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Journal of Administration and Finance

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Presentation of Content

In the first article we present, *Research protocol for the implementation of management control tools in the operational areas of a logistics facility in the state of Veracruz*, by BALDERRABANO-BRIONES, Jazmín, PÉREZ-GARMENDIA, Gloria, ACOSTA-CADENAS, Montserrat and GARCÍA-REYES, David Antonio, with ascription in the Tecnológico Nacional de México Campus Úrsulo Galván, as next article we present, *Management processes in the implementation of environmental legislation in civil engineering companies in the south of Veracruz*, by MENDOZA-GONZÁLEZ, Felipe, CÓRDOVA-ESCOBEDO, Jesús Fausto, RAMIREZ-JIMÉNEZ, Alida and GUZMAN-VENTURA, Juan Antonio, with ascription in the Universidad Veracruzana, as next article we present, *Wages by sector of economic activity in Mexico, 1994-2019*, by FIGUEROA-HERNÁNDEZ, Esther, GODÍNEZ-MONTOYA, Lucila, ESPINOSA-TORRES, Luis Enrique and ARELLANO-HIDALGO, Lorena Itzel, with ascription in the Universidad Autónoma del Estado de México, as next article we present, *Integration of the sustainable development objectives into state legislation with a focus on the 2030 agenda*, by CARAVEO-MEDINA, Waldemar, QUIJANO-GARCÍA, Román, GUILLERMO-CHUC, Giselle and ALCOCER-MARTÍNEZ, Fidel, with ascription in the Universidad Autónoma de Campeche.

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Research protocol for the implementation of management control tools in the operational areas of a logistics facility in the state of Veracruz

Protocolo de investigación para la implementación de herramientas de control de gestión en las áreas operativas de un parque logístico en el estado de Veracruz

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Abstract

Management control tools are of great importance for any organization, therefore, in this research work, the study of management control tools will be carried out in the operational areas of a logistics facility in the state of Veracruz. , to later develop a measuring instrument. The study proposes to design a measurement instrument based on a Likert scale, converting qualitative information into quantitative data by the researcher, which allows visualization and clarity in determining the ideal tools for the control management of the studied area. The instrument will be applied to the company's experts, since they provide reliable information and provide a reliable scenario. The information is analyzed by the researcher, to later design and define a proposal, a proposal that allows the correct selection of control management tools and comprehensively improve the organization.

Resumen

Las herramientas de control de gestión son de gran importancia para cualquier organización, por lo que, en el presente trabajo de investigación se llevará a cabo el estudio de las herramientas de control de gestión en las áreas operativas de un parque logístico en el estado de Veracruz, para después desarrollar un instrumento de medición. El estudio propone diseñar un instrumento de medición basado en una escala de Likert, convirtiendo información cualitativa en datos cuantitativos por el investigador, que permita visualizar y tener claridad en la determinación de las herramientas ideales para la gestión de control del área estudiada. El instrumento será aplicado a los expertos de la empresa, dado que ellos proporcionan información fidedigna, y brindan un escenario confiable. La información es analizada por el investigador, para posteriormente, diseñar y definir una propuesta una propuesta que permita seleccionar correctamente las herramientas de gestión de control y mejorar integralmente a la organización.

Management control, Operational areas, Tools

Control de gestión, Áreas operativas, Herramientas

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Introduction

At present, the control and management tools have become very important, acquiring relevance for all organizations regardless of the sector to which they belong. Managers need to optimize all the company's resources, have timely and adequate information for decision-making and monitor compliance with strategic objectives.

In the same way, globalization, population growth, the pace with which markets evolve, the competitiveness of organizations, the rapid advance of technology and climate change, among other aspects; They have made management and control within a system truly complex, and although their basic functions have not changed, an evolution has inevitably been required, given that the variables that surround companies are constantly changing.

These management and control tools arise based on the gradual growth carried out by companies at different times. As time passes and the conditions of companies change, they adopt new tools to boost their management.

The organization on which this study is based is a Socially Responsible company known internationally for being a multidimensional organization, which means that it handles different service functions, having to offer comprehensive and safe handling of merchandise. That is why every step that is carried out in the operational area must be effective and efficient.

This research work is carried out to show what are the management and control tools that currently exist in the company and what is its operation for each area of study, in addition to identifying problems, ensuring the quality of the operational processes and propose improvements in the areas studied, starting from the premise of continuous improvement.

Justification

The current trend of organizations that adapt and progress in the face of globalized contexts, is to bet on and use the different existing control and management tools, to increase the efficiency of processes, optimize available resources, increase the quality of information, having the ability to reduce and prevent risks and increase competitiveness within the system.

For the control and management tools to be a fundamental support for the operational areas of the logistics park, it is necessary to correctly identify which ones to use and under what needs they will be used, depending on the context variables.

Therefore, starting from the main objective of this research work, it is intended to enter into the system to define and operate according to the reality of the organization, carrying out internal diagnoses that generate a comprehensive scenario, to determine the plans and improvement strategies.

The studied company is expected to have a great competitive impact in the world of logistics companies, increasing its profits and profits that benefit the economy of the organization.

General objective

Define and generate a proposal to improve management control in the operational areas of a logistics park in the state of Veracruz.

Particular objectives

1. Generate an instrument to measure management control in the operational areas of a logistics park in the state of Veracruz.
2. Carry out a comprehensive diagnosis on management control in the operational areas of a logistics park in the state of Veracruz.
3. Design an improvement plan for management control in the operational areas of a logistics park in the state of Veracruz.

Delimitation of the Problem**Space**

This study will be carried out in a group of port, logistics, and foreign trade services, which takes place in the state of Veracruz, Mexico.

Temporary

This research will be carried out in a 15-month period from February 2021 to May 2022.

Circumstantial Elements

Possible circumstantial elements that could arise in the development of the investigation to be carried out are described below.

- Time established to carry out the investigation: An instrument adapted to the characteristics of the organization must be designed, which requires considerable time to carry out, due to the need to carry out a field investigation and its analysis. In addition to this, rounds of interviews should be carried out with the actors of the organization to identify the experts, necessary for obtaining information and processing it. It is important to consider that the actors are personnel with an operational level, so the interviews should be scheduled since the organization is in constant activity.
- Stakeholder bias: Given the cultural variable, stakeholders may not understand the importance and focus of this study, which increases the margin of error in the results.

Research Goals

1. An instrument to measure management control in the operational areas of a logistics park in the state of Veracruz, for the second half of 2021.
2. A comprehensive diagnosis on the management control in the operational areas of a logistics park in the state of Veracruz, for the first half of 2022.

3. An improvement plan for management control in the operational areas of a logistics park in the state of Veracruz, for the first half of 2022.

Identification of the variables

The six context variables affect the selection and performance of management control tools. These variables are:

- Economic.
- Social.
- Cultural.
- Policy.
- Technological.
- Environmental.

Formulation of the hypothesis

1. The technological, economic and cultural variable has a significant impact on the selection and performance of management control tools in the operational areas of a logistics park in the state of Veracruz.
2. The social and political variables partially affect the selection and performance of management control tools in the operational areas of a logistics park in the state of Veracruz.
3. The environmental variable has a minimal impact on the selection and performance of management control tools in the operational areas of a logistics park in the state of Veracruz.

Kind of investigation

This study is of mixed nature (quantitative and qualitative) since it will work based on the criteria of the experts to identify the factors that affect management control in the operational areas of the organization. the quantification of the perceptions reflected in the research instruments, as well as statistical methods for their processing and analysis. The above will have the scope:

- Exploratory: It is characterized by the selection and compilation of information through the reading and criticism of documents and bibliographic materials, libraries, newspaper libraries, documentation, and information centers. It is closely related to historical research because it uses document analysis. such as books, magazines, press, censuses, statistics, yearbooks, films, slides, plans, discs, photographs, tapes, or recordings.
- Correlational: Given that a series of variables that affect the subject of analysis is specified in the research, they must be interrelated in order to fully explore their impact.
- Explanatory: Seeks to understand the phenomenon of study, making a detailed description of it, identifying the factor of origin as well as its behavior over time.
- Hypothetical-deductive: This research raises three hypotheses that are intended to be tested, depending on the results obtained.

Mendoza-Álvarez, C., Esteves, P. R., & Silvestre, C. R. (2021). De las fosas clandestinas a la tumba vacía: Narrativas de dignidad y esperanza en tiempos de horror. Universidad Iberoamericana AC.

Pérez, D. S. R. (2021). Centro de Estudios Antropológicos (Doctoral dissertation, El colegio de Michoacan).

Referencias

Barahona, C., Barrientos E. & Lazón E. (2010) Herramientas o mecanismos de control de gestión a considerar en la implementación de una nueva estrategia. Facultad de economía y negocios. Universidad de Chile.

Castro Córdova, C. A. (2021). Análisis y diseño de una planta de reciclaje de residuos sólidos inorgánicos en la ciudad de Moyobamba, 2018.

Cruz Méndez, A. (2021). Producción de biohidrógeno a partir de una codigestión anaerobia utilizando agua residual de la industria alimenticia en un reactor continuo empleando consorcios microbianos mixtos (Doctoral dissertation, Universidad Autónoma de Nuevo León).

Hernandez, P. R. (2021). Las capacidades empresariales como factores de ventaja competitiva en empresas hoteleras.

Management processes in the implementation of environmental legislation in civil engineering companies in the south of Veracruz

Procesos de gestión para implementar la legislación ambiental en empresas de ingeniería civil en el sur de Veracruz

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Abstract

The successes and errors that have arisen in the management process to implement environmental legislation in civil engineering companies were determined, and information related to the evolution of civil engineering companies in their environmental legislation certification process was presented, and finally the successes and errors that these companies have had in complying with environmental legislation were compared. As a first step, companies with ISO 14001 standards located in the region were sought. The model and instrument that served as the object of analysis of the companies was an interview by means of a survey. From the business perspective, it is stated that the companies that have as a basis to involve all their personnel, receive training, correctly establish their objectives, environmental policy, vision, mission and goals, prepare a diagnosis, a work plan and above all a change in their culture, tend to be the companies that manage to obtain ISO 14001 certification at the first attempt, as 66.67% of the organizations in the research, with 100% of the companies that prepared the environmental diagnosis and work plan, to become certified.

Management, Legislation, Environmental

Resumen

Se determinaron los aciertos y errores que han surgido en el proceso de gestión para implementar la legislación ambiental en las empresas de ingeniería civil, y se presentó información relacionada a la evolución de las empresas de ingeniería civil en su proceso de certificación en la legislación ambiental, finalmente se compararon los aciertos y errores que han tenido estas empresas en el cumplimiento de la legislación ambiental. Como primera instancia se buscaron empresas con la normativa ISO 14001 ubicadas en la región. Se realizó el modelo e instrumento que sirvió como objeto de análisis a las empresas, el cual fue una entrevista por medio de una encuesta. De la perspectiva empresarial, se enuncia que las empresas que tienen como base el involucrar a todo su personal, recibir capacitaciones, establecer de manera correcta sus objetivos, política ambiental, su visión, misión y metas, elaborar un diagnóstico, un plan de trabajo y sobre todo el cambio de su cultura, tienden a ser las empresas que logran obtener la certificación de la norma ISO 14001 al primer intento, como el 66.67% de las organizaciones de la investigación, con el 100% de empresas que elaboraron el diagnóstico ambiental y plan de trabajo, para certificarse.

Gestión, Legislación, Ambiental

Citation: MENDOZA-GONZÁLEZ, Felipe, CÓRDOVA-ESCOBEDO, Jesús Fausto, RAMIREZ-JIMÉNEZ, Alida and GUZMAN-VENTURA, Juan Antonio. Management processes in the implementation of environmental legislation in civil engineering companies in the south of Veracruz. Journal of Administration and Finance. 2021. 8-23:5-14.

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Introduction

As a first step, it is important to identify the activities carried out by companies in the production of their products and/or services, to determine the impact, they have on the environment, and thus establish environmental objectives and goals. The branch of civil engineering, which is largely focused on construction, is constantly changing the environment, negatively modifying the environment, according to Mariño (2007):

He argued that the three basic pillars of an engineering project were topography, geology, and hydrology; other environmental conditions, including social conditions, were not basic elements to be considered for project design (p. 67).

According to Mariño (2007) "it is around 1970 that this situation began to change, initially with the weak demands made at that time by the World Bank and, later, due to the progress in environmental awareness and regulations in the country" (p. 67).

Based on the above, the following question arises: What are the contributions that the implementation of environmental legislation has made to civil engineering companies and the failure it has had in the development of the same?

Knowing the successes and mistakes made by civil engineering companies allows us to identify the main shortcomings in the process of implementing environmental legislation.

Environmental management in companies is described, with the definition of environmental policies, objectives, and indicators, to achieve success in the management system. As it happens in other industries, for example in Alpina S.A., according to Acosta, Jair (2008) "Something that distinguishes Alpina in environmental issues is its wide national and international recognition in the use of good environmental practices, recognition that it has managed to sustain over time" (p. 80). Also, in the dairy industry "leads to formulate and put in writing an Environmental Policy, by virtue of which Lácteos Otero is committed to a series of general principles of environmental management. This policy complies with the requirements of the UNE-EN ISO 14001 Standard" (Fundación entorno, n.d., p. 8).

In the implementation, leadership is important, specifically mentioning visionary leadership and teamwork. In the environmental management challenges, it indicates the recommended capabilities of the person in charge of implementing the environmental management system, as well as the involvement of the personnel.

In the methodology, an instrument was elaborated to evaluate the processes of implementation of the environmental management system in the companies, which consisted of a survey, in which the results determined the line of business and size of the company, the time it took to be certified with ISO 14001, the interaction of the company's personnel in the certification, among others.

In the annexes, some tables of the results are presented; and finally, the conclusions of the research are included, with recommendations for the companies that wish to become certified, and for the companies that are already certified.

Environmental Management Systems

Environmental management in companies

The definition of environmental policies in organizations is very important, since it is part of the functions of top management, which will indicate the course to be followed with regard to the Environmental Management System, in order to achieve the objectives, set.

For Van Hoof (2008) cited by Marquez (2010) "A part of the whole management system that includes an organizational structure, planning activities, responsibilities, practices, procedures, processes and resources to develop, implement, achieve, and maintain an environmental policy" (p. 69).

Achieving and maintaining the environmental policy will make organizations competitive, giving added value to their products or services.

With the results obtained in the indicator, it can be determined whether the goal was met or not (achieved or not). Therefore, when the proposed goals are met, success in the environmental management system can be predicted.

According to the Practical Guide to Environmental Indicators in the Wood and Furniture Sector (2004) "environmental indicators are an effective tool to inform the company itself on the degree of compliance with the agreed objectives and targets" (p. 5).

Also, the Practical guide of environmental indicators in the wood and furniture sector (2004) says that "If historical situations are compared, environmental indicators can reveal potential for environmental improvement, which are economically viable" (p.5). With the results obtained, it will be possible to propose adjustments to obtain better results (continuous improvement), and it is in this way that the results are linked to improvement processes.

