At the present juncture of the COVID-19 health pandemic, the impetus for contributions in the reactivation of economies urges socially responsible companies to contribute to that effect. Tax Statistics in Latin America and the Caribbean 2021 shows that average tax revenues as a percentage of GDP in LAC rose to 22.9% in 2019, increasing 0.3 percentage points (p.p.), mainly due to increases in the Caribbean sub-region. Although the COVID-19 pandemic subsequently led to a sharp decline in tax revenues in 2020, the report identifies the key role of fiscal policy in the region's response to the pandemic and discusses how tax policy can contribute to a green and inclusive recovery (ECLAC 2021).

## 4. Conclusions

The tax system, in addition to having revenue-raising effects and, therefore, being a determinant of public finances, has an impact on household income and spending. Considering the above, it is important to know its effect on income distribution and welfare. To this end, a distinction must be made between the individuals who bear the burden of a tax and the legal subject of the tax. The tax burden is the ratio between the tax paid by a taxpayer and his total income. In other words, it consists of knowing what proportion of autonomous income is destined to the payment of taxes (Secretaría de Hacienda y Crédito Público, 2022).

Socially responsible companies should be aware that contributions have an impact on the quality of public expenditures in which federal revenues are invested. The first tax that contributes to federal taxes is the Income Tax with a 52.57% share. This is why the ISR represents the main tax of the federal tax system, in terms of the amount of collection. The SHCP (2022) refers that the analysis of the distribution of ISR payment among households and individuals by income deciles, allows to know and evaluate the fairness of this tax. In a fair tax system, individuals must contribute to the tax collection according to their social capacity in charge of the worker, since these also have an impact on net income.

Thus, the individuals that make up a company contribute to the payment of ISR both individuals, for their income from salaries or other activities, and companies, for their profits.

Various methodologies that analyze the relationship between taxation and household income use the ENIGH (2020). Although the ENIGH (2020) is not designed to capture the income or profits of legal entities, it is possible to approximate the distribution of this group of income through variables contained in the survey.

### 5. Recommendations or proposals to help solve the problem

This research intends to promote a culture of tax participation in descending order from the top businessman to the operative personnel, since in order to achieve healthy finances at the "State" level, the deliberative participation of citizens aware of their rights and obligations is required.

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**Quality management system at the Isla de la Juventud electricity company****Sistema de gestión de la calidad en la empresa eléctrica Isla de la Juventud**

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**Abstract**

This research develops a quality management system and its procedures that contribute to the improvement of organizational performance at the Isla de la Juventud Electric Company. Methods, techniques, and instruments were used, both theoretical, empirical, and statistical. The main results were the application of the diagnosis that made it possible to verify the feasibility and effectiveness of its use as a methodological instrument, since it was verified: the regularities that in general are in the order of problems with the delivery of the information until the fluctuation of the personnel, these being the process managers. The quality management system is a methodology applied by the working group that contributes to the improvement of organizational performance and has an impact on the increase of the results seen from the development of activities by the key processes for the fulfillment of work objectives which provide compliance with the fundamental processes. The implementation of the Quality Management System from its procedures and manual resulted in the collection of information and ideas for decision making, feedback is established on the results of audits, supervision, and other control actions, which allowed to improve performance, adjust and improvement actions.

**Organizational performance, Quality management, Decision making**

**Resumen**

Esta investigación desarrolla un sistema de gestión de la calidad y sus procedimientos que contribuyan en la mejora del desempeño organizacional en la Empresa Eléctrica Isla de la Juventud. Se utilizaron métodos, técnicas e instrumentos, tanto del nivel teórico, empírico y estadístico. Los principales resultados fueron: la aplicación del diagnóstico que permitió constatar la factibilidad y efectividad de su empleo como instrumento metodológico, ya que se verificó: las regularidades que de forma general están en el orden de problemas con la entrega de la información hasta la fluctuación del personal, siendo estos los gestores de procesos. El sistema de gestión de la calidad constituye una metodología que aplicada por el grupo de trabajo contribuye a la mejora del desempeño organizacional y repercute en el aumento de los resultados vistos desde el desarrollo de actividades por los procesos claves para el cumplimiento de objetivos de trabajo los que proporcionan el cumplimiento a los procesos fundamentales. La implementación del Sistema de gestión de la calidad a partir de sus procedimientos y manual arrojó como resultado, recolección de la información e ideas para la toma de decisiones, se establece una retroalimentación sobre los resultados de las auditorías, supervisiones y otras acciones de control, que permitieron mejorar el desempeño, efectuar ajustes y acciones de mejora.