The implementation of an environmental management system

Leadership is a fundamental part to implement the EMS (Environmental Management System), it depends on a leadership convinced of the need for the implementation of the system in the organization, a visionary leader to know where he wants to go, according to Perez (2006) "In a participatory manner creates a Vision, Mission and Objectives that can be achieved by sharing efforts and work in common" (p. 81).

In addition, it is suggested that you know how to work as a team to make a diagnosis of the current situation of the company, with knowledge of the processes and environmental impacts by the same, in order to develop a work plan, where you can, if you consider it, seek advice from a company specializing in the implementation of EMS.

Choosing the norm that will be taken as reference for its EMS, as for example ISO 14001, elaborating the environmental policy according to the organization, establishing goals and indicators that will serve to measure the achievement of objectives, for the Practical guide of environmental indicators in the wood and furniture sector (2004) "the environmental indicators are an effective tool to inform to the same company between the degree of fulfillment of the objectives and agreed goals" (p. 5).

And depending on these results to apply the continuous improvement in the EMS, also the Practical guide of environmental indicators in the wood and furniture sector (2004) indicates that "If historical situations are compared, environmental indicators can reveal potentials for environmental improvement, which are economically viable" (p.5).

Challenges of Environmental Management

Based on the consultation material, for Sisto, Tsoukas and Chia (2002) cited by Ahumada (2004) "Market liberalization, the growing number of mergers and acquisitions, the emergence of free trade blocs, technological changes, labor flexibilization, among others, are frequently cited as destabilizing factors in the organizational environment" (p. 54). Due to this, several capabilities are required to face the pressure exerted by the markets, the personal capabilities that the person in charge of carrying out the environmental diagnosis in an organization must present, among others, are:

- Leadership.
- Knowledge (skilled).
- Interest in caring for the environment.
- Ability to adapt to change.
- Ability to adopt an environmental management system such as ISO 14001.
- Continuous improvement.

According to the Colombian Ministry of Environment (2000) cited by Muriel (2006):

One of the most important problems in Public Management (including environmental) is that planning decisions are made independently from execution and control decisions. And the functions and components of self-evaluation, improvement, adaptation, and adaptation are not included (p. 2).

Sometimes the boss invests a lot of time in planning, including the development of control indicators, but does not carry out the control, thus losing all sense of planning, much less improving, adapting and adapting.

The involvement of all stakeholders in environmental management, as indicated by Ernest Guhl (2000) cited by Muriel (2006): The participatory management of the environmental situations of a region by the various actors, through the use and application of legal, planning, technological, economic, financial, and administrative instruments, to achieve the adequate functioning of ecosystems and the improvement of the quality of life of the population within a framework of sustainability (p. 2).

Methodology

As a first step, we looked for companies related to civil engineering, which were certified with ISO 14001 standards, located in the region of Coatzacoalcos, Minatitlan, etc. (southern Veracruz), to develop research in a specific area. (South of Veracruz), to develop the research in a specific area.

The model and instrument that would serve as an object of analysis to the companies was made, which consisted of conducting an interview by means of a survey with questions formulated so that they could be solved. Considering the following points:

Informative use: the main purpose of the survey is to obtain relevant information that serves as a basis and foundation to be able to discern in the process of implementing environmental legislation in a company. To be able to establish a process to be followed before achieving the expected result.

Statistical use: from the information obtained previously, graphs are established to compare the processes of implementation of environmental legislation that the organizations have gone through, to find similarities and differences that they have had during the development of the certification. At the same time, to be able to analyze which are the key points of their success and/or failure.

Ease of response: for greater convenience and speed in the resolution, it was decided to create the study instrument in the Google database. In order not to interfere with activities or scheduled commitments of the company or person to answer the survey, it is done "online", so it can be answered at the time you want.

Confidentiality: This instrument was only used for the first two points above. In other words, the names of people who directly or indirectly influence the operation of the company are not requested, in order not to expose their integrity. Similarly, no statement is made of the company or companies that have participated in the development of the research, the reason is to safeguard the prestige obtained from each company throughout their working career.

Of the different types of existing surveys, it was decided to develop one of a mixed nature, that is to say, it is composed of a part of closed questions, in which the respondent can choose one or several options, and open questions so that he/she can freely write his/her answer. Since specific answers were required from the companies, closed questions were chosen, but it is also important to know the experience of each one of them during the process of implementing the Environmental Management System, in order to know the successes and errors they had, that is why open questions were also included. In the same way, answers in the form of a scale were used, including numerical scale, nominal scale, and Likert scale.

The advantages of closed-ended questions are that they are easy to process, and the results can be more easily compared quantitatively. And the advantages of open-ended questions are that they provide the opportunity to obtain answers without any type of restrictions from the organizations. Being a mixed survey, both types of results are obtained, but their processing can be more complicated, as it requires graphs and tables, for example.

We proceed to establish contact with the companies. This contact is made in two ways, one by e-mail and the other in person at the facilities.

A total of 9 companies related to civil engineering, from different sectors, participated, and some of them gave talks and toured the facilities. From all of this, we acquired knowledge of the approaches of the evaluators, and of the one we have as a company, in each ISO (ISO 9000, ISO 14000 and ISO 45000).

To achieve the objectives, set out at the beginning of this research, the information was simultaneously compared and formed into graphs in the Google database for better analysis and interpretation. In addition, graphs were made in the Excel program for a better understanding of the results.

The results are presented in order, starting with the company's line of business and then the process that each company underwent in its ISO 14000 certification. Special emphasis is placed on the variables that have significantly influenced the successes or errors of the companies, suggesting possible reasons that may have led to these results. For reasons of privacy and confidentiality of the companies, names were assigned according to the notification of the answers that were received, for a better understanding the companies will be presented as:

- Company 1 (Industry, medium).
- Company 2 (Industry, medium).
- Company 3 (Industry, medium).
- Company 4 (Industry, small).
- Company 5 (Industry, trade, medium).
- Company 6 (Industry, large).
- Company 7 (Industry, large).
- Company 8 (Industry, service, large).
- Company 9 (Industry, medium).

Results

The results obtained from the application of the instrument to the study sample are presented below.

Most of the companies in the region are construction companies and the others are engaged in specific activities in the civil works sector, including construction, as in the case of company 5 and company 8. Similarly, 55.6% of the organizations surveyed are medium-sized companies, 33.3% are large companies, and only 11.1% are small companies. Therefore, 66.7% of the companies belong to SMEs.

On the other hand, regarding the certification acquired by the corporations, it is observed that large companies are the ones that take the least years to achieve certification, i.e., it takes them in fashion 7 years, while SMEs take an average of 15.67 years.

A large percentage of the companies (88.89%) hired the services of a specialized organization to implement their environmental management system, since, of the 9 participating companies, 8 hired the services of a specialized organization and only 1 did not hire such services. It has been mentioned that every company for its optimal operation must have all its personnel trained and updated, in order to offer a better service and have a better performance, and indeed this is proven by noting that all the companies in this research took training on environmental legislation. Likewise, before performing a certification on environmental legislation, an environmental diagnosis of the company should be made, in addition to developing a program of improvements, to make the implementation process easier and more satisfactory in obtaining results. All the companies in this study carried out both activities.

The success of a company comes from the management (owner(s) and/or directors of the company), since they are mainly those who indicate the direction of the company, how it should go and how far it has to go, however, also those in charge or lower hierarchy personnel must participate in the implementation of the environmental management system (vision, mission, objectives, policies, goals and indicators). The ISO 14001 standard specifically mentions that in order for this environmental legislation implementation process to be better used and its objectives and requirements to be achieved, the participation of most of the positions, areas and departments is required, so that it becomes a work team with the same purpose in culture and ideology. In the study, company 7, company 8 and company 9 are the companies in which between 1 and 3 positions, areas or departments were involved in the environmental legislation process, and these were the 3 companies in which there was the least participation. On the other hand, the remaining 6 companies occupied between 3 and 6 positions, areas or departments during the certification process.

Since the elaboration of the indicators, company 3, company 5, company 6 and company 8, are the organizations with the highest number of labor personnel occupied for the certification of the standard, on the other hand, the rest of the companies had a very low participation of labor personnel, occupying between 2 and 5 people for the process. For the implementation of the standard, the majority or if possible the totality of the participation of its personnel is required, being company 5 the one that occupies the majority of its personnel in this process with a total of 50 people. Company 3, company 4, company 6 and company 8, are the ones that show a medium participation of their personnel, having between 10 and 16 people involved, company 1, company 2, company 7 and company 9, are the ones that have a low interaction with their personnel, since only between 3 and 4 people participate.

Although it had been mentioned that the success of this process depended on the participation and interaction of its personnel, company 1 and company 2 are the ones that needed 3 or more attempts to be certified, being the companies with the least participation of people in the process. It was also determined that 6 companies, equivalent to 66.7%, only needed one attempt to achieve ISO 14001 certification, while company 3 only needed 2 attempts to obtain the accreditation of this standard, being a company with a medium participation of people in the process. It is worth noting that large companies are the ones that obtain their certification at the first attempt.

This is followed by a fundamental analysis of the companies, their successes and failures.

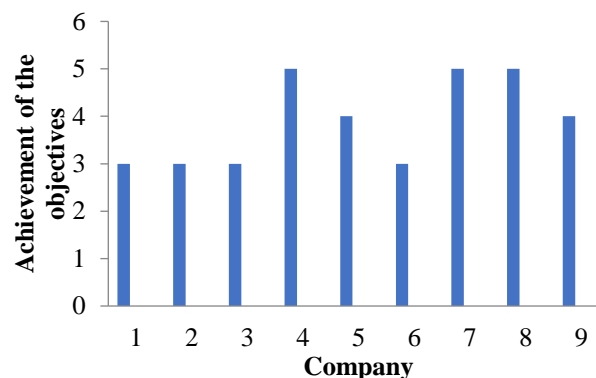
Previously it was established the different approaches that the company has, the organization that evaluates and the approach that the standard has, based on this, the companies with their different lines of business have different requirements to evaluate. For example company 1, company 2, company 3, company 7 and company 9, where it can be noted that their successes are very different, but this is essentially what ISO 14001 mentions, it says that the companies may not coincide in any favorable aspect, because the direction is different as well as its vision, mission, goal, policy and objectives.

What is interesting and verifiable are the bases of the standard, for example on the change of the corporate culture, this means that not only a change is made in the management of the activities in environmental matters, but that it must become a culture to take care of the environment, the company proves it being one of them its success. The specific norm that there must be control measures oriented to the workers and the degrees of danger for its correct handling and disposal, mentions that there must be safety and hygiene measures throughout the company, in order to protect the health of the personnel and their physical integrity, with the above the company should change its ideology regarding environmental management in order to create environmental awareness and responsibility, then, the damages caused to the environment should be repaired immediately before being an irreversible damage, these points are established in the answers of company 1, company 2 and company 3. In the answers of the survey it was also obtained that, company 4 verifies and shows that it is fundamental the objectives and the environmental policy to obtain this certification, because of these two points depends a lot the development of the environmental management system and mentions an objective of the norm for its correct operation, that is to say, the internal audits, these help to self-evaluate as company and to see the lacks that they have or are presented through the time in order to correct them and the implemented system continues in correct execution. Company 5 and company 6 confirm that staff training is very important in the development of the certification process, because the more you interact with the staff, the more understanding and a better work team, company 8 has this similarity by including all its workers, also companies 5 and 6 mention the commitment of senior management, and making it clear that participated in the whole process, from the implementation to the development of indicators and execution of the same. It is established that in order for a company to be successful in the development of the environmental legislation implementation process, it must have defined and established its scopes, as these come from its objectives, since it is what they want to do and what they expect as results, its correct application is synonymous with the achievement that is sought, this point is demonstrated by company 7.

Regarding the errors that the companies had, an important point to provide the service in the best way is to have the necessary resources and of good quality, however company 1 and company 7 have problems with their resources, the first in the low quality and depletion of the same, while the second in their general resources. The norm indicates that the legal part is indispensable, since this legal part is the one that demands the implementation of environmental legislation in the organizations, in the study company 2, company 3 and company 4 have a lack in these legal requirements, and one of them has affectations in the communities due to lack of legal knowledge. Company 5 and company 6, mention the mistake of not involving all their personnel or most of their departments for the implementation of this environmental management system, which is why there are non-conformities on the part of the organization that evaluates the requirements requested by the regulations. The objectives are considered essential in the implementation of the environmental management system, since the direction and operation of the company and the company's personnel depend on them, however, company 8 has marked as an error the fact of not having planned its objectives correctly.

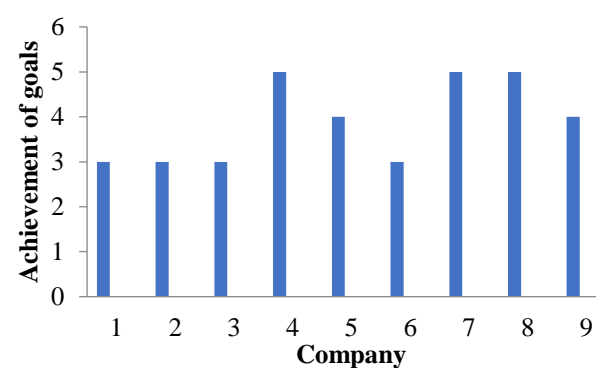
Among the requirements requested by the ISO 14001 standard, it states that the information acquired in the company and all its personnel must be clear and accurate, so that the activities to be performed are effective and professional, in turn indicates that the company must have parameters and measurements of these to assess their progress or deficiency, the company shows lack of information on the extent of compliance in their processes, and therefore must start from scratch.

Graphics 1 and 2 show the level of compliance with the objectives and goals of the companies, which indicates that the companies' responses are reliable, because if the goals are met, then the objectives are met. Company 4, company 7 and company 8 have an efficient compliance in the development of both points. On the other hand, company 1, company 2, company 3 and company 6 have a medium fulfillment of their objectives and goals. Companies 5 and 9 have an almost efficient execution in the previous points.



Graphic 1 Level of achievement of the objectives, scale used Poor 1 – 5 Efficient

Source: Own Elaboration, (2021)



Graphic 2 Level of achievement of goals, scale used Poor 1 – 5 Efficient

Source: Own Elaboration, (2021)

The processes developed by the companies go hand in hand with their environmental policies, they depend directly on each other, since the operation of the labor personnel is involved in the processes and this personnel depends on the environmental policy of the company, company 7, 8 and company 9 have a very good compliance, being the three companies that are achieving the results in all levels of compliance, while the remaining companies show a good and regular compliance depending on the case. In other words, 55.6% of the processes perform well, 33.3% perform very well, and only a minority (11.1%) perform regularly. In the case of environmental policies there are no regular behaviors, only good and very good levels, being 66.7% and 33.3% respectively.

Table 8 shows the proposals for improvement that the companies presented based on the errors they had in the process of implementing environmental legislation, also making a schedule of improvements.

Finally, in Table 9 the level of compliance with the proposals for improvements made previously, the only companies that fully complied with these proposals are company 4, company 5, company 7 and company 8, while company 2, company 6 and company 9, their level of compliance was almost efficient, as well as the responses of the remaining companies in their execution of their proposals were regular.