**Desempeño organizacional, Gestión de la calidad, Toma de decisiones**

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## Introduction

Organizations are challenged to face a series of challenges related to changes in management styles, customer satisfaction, environmental preservation and the correct use of environmental resources. Therefore, the implementation of effective integrated management systems in organizations contributes to improving their competitiveness in the context of the current economic globalization. The progressive entry of new players in the supply, the lack of financial sources and the growing needs of customers, among others, are factors that have influenced the genesis of the processes of modernization and transformation of organizations (Gonzalez, 2004).

The quality management systems include a series of advantages, among the most important of which is the reduction of costs due to the simplification of the documentary systems, as well as contributing to an improvement of the organizational control over activities and processes of the company, thus achieving an improvement in the behavior of the companies in terms of quality and environment (Cruz, 2004). Among the disadvantages are the greater need for training and awareness of the organization's personnel and that the increase of requirements in procedures and work instructions may affect workers.

The increase in competition, the globalization of markets and the greater demands of customers and society have motivated companies to seek greater competitiveness through the development and implementation of management systems. But behind these systems, there is the reality of the company as an indivisible whole and the concept of integration necessarily appears (Duque, 2006).

In this context, Empresa Eléctrica Isla de la Juventud is a dependency of Unión Eléctrica, in charge of generating, distributing and commercializing electricity in the municipality and Cayo Largo. It was established by Resolution No. 97 issued by the Minister of Basic Industry on March 19, 2001 (which in turn establishes the beginning of business improvement), with the purpose of providing quality electric service, having fully identified its consumer market.

It is headquartered at 41st Street No. 56 and 60, Nueva Gerona. It also has four commercial branches, two in Nueva Gerona, one in La Fe and the fourth in La Demajagua. It has two distributed generation sites, a wind farm, four unattended distribution substations, two Forest Biomass plants and two photovoltaic solar farms. Its assets also include 1,200 km of distribution lines and a total of 1,934 transformers. It has 30146 customers, which represents 99.8 % electrification of the territory. It has a total of 544 workers organized in nine UEBs, three Integrated Project Directorates (DIP), three functional directorates.

The Integrated Management System aims to achieve the necessary improvements that lead to excellence, based on the premise that there is no perfect organization, it is based on the criteria of continuous improvement. In this way, perfection is never achieved in an organization because failure is intrinsic to human beings and when certain objectives are reached, the achievement of other more demanding objectives is considered, which allow obtaining information about the level of customer satisfaction in order to anticipate their expectations and act in a preventive manner.

In this company, the decentralization of the systems leads to non-compliance with the objectives, because each process specialist seeks certification and compliance with legal regulatory procedures, which becomes cumbersome due to the duplicity of information that each of the systems contributes.

Through an observation guide applied in 2016, several shortcomings were detected that threaten the organizational performance of the case study entity. Among the elements identified were: the existence of a high volume of documentation, which must be handled by managers, causing staff to feel overloaded by having the responsibility of managing several Quality, Environmental, Health and Safety and Internal Control systems, in addition to which there is duplication of information, staff feel overloaded, late delivery of information from the UEBs to the General Management, staff fluctuation (system managers) and a greater number of audits and inspections (for the different systems).

### Quality management systems

The 1980s marked the beginning of the era of quality management, a period in which business management was transformed. Since then, many methodologies based on statistical techniques have emerged (García, González, Hurtado, Ornelas & Ramírez, 2016), the link between metrology and quality is reinforced to obtain accurate, precise and exact measurements.

In today's markets, the concept of quality transcends the physical and functional characteristics of goods and services, including attributes related to the integral management of the organization. This concept demands a management culture focused on customer and user satisfaction through constant quality improvement (Banguela, 2009).

Quality is a term that the vast majority of organizations believe they know, but this is not entirely true, since organizations, whatever their size, industrial sector to which they belong and product or service they offer to their customers, at the time of defining and complying with this term, it is complicated for them, which denotes a lack of knowledge of the term by employees and, consequently, failure to meet the requirements of their customers (Maya Mendoza, 2014).

The NC ISO 9001 defines Quality Management as: set of coordinated activities to direct and control an organization with regard to quality.

In summary, it can be stated that quality management should be led in the first place by the entity's top management, but gradually this leadership should be exercised up to the level of each process (García, 2010).

In this environment, quality assumes a new and singular importance; it is essential in the whole process of providing services, since it is one of the most effective ways to achieve maximum competitiveness and, consequently, business leadership. In times of world economic crisis, the Cuban economy does not escape this phenomenon, especially due to the low levels of availability of material resources, which forces most of the entities to a more rational use of those available, with maximum efficiency (De la Nuez, 2005; Pérez, 2011).