Annexes

Company	Industry	Commerce	Service
1	✓		
2	✓		
3	✓		
4	✓		
5	✓	✓	
6	✓		
7	✓		
8	✓		✓
9	✓		

Table 1 Business line

Source: Own elaboration, (2021)

Company	Small	Median	Big
1		✓	
2		✓	
3		✓	
4	✓		
5		✓	
6			✓
7			✓
8			✓
9		✓	

Table 2 Company size

Source: Own elaboration, (2021)

Company	Company creation	Standard implementation	Years
1	19/01/1987	03/01/2013	17
2	28/07/1988	08/10/2012	16
3	15/09/2005	05/05/2011	6
4	12/06/2006	14/05/2018	12
5	07/01/1991	20/01/2017	21
6	26/03/2013	26/07/2014	1
7	27/04/2006	29/10/2013	7
8	12/05/1997	08/03/2004	7
9	26/11/1984	07/04/2018	22

Table 3 Years elapsed to be certified, considering that the ISO 14000 Standard was published in 1996

Source: Own elaboration, (2021)

Company	Elaboration of environmental diagnosis	Elaboration of work plan
1	✓	✓
2	✓	✓
3	✓	✓
4	✓	✓
5	✓	✓
6	✓	✓
7	✓	✓
8	✓	✓
9	✓	✓

Table 4 Companies that prepared an environmental diagnosis, and a work plan to implement the standard

Source: Own elaboration, (2021)

Company	Number of attempts the company needs to get certified
1	3 or more
2	3 or more
3	2
4	1
5	1
6	1
7	1
8	1
9	1

Table 5 Number of attempts the company needs to get certified

Source: Own elaboration, (2021)

Company	Main successes
1	Control measures oriented to workers and degrees of danger.
2	The correct implementation of safety and hygiene measures in accordance with ISO standards.
3	Create awareness and responsibilities in the company for the management of waste handled in construction.
4	Environmental objectives, environmental policy and internal audits.
5	Training of personnel involved in the management system, commitment of top management.
6	That the commitment was not only from the management, but also from the company's operating personnel.
7	The scopes.
8	The good compliance of all its employees and not being tolerant of any event.
9	Emphasize and prioritize change in corporate culture.

Table 6 Successes that companies had in the process of implementing the standard

Source: Own elaboration, (2021)

Company	Main mistakes
1	Buying materials with low quality and depletion of natural resources.
2	The delivery of the required documentation.
3	Lack of knowledge of the legal aspects used in the communities.
4	There were only observations on the legal requirements.
5	Assume that the management system depends on a department that manages, however, each process must be aware of the participation and consultation of personnel as a fundamental part of the system.
6	That those involved were not considered when generating the procedures.
7	Resources.
8	Failure to plan target points well.
9	Not having enough information to show the extent to which your procedures are being followed and having to start from scratch.

Table 7 Errors that companies had in the process of implementing the standard

Source: Own elaboration, (2021)

Company	Improvement proposals
1	Warehouse improvement, noise measurement and maintenance programs.
2	The use of special bins to separate hazardous waste in the work area.
3	Identification of environmental aspects found in offices and construction projects.
4	Expand legal requirements.
5	Improve the way system performance is measured.
6	Reuse products instead of generating disposal.
7	Document control.
8	Training of your personnel before carrying out any established activity.
9	Reducing waste, discharges and emissions and optimizing processes.

Table 8 Proposals for improvement raised by the companies

Source: Own elaboration, (2021)

Company	Level of compliance with the improvement proposals (poor 1 – 5 efficient)
1	3
2	4
3	3
4	5
5	5
6	4
7	5
8	5
9	4

Table 9 Level of compliance with the improvement proposals

Source: Own elaboration, (2021)

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Conclusions

At the end of the research, with the application of the instrument to obtain relevant information from the companies, the analysis, distribution and interpretation of the results, it can be concluded that the ISO 14001 standard gives a greater enhancement to the company and commercial competitiveness, especially its contribution to society and the environment, referring to the fact that it takes care of people's health and environmental integrity.

With regard to the business perspective, it is stated that companies that have as a basis to involve all their staff, receive training, correctly establish their objectives, environmental policy, vision, mission and goals, develop a diagnosis, a work plan and especially the change of their culture, tend that companies can obtain the ISO 14001 certification at the first attempt, this makes it clear that if the requirements set out in the standard are followed correctly, the implementation process is a success. It can also be concluded that the successes acquired and obtained by these companies are the result of good planning and the intervention of management from start to finish, thus dispelling any doubt that the interaction of management and all departments is something negative; on the contrary, much depends on the success of the implementation of environmental legislation.

With the information obtained, the hypothesis of the research can be proved, by knowing the successes and mistakes that civil engineering companies have had, it allows to identify the main deficiencies in the process of implementing environmental legislation.

Based on the above, the following can be recommended to companies that take the initiative to acquire environmental legislation certification:

- Be correctly informed of the requirements of the ISO 14001 standard.

- To carry out a diagnosis of the company to be able to see the deficiencies that they present.
- Train all the company's personnel.
- Establish and define your environmental objectives and policies.
- Involve all your staff in the process of implementing the standard.
- Interaction of the board and all its departments.
- Change its corporate culture.

It is recommended that small and medium-sized enterprises (SMEs) follow the same process as large companies, since it takes fewer years to acquire certification and at the first attempt.

As for companies already certified, it is recommended:

- Be subject to internal audits for a better operation and efficiency in the development of the same.
- Efficiently implement the improvement plans proposed.
- Develop a work plan in accordance with the improvement proposals.
- Continue to involve the board of directors and all the personnel of the different areas and departments of the company.
- Maintain or improve the level of compliance with the standard.
- Maintain or improve its corporate culture.
- Create environmental awareness and responsibility.

References

Acosta, G. y Jair, E. (2008). El éxito de la gestión ambiental en Alpina S.A. Bogotá, Colombia: Revista EAN

Ahumada Luis (2004). Liderazgo y equipos de trabajo: Una nueva forma de entender la dinámica organizacional. Retrieved from: https://www.researchgate.net/publication/237263356_LIDERAZGO_Y_EQUIPOS_DE_TRABAJO_UNA_NUEVA_FORMA_DE_ENTENDER_LA_DINAMICA_ORGANIZACIONAL dated August 24, 2021.

Fundación Entorno (s.f.). Caso práctico: Definición, desarrollo e implantación de un sistema de gestión medioambiental en una industria láctea. Retrieved from: https://docplayer.es/12471571-Caso-practico-definicion-desarrollo-e-implantacion-de-un-sistema-de-gestion-medioambiental-en-una-industria-lactea.html#google_vignette dated September 21, 2021.

Guía práctica de indicadores medioambientales en el sector de la madera y el mueble (2004). Confemadera – Confederación Española de Empresarios de la Madera. Madrid, España.

ISO 14001 (2015). Sistemas de gestión ambiental – Requisitos con orientación para su uso. Ginebra, Suiza.

Mariño Juan (2007). Reflexiones sobre el papel de la ingeniería civil en la evolución del medio ambiente en Colombia. Retrieved from: <http://www.scielo.org.co/pdf/ring/n26/n26a9.pdf> dated September 16, 2021.

Márquez Silvia (2010). Administración – medioambiente, empresas con gestión medio ambiental. Xalapa, Veracruz, México.

Muriel Rafael (2006). Gestión ambiental. Retrieved from: https://upcommons.upc.edu/bitstream/handle/2099/1110/13_GestAmbientalRafaelMuriel_cast.pdf dated August 24, 2021.

Pérez Rafael (2006). Liderazgo Visionario: Centro del conocimiento. Retrieved from: <http://journal.ean.edu.co/index.php/Revista/article/viewFile/388/382> dated August 24, 2021.

Wages by sector of economic activity in Mexico, 1994-2019**Los salarios por sector de actividad económica de México, 1994-2019**

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Abstract

Wages are a fundamental component of worker working conditions and are an essential variable for competitiveness. The objective of the research was to analyze wages by economic activity sector and its effects on the Mexican economy, 1994-2019; for which three multiple linear regression models were developed, one for each economic sector. The statistical results indicated that for wages in the primary sector the most significant variable was the exchange rate, for the secondary sector the Gross Domestic Product (GDP) and for the tertiary the unemployment rate. The accumulated loss of purchasing power in the period studied was greater for the primary and tertiary sectors; in the case of the secondary sector, as of 2009, it began to present positive values.

Inflation, Gross Domestic Product, Wages, Interest rate

Resumen

Los salarios son un componente fundamental de las condiciones laborales de los trabajadores y son una variable esencial para la competitividad. El objetivo de la investigación consistió en analizar los salarios por sector de actividad económica y sus efectos en la economía de México, 1994-2019; para lo cual se elaboraron tres modelos de regresión lineal múltiple, uno para cada sector económico. Los resultados estadísticos indicaron que para los salarios del sector primario la variable más significativa fue el tipo de cambio, para el secundario el Producto Interno Bruto (PIB) y para el terciario la tasa de desempleo. La pérdida acumulada de poder adquisitivo en el periodo estudiado fue mayor para el sector primario y el terciario, para el caso del secundario a partir de 2009 comenzó a presentar valores positivos.

Inflación, Producto Interno Bruto, Salarios, Tasa de interés

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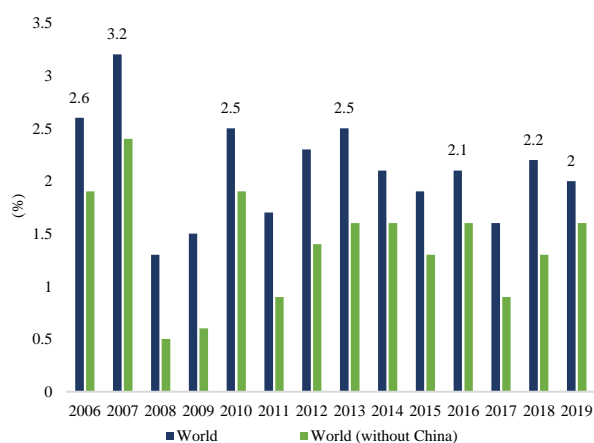
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Introduction

The minimum wage is “the minimum sum that must be paid to the worker for the activities carried out or services rendered, within a specified period, in whatever way is calculated, per hour or per performance, which cannot be decreased or by individual agreement, nor collective, which is guaranteed by law and can be set to cover the minimum needs of the worker and his family, taking into account the economic and social conditions of the countries ”(ILO, 1992).

The slow increase in wages in developed economies is due to low economic growth, among the main causes are: the slow growth of production, the decrease in the bargaining power of workers, as well as the inability of employment statistics to efficiently capturing the labor market gap and an uncertain outlook that may have discouraged companies from raising wages. According to the World Wage Report 2018-2019, in low- and middle-income economies, the increase in average wages was more stable. Particularly in China in the last decade, these increased, on the contrary, in many other countries, it was insufficient to cover the basic needs of workers (ILO, 2019).



Note: Figures for 2019 are preliminary estimates, as national estimates are not yet available for all countries

Figure 1 World Average Annual Real Wage Growth, 2006-2019

Source: Own elaboration of ILO world wage data, 2019

Figure 1 shows that the world growth of real wages during 2019 was 2.0%, lower by 0.2% in relation to 2018, while that of 2017 was not only lower compared to 2016, but also presented a similar very low rate. Compared to the one presented in 2008, even the figures for these two years were well below those observed for 2006 and 2007 before the global financial crisis. The decrease in wage growth between 2006 and 2019 can be seen in both series including and excluding China, it is worth mentioning that this country is discarded from the world average wage, since its higher growth influences it. What concerns the countries that make up the Group of Twenty (G20) (made up of 19 countries and the European Union: Germany, Saudi Arabia, Argentina, Australia, Brazil, Canada, China, South Korea, United States, France, India, Indonesia, Italy, Japan, Mexico, Russia, United Kingdom, South Africa and Turkey), although they presented a trend higher than the world average wages in the 2019 estimates, a considerable decrease was observed compared to 2018, noting that this group represents three-quarters of the world's Gross Domestic Product (GDP).

In recent years, the minimum wage has become the subject of debate in economic newspapers, legislative chambers, employers' associations, unions, workers' organizations and academics worldwide. For example, in developed economies such as Germany, the United States, England and other countries of the European Union; As well as in emerging countries such as Argentina, Ecuador, Uruguay and Brazil, this salary was used as an instrument of economic policy to promote equality and raise the income of the poorest workers (IMF, 2014). However, in general for Latin America wage trends are still lower than in Asian countries, this due to low economic growth.



Figure 2 Average annual world economic growth, 2006-2019 (GDP at constant prices)

Source: Prepared with data from the IMF Annual Report, 2017 and 2018, 2019

Figure 2 shows that world economic growth accelerated in 2017 and there was a slowdown between 2017 and 2019.

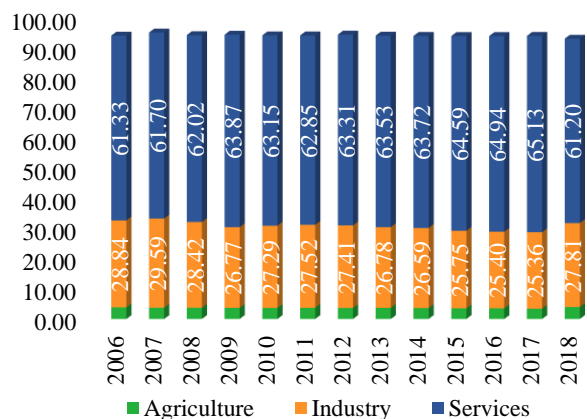


Figure 3 Participation of economic sectors in the world Gross Domestic Product, 2006-2018 (%)

Source: Prepared with data from Fernández, 2020

Figure 3 shows the participation of the economic sectors in the world Gross Domestic Product (GDP) from 2006 to 2018. In the last year, the agriculture sector contributed 4.0%, and the Industry sector around 28.0%, while services represented approximately 61.0% of total world GDP.

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average
Latin America and the caribbean	0.7	2.0	2.2	0.2	0.1	0.0	0.4	1.1	0.8	0.8
North America	-0.4	0.3	0.5	0.8	2.1	0.6	0.7	0.8	1.0	0.7
Asia and the Pacific	3.6	4.1	4.6	3.1	4.0	4.6	3.5	3.9	3.4	3.9

Table 1 Average Annual Salary Growth by Region, 2011-2019 (%)

Source: Own elaboration with ILO estimates, 2019.

In Table 1, we can see the average growth of real wages for Asia and the Pacific of 3.9%, for Latin America and the Caribbean of 0.8%, and North America of 0.7%, for the period 2011-2019 (ILO, 2019).



Figure 4 Annual Growth Rate of GDP and Employment in Latin America and the Caribbean, 2010-2019 (%)

Source: Own elaboration with data from ECLAC, 2019

As shown in Figure 4, the GDP rate in 2015 was -0.2%, and -1.0% in 2016, this caused the employment share to decrease in 2015 and 2016, being 62.2 and 61.9% respectively. After this fall in GDP that had an impact on employment, the recovery began in 2017, presenting this year a figure of 62.4%, falling again in 2019 (ECLAC and ILO, 2019).

Overview of salary in Mexico

According to the ILO (2017a), in recent years the need to control trends in wages and to apply sustainable wage policies has been recognized, to curb their stagnation, to increase the levels of remuneration of millions of workers the world's poor, ensure a fair distribution, reduce excessive inequalities in wages and income, and reinforce consumption as a fundamental pillar of a sustainable economy and with-it economic growth.

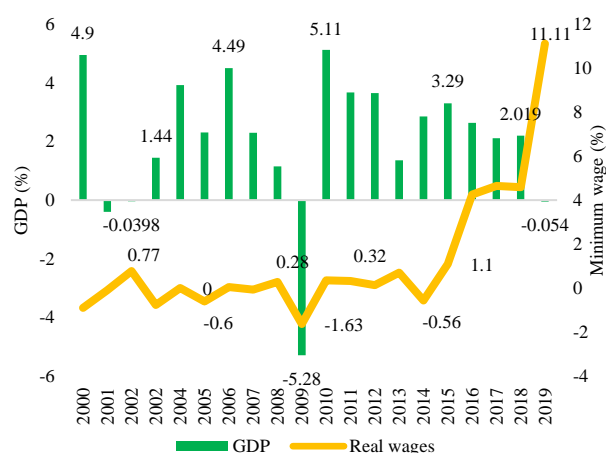


Figure 5 Annual growth rate of GDP and real minimum wage in Mexico, 2000-2019

Source: Own elaboration with data from CONASAMI and INEGI, 2019

As shown in Figure 5, Mexico presented low economic growth, which was impacted by the 2008-2009 economic crisis, being -5.3% in 2009, this in turn had an impact on the loss of the purchasing power of the minimum wage. However, for 2010 the GDP grew again, presenting a figure of 5.1% and the salary began to recover, reaching 11.11% in 2019.

In recent decades, the wage policy has gone down (CAM, n / d), since during the period from 1997 to 2018, real wages maintained an annual growth of 1.3%, going from \$ 267.00 to \$ 354.00 per year. day (or from \$ 8,000.00 to \$ 10,600.00 per month on average). However, at the state level, the behavior was not uniform; since while states like Zacatecas and Campeche presented favorable economic conditions for their population; On the other hand, workers in Mexico City and the State of Mexico, whose incomes were stagnant, did not allow improvements in wages (Suarez, 2018).

Contrary to what happened in general in the aforementioned period, per-capita income decreased 2.5% during 2016-2017, which implied an increase in the poverty level, where 41.0% of the population was below the cost of the basic basket. The southern states Chiapas (71.3%), Guerrero (65.6%), Oaxaca (64.5%), Veracruz (54.4%), were those that presented lower incomes than the basket (Animal Político, 2018).

It is important to mention that the continuous fall in the purchasing power of wages in Mexico has affected the capacity to build wealth in an important segment of the Mexican population, so that around 40.0% are in precarious conditions. Thus, the loss of this has been more than 80.0%, when comparing the real daily minimum wage of December 2016 with that of 1982. Important efforts have been made to recover purchasing power, however, in real terms it has decreased due to the rise in the prices of the basic food basket, services and gasoline. Due to the low salary level, negative consequences were generated in economic growth (Cilia, 2017).

Economic growth by sector of economic activity in Mexico

Regarding the GDP by economic activities for 2019, the primary ones were those that presented the best economic performance, reporting a growth of 2.0% compared to the previous year. On the other hand, secondary activities showed a negative growth of 1.8%. While tertiary activities, which are the ones that contribute the highest percentage to GDP with more than 60.0%, for the year mentioned, only grew by 0.5% (Animal Político, 2020).

The Global Indicator of Economic Activity (IGAE) showed a slight improvement after seven consecutive months of contractions. During 2018 it contracted 0.1%. While, in 2019 an economic expansion was registered in January (1.0%), February (0.8%), April (0.1%) and December (0.1%), that is, the economy had an average growth of 0.5% (Morales, 2020).

Concept	Real% variation compared to the previous quarter	Real% variation compared to the same quarter of 2018	Real% variation during nine months of 2019 compared to the same period of 2018
GDP	0.0	-0.2	0.0
Primary activities	3.3	5.4	2.2
Secondary activities	-0.1	-1.5	-1.7
Tertiary Activities	0.1	0.1	0.6

Table 2 GDP by Economic Activity Sectors, third quarter of 2019 (seasonally adjusted figures)

Source: Own elaboration with data from INEGI, 2019

Consequently, as can be seen in Table 2, the GDP of primary activities increased 3.3% and that of tertiary activities by 0.1%, while that of secondary activities decreased 0.1% in the July-September quarter of 2019 compared to the quarter previous.

According to the antecedents, the objective of the research was to analyze wages and purchasing power by sector of economic activity in Mexico, 1994-2019. An inverse relationship between wages and loss of purchasing power is expected.

Materials and methods

To carry out this research, a documentary investigation was carried out, which consisted of the review of different statistical sources such as the National Institute of Statistics and Geography (INEGI), the Bank of Mexico (Banxico), the National Commission of Minimum Wages (CONASAMI), the International Monetary Fund (IMF), the International Labor Organization (ILO), the Mexican Institute of Social Security (IMSS), the Organization for Economic Cooperation and Development (OECD), the Economic Commission for Latin America and the Caribbean (CEPAL), the UNAM Center for Multidisciplinary Analysis (CAM), the National Council for the Evaluation of Social Development Policy (CONEVAL), among others.

From the processing of the information obtained from these official sources, a database was generated in order to determine the behavior of wages by sectors, Gross Domestic Product, inflation, interest rate, unemployment rate, exchange rate of 1980-2018. Subsequently, with the variables considered, three multiple linear regression models were developed for the research period using the statistical package Statistical Analysis System (SAS), using the Ordinary Least Squares (OLS) method, to adjust them, logarithms were applied for some variables (WSprim1, WSsec1, WSter1 and PIB1).

The multiple linear regression models that were considered were the following:

$$WSprim1_t = \alpha_0 + \alpha_1 INF_t + \alpha_2 PIB1_t + \alpha_3 U_t + \alpha_4 E_t + \alpha_5 r_t + \varepsilon_1 \quad (1)$$

$$WSsec1_t = \beta_0 + \beta_1 INF_t + \beta_2 PIB1_t + \beta_3 U_t + \beta_4 E_t + \beta_5 r_t + \varepsilon_2 \quad (2)$$

$$WSter1_t = \gamma_0 + \gamma_1 INF_t + \gamma_2 PIB1_t + \gamma_3 U_t + \gamma_4 E_t + \gamma_5 r_t + \varepsilon_3 \quad (3)$$

Where: α_i , β_i , γ_i , are the coefficients to estimate; ε_1 , ε_2 and ε_3 , are the terms of mistake. WSprim1 = Real minimum average wage of the primary sector (constant 2018 prices). WSsec1 = Real minimum average wage of the secondary sector (constant 2018 prices). WSter1 = Real minimum average wage in the tertiary sector (constant 2018 prices). GDP1 = Gross Domestic Product of Mexico (millions of pesos at constant 2013 prices). r = 28-day Cetes interest rate (%). U = Unemployment rate (%). E = Real exchange rate (pesos per dollar). INF = Annual inflation (%). With the data per day of nominal wages and the price of the food basket plus the rural non-food (CA) rural and urban (considering this for 4 people, since that is the average of a Mexican family), the loss was calculated of purchasing power, the nominal salary was used, because the methodology used in the work of the Center for Multidisciplinary Studies (CAM) of the UNAM was used, as well as the percentage that with a daily nominal salary, you can buy from the basic basket. Analysis and interpretation: Statistical and economic analysis of wages by sectors of economic activity was carried out, and the loss of purchasing power.

Results

The results obtained were analyzed from a statistical and economic point of view in relation to the main economic variables of the models studied.

Statistical analysis of economic sectors

In each of the models, the statistical analysis was based on the parameters of the determination coefficient (R^2), the value of the calculated F, (F_c) the mean square of the error, the value of each partial t-value for each of the estimators from the analysis of variance given. To test the statistical significance of the fitted regression equation, the following sets of hypotheses were considered, $H_0: \alpha_1 = \alpha_2 = \dots = \alpha_n = 0 \quad Vs \quad H_a = \alpha_1 = \alpha_2 = \dots = \alpha_n \neq 0$; $H_0: \beta_1 = \beta_2 = \dots = \beta_n = 0 \quad Vs \quad H_a = \beta_1 = \beta_2 = \dots = \beta_n \neq 0$; $H_0: \gamma_1 = \gamma_2 = \dots = \gamma_n = 0 \quad Vs \quad H_a = \gamma_1 = \gamma_2 = \dots = \gamma_n \neq 0$

The results obtained in Table 3 show the global test for each of the models, so for a test of significance at 0.05, in the case of equation 1, when comparing $F_c = 4.75$ with $F_t(5,20) = 2.71$ of the primary sector, the first was greater than the second. For the secondary sector $F_c = 38.66 > F_t(5,20) = 2.71$ and for the tertiary sector $F_c = 6.31$ was greater than $F_t(5,20) = 2.71$. This means that, for each model, the null hypothesis is rejected in favor of the alternative, which indicates that, in each case, at least one of the parameters estimated by the regression is different from zero. On the other hand, the coefficient of determination R^2 shows that the salaries of the primary sector were explained by 54.28%, those of the secondary sector by 90.62% and those of the tertiary sector by 61.20%, each one by the independent variables considered in each equation, such as: Inflation (INF), Gross Domestic Product (GDP1), unemployment (U), the exchange rate (E) and the interest rate (r).

Regarding the individual test, for the case of model 1, $WSprim1_t$, the variables that were significant were the exchange rate with a t value of $2.07 > 1$ with probability 0.0518 and unemployment whose t value of 1.70 with probability of 0.1048. For the secondary, the highly significant variables were unemployment (U) and GDP1 with a t of 4.96 and 2.78 > 1 respectively, likewise the exchange rate was significant, although with a lower level of significance with a t of $1.33 > 1$ and $Pr | t |$ of 0.1649. For the tertiary, both the exchange rate and unemployment were significant with a t of 2.26 and $1.93 > 1$ (Table 3).

Dependent variable	Independent variables				
Equation 1					
$WSprim1_t$	<i>PIBR</i>	<i>INF</i>	<i>U</i>	<i>E</i>	<i>R</i>
Coefficient	-0.1073	-0.00498	0.02669	0.06167	-0.00393933
t_c	-0.50	-0.94	1.70	2.07	-0.81
$P_{> t }$	0.6214	0.3598	0.1048	0.0518	0.4280
R ² = 54.28% F-value = 4.75 Prob>F = <.005					
Dependent variable	Independent variables				
Equation 2					
$WSsec1_t$	<i>PIBR</i>	<i>INF</i>	<i>U</i>	<i>E</i>	<i>R</i>
Coefficient	0.56240	-0.00522	0.07368	0.04063	-0.00392
t_c	2.78	0.00502	4.96	1.33	-0.85
$P_{> t }$	0.0115	0.3102	0.0001	0.1649	0.4046
R ² = 90.62% F-value = 38.66 Prob>F = <.0001					
Dependent variable	Independent variables				
Equation 3					
$WSTER1_t$	<i>PIBR</i>	<i>INF</i>	<i>U</i>	<i>E</i>	<i>r</i>
Coefficiente	-0.07750	-0.00418	0.02882	0.06385	-0.00465
t_c	-0.38	-0.83	1.93	2.26	-1.01
$P_{> t }$	0.7066	0.4167	0.0675	0.0354	0.3267
R ² = 61.20% F-value = 6.31 Prob>F = <.0011					

Table 3 Variance analysis

Source: Elaboration based on the results of the statistical package SAS, 2009

Economic analysis

At this point, it is important to analyze the parameters in their structural form, since it allows us to interpret the congruence of the estimators..

$$WSprim1_t = 12.45888 - 0.00498INF_t - 0.1073PIB1_t + 0.02669U_t + 0.06167E_t - 0.00393r_t \quad (4)$$

$$WSsec1_t = 2.18247 - 0.00522INF_t + 0.56240PIB1_t + 0.07368U_t + 0.04063E_t - 0.00392r_t \quad (5)$$

$$WSTER1_t = 12.55620 - 0.00418INF_t - 0.07750PIB1_t + 0.02882U_t + 0.06385E_t - 0.00465r_t \quad (6)$$

For the primary sector wage function (4), the variables that met the signs of economic theory were inflation and interest rate; for the secondary (5), inflation (INF), GDP1 and the interest rate (r). In relation to the tertiary sector model (6), in the face of an increase in inflation and the interest rate, the salary decreases, which fulfilled the expected sign.

Economic analysis of elasticities

For the analysis of elasticities, the parameters estimated from the structural form of the model were considered, with a significance level of 5.0%:

Primary sector	Secondary sector	Third sector
$\epsilon_{INF}^{WSprim1_t} = -0.00498$	$\epsilon_{INF}^{WSsec1_t} = -0.00522$	$\epsilon_{INF}^{WSTER1_t} = -0.00418$
$\epsilon_{PIB1}^{WSprim1_t} = -0.1073$	$\epsilon_{PIB1}^{WSsec1_t} = 0.56240$	$\epsilon_{PIB1}^{WSTER1_t} = -0.07750$
$\epsilon_U^{WSprim1_t} = 0.02669$	$\epsilon_U^{WSsec1_t} = 0.07368$	$\epsilon_U^{WSTER1_t} = 0.02882$
$\epsilon_E^{WSprim1_t} = 0.06167$	$\epsilon_E^{WSsec1_t} = 0.04063$	$\epsilon_E^{WSTER1_t} = 0.06385$
$\epsilon_r^{WSprim1_t} = -0.003939$	$\epsilon_r^{WSsec1_t} = -0.00392$	$\epsilon_r^{WSTER1_t} = -0.00465$

Table 4 Elasticities of the Models in their Structural Form
Source: Own elaboration with the results of the statistical package SAS, 2009

As can be seen in Table 4, the elasticities for the primary sector were as follows: with respect to the exchange rate, if it increases by 10.0%, wages would increase by 0.61% and the unemployment rate would only increase by 0.26%; In the case of the secondary, of the elasticity of GDP1, that is to say that if these were increased by 10.0%, wages would increase by 5.6%, 0.052, and 0.039% respectively, which agrees with economic theory. Regarding the elasticity of the tertiary, with respect to the exchange rate, the interest rate and inflation were 0.063, 0.00465, and 0.00418, which means that if these were increased by 10.0%, wages would increase by 0.63 %, 0.046, and 0.0418% respectively.