The establishment of quality management systems and their certification by accredited and prestigious organizations has become a necessity for any organization today, regardless of the product or service it provides, where it is located, who its customers are or its size. This is because according to (González, 2009):

- Customers want to be confident that what they ask for is delivered consistently, and that their money (payment or social contribution) is spent on services or products that meet their needs, enabling them to be more effective and efficient.
- Customers, in turn, want to satisfy their own customers and need to be sure that their suppliers will not affect their quality and image.
- Society, as a client of social services, wants to ensure that the expenditures are spent on adequate and effective services to meet the expected needs and expectations.
- Managers want to ensure that they can consistently meet their commitments to customers and shareholders, owners (state or private) or society to maintain and grow revenues and profits and/or effectively utilize the budgets of the organization they manage.
- Shareholders or owners (private or social) want to ensure that the organization is properly managed to receive the expected benefits, either in terms of money or social satisfaction.
- Employees want to make sure that their company is maintained, grows and improves, thus improving their security, stability and also their benefits.

Successful management and operation of an organization requires that it be managed and controlled in a systematic and transparent manner. Success can be achieved by implementing and maintaining a management system that is designed to continuously improve its performance by considering the needs of all stakeholders, such is the case of quality management systems, as a management system in itself or, given its compatibility, as part of another business management system as a whole, or as part of other systems, such as innovation management or integrated systems of quality management and environmental management (Medina, 2010).

Also in Cuba a growing number of organizations are engaged in restructuring their functions with a view to improving compliance with legal requirements with the implementation of ISO 9001 NC, ISO 14001 NC and OHSAS 18001 NC; an analysis is presented below (Ricardo, Medina & Nuñez, 2015).

In Cuba, the National Standardization Office is the entity officially designated as the National Certification Body. Foreign bodies such as Buró Verita and Loyd Register also certify. In addition to the above, other companies such as Registro Cubano de Buques have been authorized to endorse, it is not a certification but a recognition that companies have before third parties (Goleman, 2013).

### **Quality management process**

The integration of the company's management system is a process of alignment of the organization's energies in pursuit of its mission, so that this alignment is made from the strategic exercise of the organization; it is the fusion between all subsystems with the company's strategy, a balance between the main activity of the company and its subsystems: practices, procedures and behaviors from each subsystem ensure compliance with the future-oriented business object (Alfonso, 2007).

For some years now, studies have been carried out on management systems (quality, environment, occupational health and safety), how they have evolved and have been successfully implemented in organizations, with the intention of proposing management models that help to ensure the satisfaction of the different stakeholders, albeit separately (Abad, Dalmau & Vilajosana, n.d.).

There are management systems based on quality, environment and safety, occupational health; there are others based on international standards, developed by the International Organization for Standardization (ISO). Some are developed jointly by ISO and the International Electrotechnical Commission (IEC) and currently ISO 50001: 2011, an energy management system, which is becoming a necessity in the organizational sector. Annual statistics reveal a healthy growth of certifications in all areas (Gasiorowski, 2013).

Currently, there is a fairly generalized worldwide trend towards the integration of management systems in organizations as a strategic factor to successfully face the challenges of this century. This concept has emerged as a result of the need to approach with common sense the satisfaction of different requirements derived from the market, environmental authorities and society in general, concluding that the best way for an organization to ensure that all these requirements are effectively and efficiently met is by integrating them into a single Management System for process quality (Arias, 2014).

Decree Law 281 (2007), refers in its Article 55 that: when applying the system, each company or higher management organization shall be studied as an integral whole, encompassing all the systems that compose it such as: General Organization System, Management Methods and Styles System, Goods and Services Production Organization System, Quality Management System, Human Capital Management System, Environmental Management System and Innovation Management System.

### **Quality management procedures**

According to Isaac (2005), in his proposal for an Integrated Management Model, he proposes the so-called first level, second level and third level integration models. The first are wrongly called integrated systems, where isolated systems operate and integrate certain procedures and records. In them the integration itself is null and framed in simplifying documentation. The second ones integrate requirements and documentation and how to control it, with a single management manual, some integrated processes, as well as integrated procedures and records. The third level has an integrated policy and addresses planning, implementation, measurement, analysis and improvement in an integrated way. There are two growing trends towards the integration of management systems by organizations.

On the other hand, Delgado (2006), proposes an implementation plan for an integrated management system that reflects the phases of: design and development, implementation, operation and continuous improvement.

The first stage of the process is conceived as the way in which the system will be able to handle all managerial and operational aspects. It has the explanation of all the phases identified in the proposal in a summarized form and in a clear way for the understanding of the readers.

According to Medina (2010), in his proposal for a Quality Management System as an index to measure the effectiveness of organizational performance. It has as its starting point the customers, and the main components that should be related to the satisfaction of their products or services. It has six components, among which the quality management system stands out, which maintains the relationship with all the identified components. It has an input which governs the requirements and as an output the satisfaction of the service provided to the customer.

On the other hand, Gutiérrez (2010), in his proposal for an Integrated Management System in the Empresa de Investigaciones y Proyectos Hidráulicos de Ciego de Ávila. The proposal has 10 components of which four are stages and the other six are steps, the stages are conception, design, monitoring and continuous improvement, which are interrelated. The main axis is a software for the control of the integrated management system, which has the general activities that are developed in the system implementation process and provides the output for obtaining data.

### **Organizational performance**

The use of individual performance measures has a long history. At the beginning of the last century, performance metrics based on the calculation of times and movements and their comparison with standardized measures, whose values obeyed a flow of procedures within a predetermined process or model, were common. The business environment, the internal organizational climate and competition, fundamentally, encouraged theoreticians and managers to inquire about performance measures that went beyond the static of conventional measures (Del Castillo & Vargas, 2009).

In turn, the International Society for Performance Improvement (ISPI) defines performance improvement as "a systemic approach to improving productivity and competence, which uses a series of methods and procedures for the realization of opportunities related to people's performance". That is, it is a process of selecting, analyzing, designing, developing, implementing, and evaluating programs to achieve influence behavior and outcome in the most efficient way possible (Navarro, 2014).

Performance measurement can help organizations improve their performance by identifying good practices and learning from others. On the other hand, it helps to ensure that organizations focus on their key priorities, and allows the identification of areas with poor performance regardless of the approach or philosophy on which the management system is based in the entity, which helps to make decisions for continuous improvement (Medina, 2010).

Organizational performance, generally refers to the variable; performance, to address the results generated by the dynamics of an organization, this goes beyond financial data, quality, customer satisfaction, innovation, market shares and measuring impact on society, among others; they reflect more comprehensively the performance of the organization (Pérez & Cortés, 2009).

The forms of measurement constitute a fundamental element to account for organizational performance, in this regard it is identified that a measure is the instrument used to quantify the efficiency and effectiveness of the action, therefore, a performance measure is both quantifiable and verifiable (Melnik, Bititci, Platts, Tobias & Andersen, 2014).

To measure are used indicators that are composed of three elements that make them more than a performance measure (Salgado & Calderón, 2014), the first element is that it is a performance measure quantifies what happens, the second element is that it constitutes a performance standard that considers whether the performance obtained is bad or good, this makes it a tool to guide the management of the organization; and finally it establishes the negative consequences of being below or above the goals.



Cuesta, Fleitas, García, & Hernández (2015), emphasize that, as part of organizational performance, the perception of workers is recognized, where the consideration of subjectivity, of the intangible, is precisely. It is not only individual, group and organizational results (concrete or tangible), but also the consideration of the intangibles expressed through the perception of workers.

That is why it is necessary to increase productivity and increase performance, seen from the improvement of performance, which can be translated into the generation of sustainable competitive advantages (Almanza, Calderón, Vargas, Casas & Palomares, 2016).

### **Methodology to be developed**

In the first place, a plan was made to carry out the research in which the scope, general method, tools, procedures for data collection and analysis were determined, then through a meeting with the director the plan was presented and permission was obtained to begin the study, obtaining also the commitment to cooperate openly in the process. In turn, the director made this news known to all the company's personnel, with favorable results, since the members of the organization cooperated in the research.

The scope of the study covered the areas of the company such as: generation, distribution and commercialization of energy, which included the activities, work processes, available resources and existing documentation of the same. The method used was an exploratory and descriptive type of study, since it was necessary to know in detail the operation of the organization and thus be able to relate some variables. This study is also characterized by being prospective and longitudinal, according to Hernández, Fernández & Baptista (2014), since the information was recorded as the phenomena occurred throughout the research period.

The data collection period, comprises the year 2017, covering each work week according to the schedule it handles, through the review of existing documentation, interviews and non-participatory observations, with which the objective evidence was obtained.

The results were analyzed based on the ISO 9001:2015 standard, subsequently the variables that negatively impact the organization and that are related to the decrease in sales were identified, through these points the solution was determined, which gave rise to the implementation of a quality management system.

Finally, after the analysis, the report of the results was elaborated, which was presented to the director and quality specialist of the company, subsequently through the active participation of the same, the quality management system is realized as a proposal to solve the problems that affect the organization. It is worth mentioning that the research is of a propositional nature, therefore the company will decide on the implementation of the proposal presented.

### **Description of the parts of the proposal contents**

#### **Introduction of the manual**

Describes in a general way the mission, vision, corporate purpose of the company, in addition to declaring by the top management the commitment and the need for implementation and implementation of the quality management system.

#### **Objective and scope of the quality manual**

This section specifies in general terms, the quality management system in the business system, according to the requirements established in the Cuban standard NC-ISO 9001:2015 and consequently with the Quality Policy and Objectives established by the top management of UNE. Its scope is established to apply to all units of Empresa Eléctrica Isla de la Juventud in the fulfillment of their specific functions, as appropriate, for the development and implementation of the QMS and the continuous improvement of its effectiveness.