Calculations of purchasing power and the rural and urban basic food basket

Year	Daily nominal salary (pesos)	Cumulative increase	Price Rural Food Basket per day for 4 people	Cumulative percentage of the price of the rural Food Basket	Percentage of food Basket can be acquired with a salary	Real wage index 1994=100	Purchasing power of wages 1994-2019 (%)
1994	29.75		33.84		87.91	100	
1995	33.16	11.46	44.76	32.27	74.08	84.27	-15.73
1996	39.16	29.56	61.16	68.91	64.03	72.83	-27.17
1997	47.08	49.78	73.61	89.31	63.93	72.72	-27.28
1998	55.85	68.42	85.72	105.72	63.16	74.12	-25.88
1999	65.94	86.48	99.08	121.3	66.56	75.71	-24.29
2000	75.7	101.28	107.48	129.78	70.43	80.12	-19.88
2001	85.98	114.85	113.8	135.66	75.55	85.94	-14.06
2002	93.41	123.5	119.88	141.01	77.92	88.64	-11.36
2003	100.82	131.43	125.52	145.71	80.52	91.37	-8.63
2004	106.07	136.64	132.66	151.41	79.95	90.94	-9.06
2005	110.28	140.61	138.68	155.94	79.52	90.45	-9.55
2006	111.76	141.95	144.6	160.21	77.29	87.92	-12.08
2007	121.45	150.62	151.64	165.07	80.09	91.1	-8.9
2008	127.23	155.38	160.16	170.69	79.44	90.36	-9.64
2009	131.93	159.08	172.28	178.26	76.58	87.11	-12.89
2010	136.42	162.48	179.8	182.63	75.87	86.3	-13.7
2011	145.38	167.58	183.62	185.92	77.2	87.82	-12.18
2012	150.11	172.27	197.68	192.36	75.93	86.37	-13.63
2013	156.21	176.33	207.16	197.15	75.4	85.77	-14.23
2014	165.63	182.36	216.76	201.79	76.41	86.91	-13.09
2015	174.09	187.47	223.92	205.09	77.75	88.44	-11.56
2016	180.39	191.09	232.32	208.84	77.65	88.32	-11.68
2017	194.05	198.66	247	215.16	78.56	89.36	-10.64
2018	208.47	206.1	258.36	219.76	80.69	91.78	-8.22
2019	225.57	214.3	268.16	223.55	84.12	95.68	-4.32

Table 5 Purchasing Power and rural basic basket of the primary sector, 1994-2019
Source: Own elaboration with data from STPS and CONEVAL, 2019

After the crisis of 1995-1996, the Mexican economy suffered the interruption of money movements for investment purposes from abroad to Mexico, added to this, the consequent devaluation of the national currency originated an inflationary effect that was reflected in the power As shown in Table 5, wages in the primary sector went from a loss of 15.73 to 27.17% respectively. From 2003 to 2005 it remained an average of 9.08%. Finally, for 2018 and 2019 it was 8.22 and 4.32%, respectively. However, this has not been able to recover in the primary sector, causing it not even to cover the cost of the basic rural food basket.

Year	Daily nominal salary (pesos)	Cumulative increase	Price Urban Food Basket per day for 4 people	Cumulative percentage of the price of the urban Food Basket	Percentage of food Basket can be acquired with a salary	Real wage index 1994=100	Purchasing power of wages 1994-2019 (%)
1994	54.13	-	57.08	-	94.83	100	-
1995	62.15	14.82	73.92	29.5	84.08	88.66	-11.34
1996	74.66	34.94	99.48	64.08	75.05	79.14	-20.86
1997	88.83	53.92	119.92	84.63	74.07	78.11	-21.89
1998	105.96	73.21	139.2	100.7	76.12	80.27	-19.73
1999	126.63	92.71	160.2	115.79	79.04	83.35	-16.65
2000	149.45	110.74	174.08	124.45	85.85	90.53	-9.47
2001	173.27	126.67	185.04	130.75	93.64	98.74	-1.26
2002	190.16	136.42	195.76	136.54	97.14	102.43	2.43
2003	204.88	144.16	204.4	140.96	100.23	105.7	5.7
2004	221.95	152.5	215.2	146.24	103.14	108.76	8.76
2005	241.56	161.33	224.56	150.59	107.57	113.43	13.43
2006	259.61	168.8	233.2	154.44	111.33	117.39	17.39
2007	278.81	176.2	243.28	158.76	114.6	120.85	20.85
2008	299.43	183.59	256.2	164.07	116.87	123.24	23.24
2009	320.4	190.6	272.76	170.54	117.47	123.87	23.87
2010	337	195.78	285.44	175.18	118.06	124.5	24.5
2011	357.1	201.74	294.12	178.23	121.41	128.03	28.03
2012	379.86	208.12	309.16	183.34	122.87	129.57	29.57
2013	402.3	214.02	323.24	187.89	124.46	131.24	31.24
2014	428.76	220.6	340.44	193.21	125.94	132.81	32.81
2015	449.9	225.53	348.52	195.59	129.09	136.12	36.12
2016	461.88	228.2	359.24	198.66	128.57	135.58	35.58
2017	482.27	232.61	381.44	204.84	126.43	133.32	33.32
2018	514.24	239.24	399.52	209.58	128.71	135.73	35.73
2019	549.2	246.04	413.92	213.19	132.68	139.91	39.91

Table 6 Purchasing power and urban basic food basket of the secondary sector, 1994-2019
Source: Own elaboration with data from STPS and CONEVAL, 2019

As can be seen in Table 6, during the first nine years the salary was not enough to cover the basic food basket, therefore, in this period there was an average acquisitive loss of 12.65% considering that the salary received by the sector's employees Secondary was to pay for the food basket for four members of a Mexican family. It is necessary to take into account that since they are qualified people, the salary is considered good, and it is from 2003 that it was above the price of the urban food basket, where there was no loss of purchasing power, where the secondary sector was the best paid according to STPS data.

Year	Daily nominal salary (pesos)	Cumulative increase	Price Urban Food Basket per day for 4 people	Cumulative percentage of the price of the urban Food Basket	Percentage of food Basket can be acquired with a salary	Real wage index 1994=100	Purchasing power of wages 1994-2019 (%)
1994	54.13	-	57.08	-	94.83	100	-
1995	62.15	14.82	73.92	29.5	84.08	88.66	-11.34
1996	74.66	34.94	99.48	64.08	75.05	79.14	-20.86
1997	88.83	53.92	119.92	84.63	74.07	78.11	-21.89
1998	105.96	73.21	139.2	100.7	76.12	80.27	-19.73
1999	126.63	92.71	160.2	115.79	79.04	83.35	-16.65
2000	149.45	110.74	174.08	124.45	85.85	90.53	-9.47
2001	173.27	126.67	185.04	130.75	93.64	98.74	-1.26
2002	190.16	136.42	195.76	136.54	97.14	102.43	2.43
2003	204.88	144.16	204.4	140.96	100.23	105.7	5.7
2004	221.95	152.5	215.2	146.24	103.14	108.76	8.76
2005	241.56	161.33	224.56	150.59	107.57	113.43	13.43
2006	259.61	168.8	233.2	154.44	111.33	117.39	17.39
2007	278.81	176.2	243.28	158.76	114.6	120.85	20.85
2008	299.43	183.59	256.2	164.07	116.87	123.24	23.24
2009	320.4	190.6	272.76	170.54	117.47	123.87	23.87
2010	337	195.78	285.44	175.18	118.06	124.5	24.5
2011	357.1	201.74	294.12	178.23	121.41	128.03	28.03
2012	379.86	208.12	309.16	183.34	122.87	129.57	29.57
2013	402.3	214.02	323.24	187.89	124.46	131.24	31.24
2014	428.76	220.6	340.44	193.21	125.94	132.81	32.81
2015	449.9	225.53	348.52	195.59	129.09	136.12	36.12
2016	461.88	228.2	359.24	198.66	128.57	135.58	35.58
2017	482.27	232.61	381.44	204.84	126.43	133.32	33.32
2018	514.24	239.24	399.52	209.58	128.71	135.73	35.73
2019	549.2	246.04	413.92	213.19	132.68	139.91	39.91

Table 7 Purchasing power and urban basic food basket of the tertiary sector, 1994-2019
Source: Own elaboration with data from STPS and CONEVAL, 2019

In Table 7, during the period 1994-2015, it is observed that the salary was low compared to the price of the urban food basket, which generated a loss of accumulated purchasing power, but in the last four years (2016-2019) this loss disappeared.

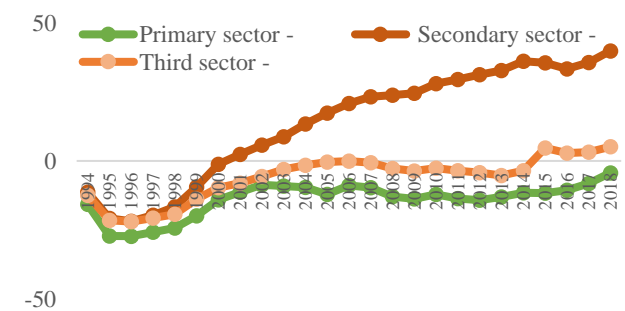


Figure 6 Loss of purchasing power of wages by economic sector, 1994-2019 (%)
Source: Own elaboration with data from STPS and CONEVAL, 2019

The behavior of the purchasing power of wages by sectors is shown below:

In Figure 6, it is observed that the primary sector was the one that during the entire period studied showed purchasing loss. For the secondary and tertiary sectors, there were losses in the same way, but it was until 2002 and 2016 respectively, where they no longer occurred.

According to Rendón (2017), in Mexico higher productivity does not necessarily equate to higher wages. In this regard, some voices argue that low wages relative to productivity can boost profits, investment, exports and job creation, but others claim that this will reduce aggregate demand and employment. In fact, with a low salary the company saves on costs, but its productivity is affected because workers are unmotivated by not finding an economic incentive to reward their work (ILO, 2017) reviewed in: Contreras Álvarez & Ríos Nequis, 2020: 38).

According to Contreras Álvarez & Ríos Nequis (2020), the dynamic insufficiency of the Mexican manufacturing export sector explained from manufacturing labor productivity can be addressed from two perspectives. The first, at the macro level, where government participation is essential not only for the design of policies aimed at promoting greater training of workers and stimulating greater investment in new technologies, machinery and equipment, but also, in a comprehensive manner, to generate an industrial development plan capable of articulating the domestic productive apparatus through the creation of the necessary linkages to achieve real growth of the Mexican economy through the manufacturing export sector. Second, at the micro level, through the implementation of business strategies that promote the training and accumulation of human capital to improve production processes and, in addition, the adoption of new technologies that allow workers to increase their productivity and thus grant them a competitive advantage to exporting companies. Regarding FDI, it is important to bear in mind that it has significant potential as an engine of growth and structural transformation; However, it has been shown that, although it can generate immediate direct effects on economic growth, its effects are rapidly diluted due to its high concentration in certain states of the country and in certain productive activities.

Therefore, it is essential for the government to formulate new policies and strategies for attracting investments with the purpose not only of strengthening current markets, but also to bet on the diversification of markets in terms of economic activities that are not currently being promoted. and that could be of great interest and profitability for FDI (Contreras Álvarez & Ríos Nequis, 2020: 41).

CONASAMI (2020) announced a 15.0% increase in the general minimum wage, which is intended to recover purchasing power and meet international expectations. However, it is important to mention that the loss of purchasing power continues in the Mexican economy, since government policy has not been able to reverse this situation. However, no particular information was given for wages by sector of economic activity.

Conclusions

In accordance with the objectives set, it is concluded that the variables that most influenced wages in the primary sector ($[[WSprim1]]_t$) were the unemployment rate and the exchange rate. In the case of the secondary sector ($[[WSsec1]]_t$) they were GDP1 and the unemployment rate. For the tertiary sector ($[[WSTER1]]_t$) the unemployment rate and the exchange rate were obtained.

According to the results, the hypothesis that wages is inversely related to inflation and the interest rate is accepted. In the case of wages with GDP1, it is accepted that there is a direct relationship between wages in the secondary sector ($[[WSsec1]]_t$) with GDP; while for the other sectors ($[[WSprim1]]_t$ and $[[WSTER1]]_t$) it was not fulfilled. For the loss of purchasing power, it is accepted that this is directly related to inflation, if inflation increases the purchasing power decreases.

According to Varela Llamas (2021), the analyzes of the Critical Occupancy Conditions Rate (TCCO) taking into account the scope and limitations of a conceptual nature. Precariousness is conceived as the existence of a critical job from the salary perspective that has been present in the Mexican economy for some years.

It is a complex problem that can be studied from different methodological edges, it is also relevant to limit the size of its study to be able to make a very specific analysis and thus contribute to its understanding.

References

- Animal Político (14 de febrero de 2018). A más de 50 millones de mexicanos el salario no les alcanza para comprar una canasta alimentaria. *Animal Político*. Recuperado de: <https://www.animalpolitico.com/2018/02/millones-mexicanos-sin-acceso-canasta-alimentaria/>.
- Animal Político. (26 de febrero de 2020). #SemáforoEconómico: En 2019 el PIB cayó 0.1%; hiló cuatro periodos de bajas. *Animal Político*. Recuperado de: <https://www.animalpolitico.com/2020/02/economia-baja-mexico-pib/>.
- Centro de Estudios de las Finanzas Públicas (CEFP). (2019). Boletín: Empleo y salario en el IMSS enero 2019. Recuperado de: <https://www.cefp.gob.mx/publicaciones/boleco/2019/becefp0082019.pdf>.
- Centro de Análisis Multidisciplinario (CAM). (2018). El salario mínimo en México: de la pobreza a la miseria. Pérdida del 78.66% del poder adquisitivo del salario. Reporte de Investigación 117. UNAM México. Recuperado de: <https://cam.economia.unam.mx>.
- Comisión Económica para América Latina y el Caribe (CEPAL). (2019). Balance Preliminar de las Economías de América Latina y el Caribe, 2019 (LC/PUB.2019/25-P), Santiago, 2019. Recuperado de: https://repositorio.cepal.org/bitstream/handle/11362/45000/125/S1901097_es.pdf
- Cilia L., Gildardo. (2017). *México: Salarios y Pobreza*. SDP Noticias. Recuperado de: <https://www.sdpnoticias.com>.
- Comisión Nacional de Salarios Mínimos (CONASAMI). (2020) *Salarios Mínimos*. Recuperado de: http://www.conasami.gob.mx/salarios_minimos.html.
- Comisión Nacional de los Salarios Mínimos (CONASAMI). (2019), *Informe Anual de la Dirección Técnica*. Recuperado de: https://www.gob.mx/cms/uploads/attachment/file/515301/Informe_anual_noviembre_2019.pdf.
- Consejo Nacional de Evaluación de la Política de Desarrollo Social (CONEVAL). (2019). Evolución de la canasta alimentaria. Medición de la pobreza. Recuperado de: <https://www.coneval.org.mx/Medicion/MP/Paginas/Lineas-de-bienestar-y-canasta-basica.aspx>.
- Contreras Álvarez, I., & Ríos Nequis, E. I. (2020). La dinámica exportadora manufacturera como restricción al crecimiento en México mediante el análisis de la productividad y la IED, 2005-2018. *Ciencias Administrativas*, (17), 073. <https://doi.org/10.24215/23143738e073>
- Fernández, R. (2020). Participación de los sectores económicos en el producto bruto mundial (PIB) mundial desde 2006 hasta 2018. *Statista*, 6 de noviembre. Disponible en: <https://es.statista.com/estadisticas/598959/participacion-de-los-sectores-economicos-en-el-producto-interno-bruto-pib-mundial-de-2003-a/>
- Fondo Monetario Internacional (FMI). (2014). *Consulta del Artículo IV con Estados Unidos de América correspondiente a 2014*. Declaración al final de la misión. Fondo monetario Internacional. Recuperado de: <https://www.imf.org/external/np/ms/2014/061614.htm>.
- Fondo Monetario Internacional (FMI). (2017). Informes de perspectivas de la economía mundial. Recuperado de: <https://www.imf.org/es/Publications/WEO/Issues/2017/09/24/world-economic-outlook-october-2017>.
- Instituto Nacional de Estadística y Geografía (INEGI). (2019). Producto Interno Bruto de México durante el tercer trimestre de 2019. comunicado de prensa núm. 625/19 25 de noviembre de 2019. Recuperado de: https://www.inegi.org.mx/contenidos/saladeprensa/boletines/2019/pib_pconst/pib_pconst2019_11.pdf

Morales, Y. (2020, 26 de febrero). Economía mexicana se contrajo 0.14% durante el 2019, confirma el INEGI. *El Economista*. Recuperado de:

<https://www.economista.com.mx/economia/Economia-mexicana-se-contrajo-0.14-durante-el-2019-confirma-el-Inegi-20200226-0019.html>.