#### **Management Responsibility**

The top management of EEIJ declares and establishes its commitment to develop, implement, maintain and continually improve the effectiveness of the quality management system, which evidences:

- Communicating and promoting awareness on the part of workers and management in general of the importance and contribution of their activities to the satisfaction of customer requirements and applicable legal and regulatory requirements.
- Ensuring that the Quality Policy is established and communicated.
- Ensuring the establishment, monitoring and measurement of quality objectives for the QMS, and their compatibility with the context and strategic direction of the EEIJ.
- Promoting the use of the process approach and risk-based thinking.
- Ensuring the successful management and availability of the necessary resources for the QMS.
- Ensuring that the QMS achieves the intended results and that the processes are generating and delivering the intended outputs.
- Promoting continuous improvement of QMS effectiveness and organizational performance.
- Supporting other relevant management roles to demonstrate leadership as it applies to their areas of responsibility.

### **Management Responsibility**

The scope states that the QMS developed and implemented at EEIJ, through its business system, covers all processes, both those of product/service realization and those that facilitate management. To determine the scope, the following have been considered:

- The external and internal issues that are relevant to the EEIJ's purpose and strategic direction, and that affect its ability to achieve its intended results (Organizational Context).
- Relevant stakeholder requirements.
- Types of products/services covered.

In the case of processes outsourced to an external supplier, the type and scope of control to be applied to them is defined and declared in the QMS through the supplier-organization contract.

### **Scope of the quality management system**

The scope states that the QMS developed and implemented at EEIJ, through its business system, covers all processes, both those of product/service realization and those that facilitate management. To determine the scope, the following have been considered:

- The external and internal issues that are relevant to the EEIJ's purpose and strategic direction, and that affect its ability to achieve its intended results (Organizational Context).
- Relevant stakeholder requirements.
- Types of products/services covered.

In the case of processes outsourced to an external supplier, the type and scope of control to be applied to them is defined and declared in the QMS through the supplier-organization contract.

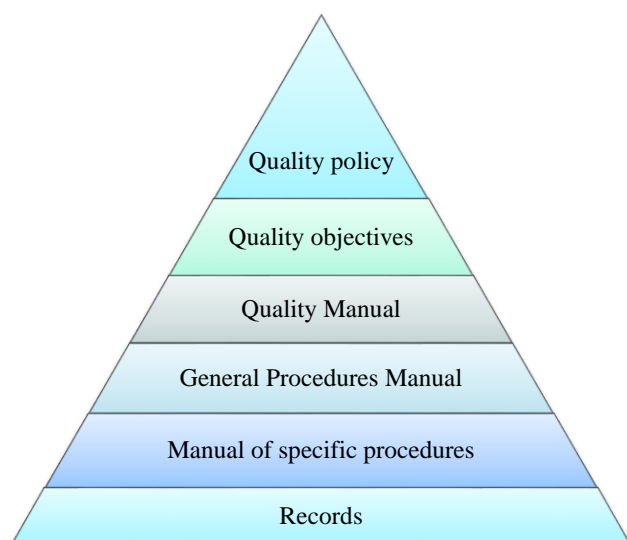
### **Documentary structure of the quality management systems**

In general, the documented information for the EEIJ's QMS comprises:

- Documented Information of Internal Origin (IDOI).
- Documented information from external sources (IDOE).
- Legal and regulatory documents.
- Regulatory documents.

The company ensures the legibility, identification and access availability of the current versions at the points of use of documented information, legal and regulatory documents, as well as normative documents.

The hierarchical levels of the documented information for EEIJ's QMS are shown below:



**Figure 1** Hierarchical levels of documented information for the EEIJ's QMS

Source: Own Elaboration

### Documented procedures for quality management systems

The documented information (manuals, procedures, instructions) for the QMS constitutes Documented Information of Internal Origin. (IDOI).

EEIJ's QMS ensures harmonious alignment with the provisions set forth in the constituent IDOIs of the UNE corporate system, including the following IDOIs:

Quality Policy	
Quality Manual	OI-MG 0201
General procedure for the control of documented information	OI-PG 0200
General procedure for process management	OI-PG 0201
General procedure for the control of nonconformities and corrective actions	OI-PG 0202
General procedure for internal audits	OI-PG 0204
General instruction for management review of the management system	OI-IG 0200
General instruction for measuring the performance and effectiveness of the management system	OI-IG 0201

**Table 1** Documented information of internal origin

Source: Own Elaboration

### Implementation of the quality management system and its procedures

The implementation of the QMS was structured following the Plan-Do-Check-Act (PHVA) cycle, which is described below:

#### Phase I - Planning

Planning establishes the objectives and resources needed to generate and deliver the expected results. In this phase, information and ideas are collected for decision making and to outline the way forward, the project leader is defined and the work team is formed, composed of specialists and technical representatives of the different processes, supported by the mission, vision and social purpose, carried out in the entity under study.

Techniques and tools: meeting with the management; group work; conferences and workshops; talks and interventions before the workers in the morning and dissemination in murals.

#### Phase II - Doing

This phase involves all the people, with the effective and efficient use of resources; the success of the previously projected plans depends on it. For the execution of the system to achieve more effectively the implementation of the plan and promote the achievement of the objectives.

Techniques and tools: surveys; interview; document review, checklist, SWOT matrix; observation of processes and activities, workshops with the diagnostic team, on-the-job training; observation of processes and activities; document review; use of ICT; document control procedure.

#### Phase III - Verify

In this phase, monitoring and measurement is carried out through audits and checking of effectiveness indicators by process, the results are reported to ensure compliance with the plans and achieve what was planned.

Techniques and tools: group work; meeting with the board of directors; brainstorming; flow chart and document review.

#### Phase IV - Act

In this phase, feedback on the results of audits, supervisions and other control actions is established, which allows performance improvement, adjustments and improvement actions.

Techniques and tools: documentary review; course on management system documentation; brainstorming; group work; workshops of the implementation group with the management.

### **Actions taken for the transition**

The Cuban Standard NC-ISO 9001 of 2008, has been replaced by the Cuban Standard NC-ISO 9001 of 2015, by Resolution No. 129 dated September 18, 2015 issued by who resolves, in line with the similar replacement made by the International Organization for Standardization (ISO) of the corresponding international standard for incorporating new requirements, for better efficiency in the implementation of the management system and greater compatibility with other management systems.

A period of coexistence of both versions of these standards was established by ISO, which ends on September 18, 2018, with the National Bureau of Standardization determining in Resolution 1- 2016 that certifications will not be valid after three years from the publication of ISO 9001: 2015.

### **Initial diagnosis**

This diagnostic stage took into account the results obtained in the audits of the different processes, the level of implementation of the QMS using the checklist of the NC ISO 9001: 2008 as a measuring instrument, which allowed us to identify the requirements of the standard that are not met and those that are met, but should be improved.

- The context of the organization was not taken into account for the achievement of objectives.
- Quality criteria, specifications and indicators are not established in all processes and structure of the company.
- Evaluation of externally supplied processes.
- Roles and responsibilities were not defined, ensuring that they were communicated or understood in the organization.

- Risk management was carried out in a corrective manner, not considering the management system as a preventive tool.
- The risk assessment does not take into account the limitations that affect the fulfillment of objectives and effectiveness of the processes.
- Documented information (procedures, manual, instructions) is not at the place of use, or within the reach of all workers.

### **Formation of a work team and training**

At this stage the work team was formed, declaring by means of a resolution signed by the general director, the group of managers of the quality management system, made up of representatives of the processes, who were trained in the standards and regulatory documentation in force and applicable to the system.

- A course was given on the interpretation of the standard NC ISO 9001:2015
- Training on the development of system documentation and process management was provided to all management system specialists and technicians.
- A course on the interpretation of the NC ISO 9001: 2015 standard is being organized for process managers.

### **Strategic design**

A review was made of the processes necessary to manage compliance with the organization's objectives, analyzing the external and internal context. The scope of the system was reviewed.

The organization's risk management was reviewed and determined for each process, taking into account compliance with the quality objectives.

The responsibilities and authority of all personnel involved in the management system were determined and communicated.

The process diagram, their sequence and interaction were updated and the externally supplied processes were identified.

The stakeholders applicable to our services and their requirements were reviewed and the Management Policy was reviewed by the Board of Directors.

### **Design of documented information**

The necessary documentation for the management system is identified, being elaborated, reviewed and adapted to the requirements of the regulatory, applicable and current documentation. It is made up of:

- Quality Manual,
- General procedure for documented information management,
- Process management procedure,
- General procedure for the control of nonconformities and corrective actions,
- General procedure for internal audits,
- General instructions for the review of management systems by management,
- General instruction for measuring the performance and effectiveness of the management system.

### **Implementation and implementation of documented information**

The necessary actions for the implementation (Approve/Distribute/Train) and implementation of the documentation were executed and approved by the general management of the company, implemented by agreement of the board of directors and implemented in the quality committee.

### **Training of internal auditors**

At this stage, the group of company managers was trained as internal quality auditors, with the objective of having a pool of auditors evaluated by the new standard to carry out internal audits of the system.

- Internal quality auditor endorsement courses were given by the quality management center.
- Basic tools for quality management course.

### **System testing and adjustment**

In this stage, control actions (internal audits, inspections, control visits, etc.) were carried out on the system and the results were used as a source for improving the system, executing corrective actions when necessary.

### **Management review**

The management review was carried out at the Company level, resulting in:

- Results of the diagnosis of the quality management system in the first quarter of 2018.