Organización Internacional del Trabajo (OIT). (1992). Conferencia Internacional del Trabajo 79.a reunión. Oficina Internacional del Trabajo, Ginebra. Recuperado de: <https://www.ilo.org/public/libdoc/ilo/P/09663/09663281992-79-4B29.pdf>

Organización Internacional del Trabajo (2017). Informe Mundial sobre Salarios 2016-2017: La desigualdad salarial en el lugar de trabajo. Recuperado 8 de enero de 2020 de <http://www.ilo.org/global/research/global-reports/global-wage-report/2016/lang--es/index.htm>

Organización Internacional del Trabajo (OIT). (2017a). *Informe Mundial Sobre Salarios 2016/2017*. Recuperado de https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_541632.pdf

Organización Internacional del Trabajo (OIT). (2019). *Informe Mundial Sobre Salarios 2018/2019*. Recuperado de: https://www.ilo.org/wcmsp5/groups/public/dgreports/dcomm/publ/documents/publication/wcms_712957.pdf.

Rendón, L. (2017). Indicadores de productividad en la industria manufacturera de México. 2007-2017. *Economía Actual*, 10(3), 38-42.

Secretaría del Trabajo y Previsión Social (STPS). (2019). Salarios diarios asociado a cotizantes del IMSS. México. Recuperado de: http://www.stps.gob.mx/gobmx/estadisticas/302_0057.htm?verinfo=2.

Suarez, Urrutia René. (2018). Radiografía salarial en México. *Nexos*, 28 de agosto. Recuperado de <https://economia.nexos.com.mx/?p=1830>

Varela Llamas, R. (2021). Empleo precario y actividad económica en las entidades federativas de México. *Panorama Económico*, 16(33), 185–205. Recuperado a partir de <http://www.panoramaeconomico.mx/ojs/index.php/PE/article/view/69>

Integration of the sustainable development objectives into state legislation with a focus on the 2030 agenda

Integración de los objetivos del desarrollo sostenible en la legislación estatal con enfoque en la agenda 2030

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Abstract

In 2015, at the Rio de Janeiro Summit, after a year of planning and designing, the 2030 Agenda for Sustainable Development was presented, which is detailed as a focal and comprehensive strategy to guarantee people's well-being, as well as natural resources for future generations by achieving 17 global objectives based on 169 measurable goals with 232 performance indicators. For Mexico, this document represents a state commitment that involves the three levels of government, autonomous organizations such as citizen councils, academia, civil society, and the private sector. Through the case study method, the feasibility of integrating the 2030 Agenda into the Social Development Law of the State of Campeche is analyzed, to meet at local level the adjustments that have been made in the federal legal framework and serve as an example to reconcile the Planning Law that evokes the State Development Plan, and the social programs that derive from it. It is possible to point out that the legislative processes to incorporate the sustainable development objectives into the state regulation slow down when facing the stages of proposal and approval of the government agencies in charge of legitimizing their observance, in addition to the level of commitment and ethics that they represent for all the actors involved in their achievement.

Public policies, Social program, Sustainable development

Resumen

En el año 2015 en la cumbre de Río de Janeiro después de un año de planificación y diseño se hizo la presentación de la Agenda 2030 para el Desarrollo Sostenible, la cual se detalla como una estrategia focal e integral para garantizar el bienestar de las personas, así como de los recursos naturales para las futuras generaciones mediante el logro de 17 objetivos globales a partir de 169 metas medibles con 232 indicadores de desempeño. Para México este documento representa un compromiso de estado que involucra los poderes de la unión, los tres órdenes de gobierno, organismos autónomos como los consejos ciudadanos, academia, sociedad civil y el sector privado. Mediante el método de estudio de caso se analiza la viabilidad de integrar la Agenda 2030 en la Ley de Desarrollo Social del Estado de Campeche, para cumplir con las adecuaciones a nivel local que se han efectuado en el marco legal federal, y que sirva como ejemplo para conciliar la Ley de Planeación que evoca el Plan Estatal de Desarrollo, y los programas presupuestarios que se deriven de él. Es posible señalar que los procesos legislativos para incorporar los objetivos de desarrollo sostenible en una norma estatal se ralentizan al enfrentar las etapas de propuesta y aprobación de los órganos de gobierno encargados de legitimar su observancia, además del nivel de compromiso y ética que representan para todos los actores involucrados en el logro de los mismos.

Política pública, Programa social, Desarrollo sostenible

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Introduction

The 2030 Agenda envisions a fairer world based on human rights, an equitable and inclusive society that commits all stakeholders to work together for a common goal, economic, social and sustainable well-being that benefits everyone, including women, children, youth and the new generations to come, to ensure survival and continuity.

In 2015, the 193 States that make up the United Nations Organization (UN) including Mexico, approved an action plan to provide solutions to various social, economic and environmental problems they faced, said plan contemplated including everyone and leaving no one behind, the 2030 Agenda for Sustainable Development was the result of a global strategy, which contemplates a combination of specific goals, through a three-axis approach: social, economic and environmental, the year 2030 was set for compliance.

The 2030 Agenda for Sustainable Development comprises 17 key goals and 169 targets, in addition to 232 indicators to evaluate its performance and compliance; the goals are divided into 3 blocks, the first addresses social issues, the second the economic sphere and the third the aspects of sustainability and environment in the face of the problem of climate change.

In Mexico, as part of the actions for the fulfillment of the 2030 Agenda, it was agreed to integrate it within public policies, plans and programs, this resulted in the combination and schematization of the entire governmental apparatus, both at federal, state and municipal levels. In the international context Mexico adopted a very dynamic role participating in the planning of the agenda with interest in specific topics such as human rights, inclusion, equality and basic housing services. (UNDP, 2019a).

The National Development Plan (NDP) 2019-2024, is already aligned with the Sustainable Development Goals (SDGs), as is the State Development Plan of Campeche 2019-2021, therefore, the State Social Development Law should be aligned to it.

The UN establishes that, although the SDGs are not legally binding for autonomous states within nations, governments are expected to adopt and establish within their public policies national frameworks for their implementation; likewise, it points out that their achievements are monitored and measured through the collection of quality data in an accessible and timely manner to all sectors. In this context, the institutional capacities of the three levels of government become relevant, as they are necessary actors for the monitoring and fulfillment of the SDGs, in short, without governments with capable institutions, economic growth, social inclusion and environmental protection will only be an elusive goal for 2030. (Castellanos, 2017).

Problem Statement

The legal framework of the Social Development Law is not aligned with the 2030 agenda, despite the fact that special committees of the Planning and Development Commission (COPLADE) were installed to project the Sustainable Development of the State of Campeche. The purpose of this committee is to coordinate between the public and private sectors, civil society and academia to promote actions and strategies that link the attention of priority issues such as economic development, end poverty and generate equal opportunities for all.

All municipalities in the state of Campeche have the obligation to align the PED to the UN SDGs, which would allow implementing and following up on actions aimed at achieving the goals and objectives of the 2030 Agenda in the state, which has not been done to date. For the alignment of the SDGs in Mexico there is an integration from the NDP to the state plans and even adjustments to the Development Law, however, this line is broken since there is no adaptation to the legal framework at the state level, as in the case of Campeche, which significantly affects the implementation and monitoring of actions.

Within the SDGs in the social block, specific goals are contemplated, such as combating infant mortality, reducing to 70 deaths of children per 100 thousand before reaching two years of age, and ensuring schooling for girls, the failure to meet the same goals previously increased infant mortality and child dropout in basic and higher education; in the case of girls, the rate of teenage pregnancies and the population in vulnerable situations increased. Failure to meet the SDGs will obviously result in medium- and long-term social problems that will affect the population of the State.

In this sense, having the modification of the legal framework to integrate the 2030 Agenda in the Social Development Law of the State of Campeche would also allow the practical application within the programs of the Secretariat of Social and Human Development (SEDESYH), therefore, this work aims the following objectives:

- a) Create a proposal to integrate the 2030 Agenda and the Sustainable Development Goals into the legal framework of the Social Development Law of the State of Campeche.
- b) Provide guidance in updating the matrix of results indicators used by the government, in order to measure the social impact of actions focused on the 2030 Agenda.
- c) Use the Theory of Change methodology to evaluate the benefit of programs and projects, in conjunction with the methodology normally used called the Logical Framework Model (LFM).
- d) Propose the modification of articles 35 and 37 of the Social Development Law of the State of Campeche in which the SDGs will be incorporated to adapt it to the 2030 Agenda.

Theoretical Framework

In September 2015, the UN adopted a new Sustainable Development Agenda that set the course for multilateral cooperation with a view to a more equitable world by 2030. In light of this, member states committed to join efforts to achieve a sustainable development environment.

This collective effort began more than a decade ago with the Millennium Declaration of 2000, which was a milestone in the achievement of concrete and quantifiable goals for the development of all the countries of the world through the Millennium Development Goals, better known as the MDGs. At that time, in Mexico and the rest of the developing countries, the new century began with high rates of extreme poverty and inequality in coexistence with a high increase in wealth; a persistence of new and old diseases that threatened the progress of nations, as well as a dangerous deterioration of ecosystems in several regions of the world (Rodriguez, 2016).

In Mexico, the federal government, assumes this international agreement as a responsibility and opportunity to intensify national efforts to achieve a fair and equitable society, in the National Development Plan 2013-2018 five national goals were raised: 1) Mexico in peace, 2) Inclusive Mexico, 3) Mexico with quality education 4) Prosperous Mexico and 5) Mexico with global responsibility, which are in the same logic of the global agreements signed by the Mexican government. For example, in relation to the national goal "Inclusive Mexico", five objectives are proposed: 1) guarantee the exercise of social rights for the entire population, 2) move towards an equitable and inclusive society, 3) ensure access to health services, 4) expand access to social security and 5) promote an adequate environment for the development of a dignified life. The same can be observed in the other objectives of the national goals contained in this National Development Plan. Based on the national goals outlined by the previous administration of the Mexican government, it can be stated that, in the case of Mexico, the commitment was undeniable, and it was up to it, as to all nations, to implement public policies that would allow it to comply with the goals and targets subscribed to in the 2030 Agenda. (NDP 2013-2018).

Institutional mechanisms for implementing the 2030 Agenda

It is necessary to determine to what extent the challenge of incorporating the 2030 Agenda into planning processes is given by a normative frame of reference in which a universal consensus has been generated on a set of elements and objectives that mark a basic development model (UN, 2018).

Planning is a fundamental means of implementation for the 2030 Agenda process, the agencies and authorities that carry it out play a central leadership role in the articulation of policies for the fulfillment of the Agenda. Public institutions are in charge of coordinating the different government sectors and linking the participation of civil society and the private sector; to provide for an effective implementation of the actions planned and materialized through policies, programs, projects and budget allocations that allow for the implementation of the 2030 Agenda within the actions and objectives of the agencies directly related to its observance and fulfillment; in this context, four challenges are identified from the planning for development that the Economic Commission for Latin America and the Caribbean (ECLAC) has called challenges of intertemporality, intersectorality, interscalarity and articulation between multiple actors (ECLAC, 2018).

Goals in the implementation of the SDGs in the Mexican government sector

Implementing the 2030 agenda at the national, state and local levels requires not only a comprehensive approach within all institutions, but also an articulation and synchrony in which all actors must have the same parameters for implementation and measurement, so that actions and programs within institutions are successful as well as measurable. Creating institutional coordination mechanisms between the federal, state and municipal levels of government contributes to building alliances and promotes the success of the objectives of the plan or program. To this end, tools such as working groups, forums, analysis roundtables, agreements and conventions can be used. (UNDP, 2019a)

Multi-stakeholder forums and consultative bodies foster the creation of alliances and coordination between key development actors, such as organized civil society, private initiative and academia, which follow up on specific issues of the plan or program, this allows for follow-up when adopting the agenda at the local level, as it is an instrument that develops a strategic plan based on integration with sustainable criteria and contains indicators on environmental, economic and social policies at the municipal level. (UNDP, 2019b)

The adoption and implementation of this agenda represents an important contribution measure both for the design of strategic indicators and for the implementation of plans and programs with Agenda 2030 Approach (UNDP, Mexico. 2019b). Monitoring and review at the local level streamlines monitoring processes since applying reviews represent an important mechanism so that plans and programs can be monitored based on strategic and management indicators.

Within the evaluation processes, institutional exercises to evaluate public plans and programs are framed within the Performance Evaluation System (SED) of the Results-Based Planning model (PbR-SED), which public administrations adopted since 2008. Involving those responsible for programs in the linkage with the SDGs makes it possible to identify the sustainable development orientation intended with public resources. (UNDP, 2019a).

Legislative criteria of the 2030 Agenda in Mexico and Campeche

The Mexican legal framework establishes the basis for national development planning in Article 26 of the Constitution, which consists of 3 sections: A, which establishes that the state will organize a democratic planning system for national development that provides solidity, dynamism, competitiveness and equity to the country's growth, laying the foundations for the Planning Law; B, which specifies that the state will have a National System of Statistical and Geographic Information (SNIEG) whose data will be considered official and of obligatory use for public entities, in addition to the fact that the National Institute of Geography and Statistics (INEGI) will be in charge of regulating and coordinating said System, this section derives in the Law of the SNIEG; and C, which establishes that the state will have a National Council for the Evaluation of Social Development Policy (CONEVAL) in charge of measuring poverty and evaluating the programs, objectives, goals and actions of social development policy, this section derives from the General Law of Social Development.

Mexico has cemented its commitment by integrating the 2030 Agenda into national legislation through a reform to the Planning Law to incorporate a series of fundamental provisions for planning to adapt to the new sustainable development paradigm: Consideration of the social, environmental and economic dimensions in national planning. (UNDP, 2019b).