The entity has identified the necessary processes in the management system. The documentation governing the quality management system is in line and consistent with NC 9001:2015 and the ISO 9000 family of NCs. The quality policy is updated, disclosed and approved by the company's senior management, which is in line with the entity's strategy. The quality criteria, specifications and indicators are established throughout the company's structure, reflected in the process sheets. The company has a Quality Council with a quarterly section. In the nine UEBs, functional directorates and integrated project directorates there are QMS managers who have defined their responsibilities to advise and manage the system in each process, recording and maintaining the improvement relationship.

In the first half of 2018 the company is in stage VII of (System Testing and Adjustment), in which control actions (internal audits, inspections, supervisions, management review, checking of the different indicators) are carried out on the system and according to the results corrective actions are executed, and the activities of the entity are organized based on the achievement of the objectives.

- The distribution of responsibilities in the entity with respect to the management system is documented in the job profiles, which communicate and define the following.
- There is no contradiction between the purchasing policy and the quality policy, both are part of the company's work and development strategy.

- The main limitations that could stop the processes or the fulfillment of objectives are defined, which are reflected in the risk assessment of each process.
- Quality discrepancies arising from customer complaints are processed and evaluated according to the steps established in the relevant procedures.
- The mechanisms established in the organization that allow to know the needs and criteria on the quality of the service provided is through the Integral Customer Service Center, which is in charge of attending and processing complaints in an efficient manner.
- The satisfaction index of external customers and stakeholders is measured.

## Results

The behavior of the work objectives in the period 2015-2017 was evaluated, with which an analysis of the balance of the work carried out in those periods was made. Table 2 refers to the behavior of the indicators of the work objectives from 2015 to 2017. For the determination of the difference, the year 2015 as control and 2017 as implementation phase are taken as a reference.

Obj.	Variables	Indicadores	U/M	2015		2016		2017		Dif.
				Plan	Real	Plan	Real	Plan	Real	
1	Reducir las pérdidas de distribución	Procentaje de pérdidas	%	10.90	10.58	10.84	11.37	11.79	11.08	-0.50
		Índice de quejas x 1000 c	%	2.90	1.90	2.20	1.70	2.50	1.00	0.90
		Objetos que proceden x 1000 c	%	1.00	0.30	1.00	0.10	1.00	0.10	0.20
		Fallas de energía en clientes con EM (el 0.1 y 0.0) x 1000 c	%	0.85	0.00	0.85	0.00	0.85	0.00	0.00
2	Plan inversiones de ejecución	Cronograma para ejecución	%	90.00	90.00	95.00	99.70	92.00	98.00	8.00
		Disponibilidad	%	80.40	86.40	82.91	86.48	80.70	88.70	-2.30
3	Explotación de las unidades y equipos auxiliares en el sistema	Generación bruta	MWh	135903.70	137797.01	121935.54	113391.15	145819.13	139164.67	-1367.66
		Consumo específico bruto	g/kWh	229.70	224.80	229.50	225.70	230.37	226.80	-2.00
		Factor de consumo	%	4.60	4.23	4.54	3.90	4.70	4.00	0.24
		Consumo específico de aceite	l/MWh	2.00	1.87	2.10	1.64	2.23	2.07	-0.20
		Ejecución de mantenimientos capitales Tecnología Fuel-Oil	Uno	5.00	3.00	3.00	2.00	6.00	2.00	1.00
		Rehabilitación y modernización de las redes eléctricas	h	14.68	14.52	23.80	22.95	22.00	21.64	-7.12
4	Rehabilitación y modernización de las redes eléctricas	Tiempo interrupción usuario	h	14.68	14.52	23.80	22.95	22.00	21.64	-7.12
		Interrupciones en la sub-transmisión	Uno	5.00	4.00	4.00	6.00	6.00	6.00	-2.00
		Interrupciones en distribución primaria	Uno	97.00	112.00	100.00	96.00	85.00	85.00	27.00
		Interrupciones en distribución secundaria	Uno	380.00	419.00	372.00	456.00	390.00	340.00	79.00
5	Validación, certificación y reposición del combustible mensual	Interrupciones de servicio	Uno	828.00	825.00	829.00	789.00	765.00	713.00	112.00
		Disponibilidad del parque los canarreos	%	90.00	84.00	66.70	77.90	74.00	79.10	4.90
		Disponibilidad parques fotovoltaicos	%	95.00	99.90	95.00	100.00	95.00	100.00	-0.10
5	Validación, certificación y reposición del combustible mensual	Disponibilidad de GEE por concepto de combustible	%	98.00	100.00	98.00	100.00	75.00	80.00	20.00

**Table 2** Balances of work objectives

Source: Own Elaboration

The first element is variable 1 on reducing distribution losses, where the loss forecast indicator is affected by 0.5 % more than in the base year, mostly influenced by the business sector. Regarding the index of complaints per 1,000 citizens, it decreased by 0.9 %, an aspect that is positive because it reflects the satisfaction of the customers with the service provided both to the user at home and in the business and private sector, as well as the complaints that proceed with a decrease of 0.2 %. The second element is referred to the investment plan where the execution schedule is higher in 2017 with 8 % more execution of activities as part of the business improvement system and the implementation of the quality management system in all processes of the entity.