Follow-up of the 2030 agenda in Mexican social programs and public policy

Governments are primarily responsible for carrying out, at the national, regional and global levels, the follow-up and review of the progress achieved in the fulfillment of the SDGs and targets over the next 15 years. (UN, 2015).

A monitoring system with an Agenda 2030 approach is important because it should clearly reflect the indicators that measure progress in the implementation of public plans and programs, associated with the SDGs. A monitoring system with an Agenda 2030 approach involves the articulation between the object, the monitoring of the public plan or program, those responsible for its implementation and the methodological tools (specific to the design and monitoring phase), as well as a full inclusion of the principles of this Agenda, especially transparency towards citizens, with emphasis on the principle of leaving no one behind and the active participation of key actors, thus allowing monitoring compliance with the objectives of the instrument in execution and its contribution to the SDGs. (UNDP, 2019a).

The institutions responsible for implementing public plans and programs must establish a specific regulatory framework to ensure the physical and financial monitoring of the public programs under their responsibility and ensure their implementation. The challenge of the 2030 Agenda in the follow-up phase is for institutions to achieve constant monitoring with a Results-Based Management for Development, with a focus on human rights and comprehensiveness, promoting that the actions implemented contribute to the achievement of the strategic objectives of plans and programs, and through them, the SDGs. (UNDP, 2019b)

A monitoring system is based on the methodological elements of the Logical Framework Matrix (LFM) established in the first phases of the cycle of public plans and programs, specifically in the horizontal logic of the MIR, through attention to the system of results indicators, but especially management indicators. An adequate follow-up implies close monitoring of the implemented action, by means of tools that record punctual information on the execution, within which the following elements must be included for a correct management.

In a monitoring system with an Agenda 2030 approach, the indicators that measure progress in the implementation of public plans and programs associated with the SDGs must be clearly reflected; likewise, the monitoring measures compliance with the actions implemented and evidences it. For this, the information already established from the MML should be considered, whose substantial and specific information should be found in the technical sheets of the indicators; for this purpose, 5 points are established that should include the management indicators and targets shown in Table 1.

Concept	Actions
Management or results indicator	<ol style="list-style-type: none"> 1. Performance analysis for the definition and implementation of improvements. 2. Ensure that processes allow for a qualitative review that is binding to the determination of improvements. 3. Decisions on allocation and reallocation of spending. 4. Determine strategies to strengthen legislative compliance and the link between performance and expenditure allocation. 5. Ensure that the timelines between obtaining monitoring results and budget decisions for the next period allow for a functional relationship between the two activities. 6. Generate evidence of results.

<p>Goal (of the administration and to 2030)</p>	<ol style="list-style-type: none"> 1. To have sustainable development indicators to measure the performance of plans and programs. 2. Disaggregate data for monitoring vulnerable groups. 3. Link the execution time of plans and programs, and the regularity of data production: continuity of monitoring of key indicators. 4. Understanding of the national monitoring framework to reinterpret it in a specific context.
<p>Frequency of measurement</p>	<ol style="list-style-type: none"> 1. Diversify the means of dissemination and the content of the messages to reach the beneficiary population, especially vulnerable groups. 2. Ensure that information is shared in a didactic manner. 3. Establish meta-indicators for the follow-up system aimed at measuring the satisfaction of the target audience in the publication of follow-up reports. 4. Inclusive participation. 5. To achieve the participation of groups in vulnerable or priority situations. 6. Ensure that the participation mechanisms are binding on decisions. 7. Design mechanisms that guide participation toward collective reflection and not group interests. 8. Allocate resources to participation processes. 9. Establish meta-indicators for the follow-up system aimed at measuring the satisfaction of the target public with the participation mechanisms.

<p>Means of verification/evidence</p>	<ol style="list-style-type: none"> 1. Ensure that the execution of the public program considers economic, social and environmental development in the implementation of its strategic objectives, as well as in the operational activities involved. 2. Ensure strategic planning capabilities with an integrated approach in the units in charge of the plans and programs. 3. Sensitize the personnel in charge of the implementation of the negative externalities, at the social, economic or environmental level, of certain operational decisions (examples: favoring suppliers that do not contemplate the use of local material and human resources, or the use of non-recyclable disposables for the packaging of food pantries of a social program).
<p>Access to information</p>	<ol style="list-style-type: none"> 1. Transparency: Accountability of the executing agencies. 2. Determine the means of information dissemination based on the target audience. 3. Integrate the participation of civil society in the processes. 4. Seek space to involve non-governmental sectors in this stage.

Table 1

Development of public policies in the social sector with a focus on the SDGs and the 2030 Agenda

The Monitoring and Evaluation System in Mexico is built from the enactment of the General Law for Social Development in 2004, which provided for the creation of CONEVAL and the Federal Budget and Fiscal Responsibility Law, and which established the creation of a results-based budget and the Performance Evaluation System (SED), in 2006.

The SED is the backbone of the monitoring exercise of public plans and programs with an Agenda 2030 approach. The SED is applied to all federal resources, and provides that "the progress and results of the budgetary exercise are produced permanently and systematically, which allows for the monitoring of the physical and financial progress and performance of budgetary programs, whose follow-up responsibility lies with the Ministry of Finance and Public Credit (SHCP) and for which the following aspects are considered: (a) accountability by the executing agencies, (b) continuous monitoring of spending and indicators associated with policies, in relation to the fulfillment of objectives and goals, (c) performance analysis for the definition and implementation of improvements, and (d) decisions on allocation and reallocation of spending. Additionally, derived from the 2018 reform to the Planning Law, the regulatory framework in Mexico specifies that the SHCP must implement a computer system to monitor the progress of the Federal Public Administration's agencies and entities in achieving the objectives and goals of the National Development Plan and its programs and must publish the information related to the monitoring of federal plans and programs in a Budget Transparency portal, thus facilitating access to public information provided by the legislation on transparency, (UNDP, 2019a).

Follow-up and evaluation

As an instrument for linking society-government and between the national, state and municipal development planning systems, the Planning Committee for the Development of the State of Campeche (COPLADECAM), through the work and functions established for the recently created Secretariat of Planning (SEPLAN) and for the use of information in decision making provided by the Institute of Statistical, Geographic and Cadastral Information of the State (INFOCAM), the updating of the legal framework, 33 years after the issuance of the Planning Law of the State of Campeche and the restructuring of the State System of Democratic Planning (SEPD), gave way to the incorporation of the sustainability approach, as an innovation that allows the translation of policies and administrative procedures, which established in the legal framework are translated into the goals of programs, policies and budgets.

Planning for results makes it possible to design the roadmap for sustainable development. In this sense and as the first action of elected government, the State Development Plan (PED) 2015-2021 was published, which recovers the works and actions necessary to meet the needs of the communities. The review of priorities allows simultaneously addressing the development objectives in the state instances, ensuring their alignment with the objectives of the national plan, making the review from the local to the global a key strategy for the advancement of the Sustainable Development Goals (UN, 2015).

The challenge of monitoring public plans and programs with an Agenda 2030 approach is to carry out a best practice, ensuring that activities are carried out not only to comply with a regulatory obligation, but to strengthen public policies in a perspective of integrality of sustainable development. To this end, the analysis of implementation conditions is decisive. It brings more value to establish or adapt monitoring systems with simple tools, but appropriate to the local context, than to develop sophisticated systems that fall into disuse due to lack of human, economic and technical resources, in this sense, in Mexico the implementation of sustainable monitoring systems in State and Municipal governments is a key challenge, generally the internal regulations of these entities are aligned to the federal legal framework when establishing monitoring mechanisms for public plans and programs executed with their own resources. (ECLAC, 2018.)

Although there are no standard tools that can be automatically reproduced from one context to another, exchanges of good practices in the field can be beneficial, in this sense, practice has shown the added value of systems that are supported by a unified tool, generally through digital platforms that allow systematizing information in real time and digitizing evidence.

In Mexico and for the state of Campeche, the approval of a law has two phases: the first one consists of the elaboration of a new proposal or modification of an existing one; as a second phase, once the proposal has been elaborated, it is submitted to the chamber of origin, then the initiative is presented by a representative to be sent for opinion, discussion and voting, in this process when approved it is divided into general and particular voting to finally go through the reviewing chamber and the promulgation to finally conclude with its publication.

Progress in other states

State and municipal governments are important, as they are the closest level of government to the population, this means that they have the ability to take daily actions at the local level that contribute to generate changes to achieve the goals proposed by the 2030 Agenda, which is why the UN always establishes the parameter of local actions for local changes, Mexico as a nation is a megadiverse country so each region and even each state have different characteristics environmentally and socially, so generating a legal framework or actions to implement them at the national level would mean a problem, since the solution would not always work in different places, that is why Mexico recognizes the importance of local governments to work on the 2030 agenda to achieve improved living conditions for citizens. (Rodriguez, 2016)

The process of integration of the SDGs by the municipalities is known as the localization of the Agenda, this process occurs thanks to social inclusion, the acceptance of diversity in the population and the plurality of the SDGs in relation to the themes included. The State of Jalisco in its state administration 2013-2018, was one of the first to incorporate in its public policies the context of the SDGs and unlike the state of Campeche, Jalisco does not present cultural homogeneity in the social level of the population, as it has municipalities so developed that they are comparable to European localities, and others with a development comparable to localities in Africa where poverty is well below what indicates human rights, which is why strategies should be designed according to the cultural diversity presented by the states of the country.

In the case of Campeche, Articles 6 and 26 of the State Planning Law state that the State must conduct planning in conjunction with the legislative and judicial powers, control bodies, as well as the social and private sectors, and must be consistent with the National Development Plan and the UN Sustainable Development Goals. The State Development Plan of the State of Campeche (PED) does include within its two cross-cutting axes the Sustainable Development Goals, which are based on Article 26 Section II of the State Planning Law; this article states that the executive will take into consideration the proposals made by the agencies and entities of the state public administration to achieve congruence with the 2030 Agenda.

The COPLADECAM and the Social Development Advisory Council, as well as the Sectoral Subcommittee for Social Development of the State of Campeche (having its basis within the Social Development Law) are responsible for following up on the necessary adjustments for the Secretariat of Social Development to implement the SDGs in its regulations, following the necessary legal procedures for the modification of the law. (Ley de planeación de estado de Campeche y sus municipios, 2018).

Methodology

The evaluated entity is a centralized agency of the Executive branch of the state of Campeche, and was analyzed under the case method to illustrate situations, actions or decisions that are related to the topic studied (inclusion of the SDGs at the state level) and allows observing the operation of the secretariat, with the objective of providing solution alternatives that have been applied in similar situations and that were developed taking as a basis the main concepts and theories associated with the phenomenon under study (Naumes and Naumes, 2006). The case method seeks not only to identify the factors that affect a phenomenon, but also the detailed knowledge of these factors in the units of analysis (Marcelino, Baldazo and Valdés, 2012).

The methodological design employed is nested of an illustrative type, as it presents or exemplifies the phenomenon under investigation under a given theoretical approach integrated by a single case (centralized state secretariat), with more than one unit of analysis: SDGs of the 2030 Agenda and normativity (Yin, 2003).

The state legislation on social development programs and the problem of including the Sustainable Development Goals in the regulations governing the operation of the SEDESHY were studied to establish the feasibility and benefits of making their observance mandatory in the laws related to the subject.

Results of the intervention

Background of the organization

SEDESYH is the secretariat in charge of structuring and implementing public policies on social development in the state of Campeche, in order to promote the welfare of the population in vulnerable situations, as well as the improvement of social services in different categories. The PED contemplates SEDESYH as the secretariat in charge of executing the guiding axis 1. Social Justice for Well-Being, having to apply the public policies of social development, as well as the programs dedicated to the fight against poverty.

By 2021, SEDESYH's planning visualizes that in Campeche public policies are applied with high standards of efficiency, effectiveness and broad social legitimacy, which allow the socially and economically vulnerable population to have access to the necessary resources to satisfy their physical, social and intellectual needs, in such a way that they contribute to a full and happy life.

This secretariat's mission is to design, monitor and evaluate in coordination with the other orders of government and the Campeche society as a whole, the social policies aimed at the population, in order to contribute to guarantee access to the exercise of social rights, with efficiency, transparency and legitimacy. (SEDESYH, 2019a).

The principles and values on which it bases its operation are: a) Discipline, b) Legality, c) Objectivity, d) Professionalism, e) Honesty, f) Loyalty, g) Impartiality, h) Integrity, i) Accountability, j) Effectiveness, k) Efficiency, l) Respect, m) Honesty and n) Commitment. (SEDESYH, 2018c).

The proximity of the year 2030 to carry out the evaluation of the achievements reached in terms of SDGs by each UN member country that committed to their implementation and achievement of goals, allows raising the following questions: Why has there not been an impulse and obligatory nature to the observance of the SDGs at the three levels of government; what are the factors that prevent their effective implementation; are economic sanctions required for governments to accelerate the inclusion processes for the achievement of the goals of the 2030 Agenda; and are economic sanctions required for governments to accelerate the processes of inclusion for the achievement of the goals of the 2030 Agenda?

Description of the problem in the entity

Since the approval of the 2030 Agenda in 2015, Mexico accepted the commitment to adopt the 17 SDGs, with the participation not only of government, but of all sectors including the citizenry. Through the National Democratic Planning System, the guiding documents known as the National Development Plan (PND) are formulated, as well as the budgetary programs derived from it through which public resources are allocated.

In September 2018, the Planning Law of the State of Campeche and its Municipalities is enacted, which repeals the same law of 1985, which constitutes an update to the framework of the Democratic Planning System (SEPD), this results in the application of a strategic planning methodology with an integrative approach. With the modification of the State Planning Law, in Article 6, it is established that the new state planning must be conducted in congruence with the objectives and priorities of the NDP and the UN Sustainable Development Goals, therefore, with this, the international commitment of the State of Campeche, previously announced in the Organic Law of Public Administration and incorporated in the State Development Plan 2015-2021, is reaffirmed.

In Article 87 Fraction I of the Planning Law of the State of Campeche and Municipalities, it is established that the PED will be evaluated, and as the case may be, it will be updated or replaced during the second semester of the third year of the administrative management, resulting in 2018 the Planning Committee for the Development of the State of Campeche (SEPLAN), together with the members of the Planning Committee for the Development of the State of Campeche (COPLADECAM) reviewed the PED 2015-2021. The PED incorporated the Objective of Democratic Planning for Sustainable Development.

The State Development Plan (PED, 2019-2021), constitutes a new frame of reference for the design and execution of public policies and programs, in accordance with the Planning Law of the State of Campeche and its Municipalities, in its article 26 Fraction II indicates that the PED must be integrated, in congruence with the NDP and the 2030 agenda. The PED (2019-2021) is composed of 5 guiding axes which are: 1. Social justice for well-being, 2. Inclusive economic growth, 3. Responsible and sustainable development, 4. Likewise, 2 cross-cutting taxes are included with a Gender and Human Rights perspective, each axis is aligned to the NDP and the UN Sustainable Development Goals.