The operation of the units and auxiliary equipment in the system is the third indicator evaluated, where there are six variables, it is noteworthy in this regard that it is higher in 2017 compared to 215 in 2.3 % availability, despite the non-execution of capital maintenance of Fuel-Oil technology, an aspect of significant since it is a limiting factor in almost all generating companies today.

The fourth variable is the rehabilitation and modernization of the electrical networks, where it is observed that the user interruption time indicator (UTI) dropped to -7.12 hours, which is a reflection of the good execution of energy utilization and generation. Evaluating the service interruptions indicator also shows a decrease of 112 interruptions in 2017, less than 2015. These results are in accordance with the fulfillment of the entity's investment plan with emphasis on the modernization and improvement of electrical networks.

Finally, variable five is determined corresponding to the validation, certification and replenishment of monthly fuel, aspects that require greater customer satisfaction with emphasis on the availability of the photovoltaic park, in this sense Los Canarreos has a decrease of 4.9% less in 2017 compared to 2015. In summary, it was possible to establish the weaknesses that the company has against the requirements of the standard, likewise the strengths that should be exploited within the organization to carry out the implementation of the quality management system based on ISO 9000:2015 were detected.

## Conclusions

From the analysis of the literature consulted in the framework of this research, positive elements of the theory in this field were diagnosed, which were taken as references for the conformation of the quality management system and its procedures for the process of improving organizational performance, as well as the existence of insufficiencies in relation to theoretically supported methods to manage quality in the business sector.

The application of the diagnosis made it possible to verify the feasibility and effectiveness of its use as a methodological instrument, since it was verified: the regularities that in a general way are in the order of problems with the delivery of information to the fluctuation of the personnel, being these the process managers.

The quality management system constitutes a methodology that applied by the work group contributes to the improvement of the organizational performance and has repercussions in the increase of the results seen from the development of activities by the key processes for the fulfillment of work objectives, which provide the fulfillment of the fundamental processes.

The implementation of the Quality Management System from its procedures and manual resulted in the collection of information and ideas for decision making, establishing feedback on the results of audits, supervisions and other control actions, which allowed improving performance, making adjustments and improvement actions.

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# Instructions for Scientific, Technological and Innovation Publication

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### Abstract (In English, 150-200 words)

Objectives  
Methodology  
Contribution

### Keywords (In English)

Indicate 3 keywords in Times New Roman and Bold No. 10

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Objectives  
Methodology  
Contribution

### Keywords (In Spanish)

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\* Correspondence to Author (example@example.org)

† Researcher contributing as first author.

# Instructions for Scientific, Technological and Innovation Publication

## Introduction

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

Clearly explain the problem to be solved and the central hypothesis.

Explanation of sections Article.

## Development of headings and subheadings of the article with subsequent numbers

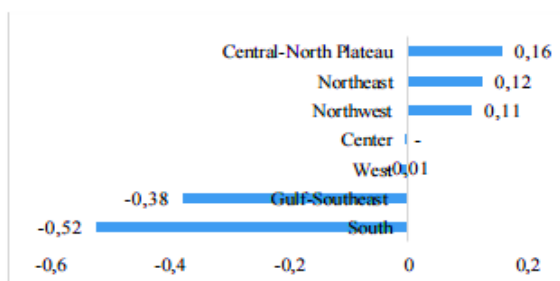
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Products in development No.12 Times New Roman, single spaced.

## Including graphs, figures and tables-Editable

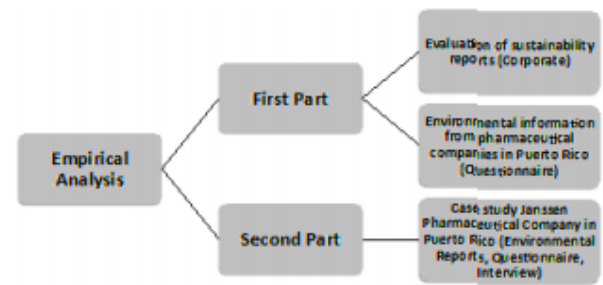
In the article content any graphic, table and figure should be editable formats that can change size, type and number of letter, for the purposes of edition, these must be high quality, not pixelated and should be noticeable even reducing image scale.

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**Graphic 1** Title and Source (in italics).

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A	C	D	E

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Each article shall present separately in **3 folders**:

a) Figures, b) Charts and c) Tables in .JPG format, indicating the number and sequential Bold Title.

## For the use of equations, noted as follows:

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

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