Analysis of the particular problem

At the local level, article 16 of the Social Development Law of the State of Campeche stipulates that the State Social Development Policy has the following objectives:

- I. Propitiate the conditions that ensure the enjoyment of social rights, individual or collective, guaranteeing access to social development programs and equal opportunities.
- II. To promote an economic development with social sense that favors and preserves employment, raises the level of income and improves its distribution.
- III. To strengthen balanced regional development.

- IV. To guarantee forms of social participation in the formulation, execution, implementation, evaluation and control of social development programs. (Ley de Desarrollo Social del Estado de Campeche, 2018).

Starting from this point, it is important to take actions in a timely manner for the integration of the Sustainable Development Goals in the State Planning Law and in the functions and objectives of the SEDESYH, (since it does not have current legal certainty within these ordinances), and to be able to contribute to the achievement of the goals set out within the National and State Development Plans. Within the proposal it is contemplated to follow the legally necessary steps for its implementation and the need to add according to the SDGs and the 2030 agenda, the modification of paragraphs 35 and 37 contained within the LDSEC, whose current wording is shown below: Article 35.- Social development planning shall adhere to the State Social Development Policy, the State Development Plan and the State Social Development Program, and shall strengthen state, regional and municipal development in a balanced manner, for which purpose both the annual state budget and the municipal budgets for the same term shall take into account the principles of this law and the Planning Law and the criteria and indicators of marginalization and poverty.

Article 37.- As well as the Annual Operating Program, it shall be carried out under the terms and conditions of this Law and the Planning Law, and shall be consistent with the National and State Development Plan.

The adjustment of both paragraphs would be as follows:

Article 35.- Social development planning shall adhere to the State Social Development Policy, the State Development Plan and the State Social Development Program, and shall strengthen in a balanced manner the state, regional and municipal development, for which purpose both the annual state budget and the municipal budgets for the same term shall take into account the principles of this Law and the Planning Law and the criteria and indicators of marginalization and poverty, in congruence with the Objectives and Priorities of the National Development Plan, the State Development Plan and the Sustainable Development Objectives of the UN.

Article 37.- The elaboration of the State Social Development Program, as well as the Annual Operational Program, shall be carried out under the terms and conditions of this Law and the Planning Law, shall be consistent with the National and State Development Plan in priority with the UN Sustainable Development Goals, integrating and aligning the budgetary programs to the same.

Table 2 describes analytically how the SDGs are identified and linked to the State Development Plan and the Planning Law of the State and its municipalities.

Sustainable Development Goals	State Development Plan 2018-2021	Planning Law of the State of Campeche and its Municipalities	Proposal
Goal 1: End poverty.	1.1 Inclusive and Sustainable Development for People 1.2. Well-being for human development 1.3. Assistance to vulnerable population 1.4. Promoting the integral development of young people 1.5. Reconstitution of indigenous peoples 1.6. Basic education 1.7. Health	Article 6 Article 7 Article 26 Article 39 Article 42	The Social Development Law of the State of Campeche is the instrument under which the areas in which a strategic planning exercise must be carried out based on a programming that directly affects the creation of public policies articulated and focused on the fight against poverty, education, health and nutrition are established. With the objective of raising the standard of living of citizens above the welfare
Goal 2: Zero hunger.	1.1 Inclusive and sustainable development for people 1.2. Well-being for human development 1.3 Assistance to vulnerable populations 1.5 Reconstitution of indigenous peoples 1.7 Health		

Goal 3: Health and well-being.	1.1 Inclusive and sustainable development for people 1.2. Well-being for human development 1.4 Promoting the integral development of young people 1.5. Reconstitution of indigenous peoples 1.7 Health		line, through the empowerment of their capacities and skills to contribute to reduce social backwardness; it does not contemplate the mention or incorporation of the SDGs in its structure as established in the Planning Law of the State of Campeche and its Municipalities.
Goal 4: Quality education.	1.1 Inclusive and sustainable development for the people 1.4 Promoting the integral development of young people 1.5 Reconstitution of indigenous peoples 1.6 Basic education 1.7 Health		Derived from the foregoing, it is considered necessary to establish this alignment within the legal instrument in question; to this end, the modification and/or addition of the following paragraphs of the Social Development Law of the State of Campeche is proposed:
Goal 5: Gender equality.	1.2 Well-being for human development 1.5. Reconstitution of indigenous peoples 1.7. Health		Article 35.- The planning of social development, shall adhere to the State Policy of Social Development, the State Development Plan, and the State Program of Social Development, shall strengthen in a balanced manner the state, regional and municipal development, for which purpose both the annual state budget and the municipal budgets of the same term shall take into account the principles of this law and the Planning Law and the criteria and indicators of marginalization and poverty, in congruence with the Objectives and Priorities of the National Development Plan, the State Development Plan and the Sustainable Development
Goal 6: Clean water and sanitation.	1.1. Inclusive and sustainable development for people 1.5. Reconstitution of indigenous peoples 1.7. Health		
Goal 7: Affordable and clean energy.	1.1. Inclusive and sustainable development for people		
Goal 8: Decent work and economic growth.	1.1 Inclusive and sustainable development for people 1.2. Well-being for human development 1.3. Assistance to vulnerable population 1.4. Promoting the integral development of young people 1.5. Reconstitution of indigenous peoples		
Goal 9: Industry, innovation and infrastructure.	1.4. Promoting the comprehensive development of youth indigenous peoples 1.6. Basic education		
Goal 10: Reducing inequalities.	1.1 Inclusive and sustainable development for people 1.2. Well-being for human development 1.3. Assistance to vulnerable populations		
Goal 11: Sustainable cities and communities.	1.1 Inclusive and sustainable development for people 1.6. Basic education		

Goal 16: Peace, justice and strong institutions.	1.1 Inclusive and sustainable development for people 1.3. Assistance to vulnerable population 1.4. Promoting the integral development of young people 1.6. Basic education 1.7. Health		Goals of the UN. Article 37.- The elaboration of the State Social Development Program, as well as the Annual Operative Program, shall be carried out under the terms and conditions of this Law and the Planning Law, shall be consistent with the National and State Development Plan in priority with the UN Sustainable Development Goals, integrating and aligning the programs to the same.
Goal 17: Partnerships to achieve the goals.	1.7. Health		

Note: Synchronization of the SDGs with the state regulations that give rise to the implementation of public policies on social development.

Table 2 Alignment of the SDGs in the local laws of the State of Campeche
Source: Own elaboration, (2020)

Conclusions

The implementation of public policies in the field of social development must comply with the accurate alignment to the applicable legal ordinances, however, they must also obey the feelings of the people, their needs, shortages and conditions under which they find themselves, in short, they must not only be expressed in a technical manner, but must also reflect the intention of a true application. Articulating this individual feeling at a collective level is a responsibility that every leader must carry as a primacy when having the possibility of performing the functions inherent to the position of ruler.

The SDGs attribute their sphere of attention to eradicating global deficiencies that have been debated by world leaders and that lead to the generation of public policies whose main objective is to create conditions based on global scenarios where equality, equity, inclusion and human development are participants at all times of social transcendence.

Following this premise, the legal framework applicable at the federal level in terms of social development policies and programs is aligned with the objectives and goals of the 2030 agenda for sustainability, which is developed through the UNDP; in this sense, the ordinances in which social development actions are framed have a marked and respected concatenation.

In the state context, since September 2018 the Planning Law of the State of Campeche and its Municipalities was issued; it establishes that state planning must be conducted in congruence with the objectives and priorities of the NDP, as well as the objectives of sustainable development of the UN; with this an alignment of national public policy is observed to contribute and comply with what is established by the legal ordinances at the federal level, as well as international.

However; the legal ordinance that attributes and conducts the inherent to the public policies in matters of social development in the state of Campeche, does not have an update in this regard, which leads to ambiguity and contradiction at the time of developing social actions by the Unit in charge of them. Therefore, it is considered to make an addition of these principles within the Law of Social Development of the State of Campeche, as well as in the Regulations of the same with the objective of having the necessary legal elements that allow taking into consideration the SDGs when developing public policies and social development programs by the State Executive in office.

It is evident that there is a need to carry out a process of adhesion and/or modification to the LDSEC, which depends not only on the SEDESYH, since this adaptation to the law in question must be directed through the local Congress, from the Social and Regional Development Commission, which is in charge of overseeing matters and issues related to public policies implemented by the government in this regard.

By carrying out this process of modification to the LDSEC, favorable results can be expected under which a conjunction of legal guidelines can be executed that allow the elaboration of coherent public policies, systematized under a clear control of lines of action that permeate in the correct legal structure within which the alignment with the ODS, the PND, the PED, the LDSEC, the RLDSEC, and the LPECyM, as well as the entire corresponding regulatory framework, resulting in public policies aimed at addressing and eradicating real social problems affecting the population, in such a way as to contribute to directly lowering the indices of poverty, marginalization, inequality, lack of cohesion and consequently raise the quality of life of citizens above the welfare line. Having legal instruments or ordinances that allow the correct alignment of the documents under which government actions are considered, allows to articulate them in a precise way, contemplating criteria that not only come to comply with a logic of structural order; but also to elaborate a government planning that considers the real needs of the people, thus giving a reliable response under which a social development based on consolidating human development, social inclusion, equity, equality and the transcendence of society towards a climate of better living conditions is achieved.

References

Cámara de Diputados del H. Congreso de la Unión. (2018). Ley General de Desarrollo Social.

Castellanos R. (2017). Los objetivos de desarrollo sostenible en México y América Latina: retos comunes para una agenda compartida. Aprendiendo del pasado, preparándonos para el futuro. <http://bibliodigitalibd.senado.gob.mx/bitstream/handle/123456789/3857/ODS.pdf?sequence=1&isAllowed=y>

Comisión Económica para América Latina (CEPAL, 2018). Guía Metodológica: Planificación para la implementación de la Agenda 2030 en América Latina y el Caribe. <http://www.aecid.es/Centro-Documentacion/>

Diario Oficial de la Federación (2013). Plan Nacional de Desarrollo (2013-2018). http://www.dof.gob.mx/nota_detalle.php?codigo=5299465&fecha=20/05/2013

Gobierno del Estado de Campeche. Plan Estatal de Desarrollo (2015-2021). Campeche, México. <https://www.campeche.gob.mx/ped2015-2021>

Gobierno de la República (2019). Plan Nacional de Desarrollo (2019-2024). <https://www.gob.mx/cenace/acciones-y-programas/plan-nacional-de-desarrollo-2019-2024-195029>

Ley General de Desarrollo Social del Estado de Campeche (2018). http://www.diputados.gob.mx/LeyesBiblio/pdf/264_250618.pdf

Organización de las Naciones Unidas (2015). Agenda 2030 para el desarrollo sostenible.

Organización de las Naciones Unidas (2018). Guía Metodológica: Planificación para la implementación de la Agenda 2030 en América Latina y el Caribe". p 58 <https://www.cepal.org/es/publicaciones/43963-guia-metodologica-planificacion-la-implementacion-la-agenda-2030-america-latina>

Poder ejecutivo del Estado de Campeche (2007). Ley de Desarrollo Social del Estado de Campeche. <http://www.ordenjuridico.gob.mx/Documentos/Estatal/Campeche/wo20336.pdf>

Poder ejecutivo del Estado de Campeche (2018). Ley de planeación de estado de Campeche y sus municipios. <https://legislacion.congresocam.gob.mx/index.php/etiquetas-x-materia/64-ley-de-planeacion-del-estado-de-campeche>

Poder ejecutivo del Estado de Campeche (2019). Plan Estatal de Desarrollo 2019-2021. Con enfoque en la Agenda 2030. <http://www.seplan.campeche.gob.mx/documentos/PED2019-2021/PRESENTACION-PED-TIRZO.pdf>

Programa de las Naciones Unidas para el Desarrollo (2019a). El enfoque de la agenda 2030 en planes y programas públicos de México. https://www.transparenciapresupuestaria.gob.mx/work/models/PTP/Capacitacion/enfoques_transversales/PNUD_1.pdf

Programa de las Naciones Unidas para el Desarrollo (2019b). Legislar con enfoque de agenda 2030 para el desarrollo sostenible. https://www.mx.undp.org/content/mexico/es/home/library/democratic_governance/legislar-con-enfoque-de-agenda-2030-para-el-desarrollo-sostenibl.html

Rodríguez F. (2016), México y la Agenda para el Desarrollo Sostenible 2030 de la ONU Chroniques des Amériques 16, 1. https://www.ieim.uqam.ca/IMG/pdf/cda_volum_e_16_numero_1.pdf

Secretaría de Desarrollo Social y Humano del Estado de Campeche (2018c). Código de Conducta al que Deberán Sujetarse los Servidores Públicos de la Secretaría de Desarrollo Social y Humano de la Administración Pública del Estado de Campeche. http://transparencia.sedesyh.campeche.gob.mx/CODIGO_CONDUCTA.pdf?v=637722017032701235

Secretaría de Desarrollo Social y Humano del Estado de Campeche (SEDESYH, 2019a). Manual de organización. Campeche, México. http://transparencia.sedesyh.campeche.gob.mx/MANUAL_ORGANIZACION.pdf

Secretaría de Desarrollo Social y Humano del Estado de Campeche (2019b). Reglamento interior. <http://www.transparencia.sedesyh.campeche.gob.mx/f1/2019/2/14/a/H87.pdf>

Marcelino M., Baldazo F. y Valdés O. (2012). El método del estudio de caso para estudiar las empresas familiares. *Pensamiento y Gestión*. 33 pp. 125-139

Naumes, W. y Naumes, M. (2006). *The art and craft of case writing*. (2da. Edición), United States of América, M.E. Sharpe, Inc.

Yin, R. (2003). *Case study research: Design and methods* (3a. ed.), United States of America, Sage Publications.

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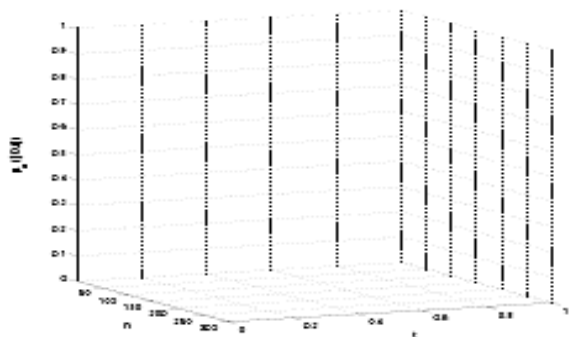
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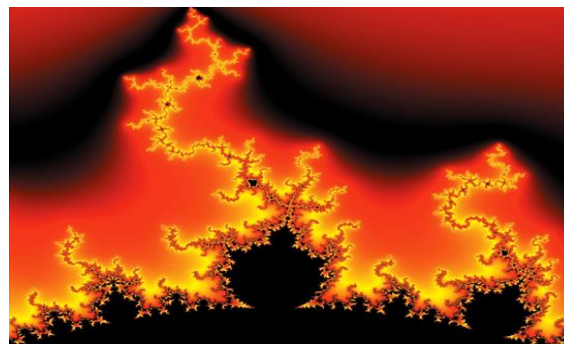


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