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Journal-Microeconomics

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Support the international scientific community in its written production Science, Technology and Innovation in the Field of Social Sciences, in Subdisciplines of Household behavior: Consumer economics, Consumer economics, Household production and intrahouse allocation, Personal finance, Consumer protection; Production and organizations: Firm behavior, Organizational behavior, Transaction costs, Property rights, Production, Capital and total factor productivity, Capacity; Distribution: General, Personal income and wealth distribution, Factor income distribution; Market structure and pricing, Perfect competition, Monopoly, Oligopoly and other forms of market imperfection, Auctions, Rationing; Licensing, Value theory; General equilibrium and disequilibrium: Exchange and production economies, Incomplete markets, Input-Output analysis, Computable and other applied general equilibrium models; Welfare economics: Allocative efficiency, Cost-Benefit analysis, Externalities, Equity, Justice, Inequality, and other normative criteria and measurement, Altruism; Analysis of collective Decision-Making: Social choice, Clubs, Committees, Economic models of political processes, Bureaucracy, Administrative processes in public organizations, Conflict, Conflict resolution, Alliances, Positive analysis of Policy-Making and implementation; Information and uncertainty, Criteria for Decision-Making under risk and uncertainty, Asymmetric and private information, Search, Learning, and Information, Expectations, Speculations; Intertemporal choice and growth: Intertemporal consumer choice, Life cycle models and saving, Intertemporal firm choice and growth, Investment, or Financing.

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Social choice, Clubs, Committees, Economic models of political processes, Bureaucracy, Administrative processes in public organizations, Conflict, Conflict resolution, Alliances, Positive analysis of Policy-Making and implementation; Information and uncertainty, Criteria for Decision-Making under risk and uncertainty, Asymmetric and private information, Search, Learning, and Information, Expectations, Speculations; Intertemporal choice and growth: Intertemporal consumer choice, Life cycle models and saving, Intertemporal firm choice and growth, Investment, or Financing and other topics related to Social Sciences.

Presentation of Content

In the first article we present, *Development of an instrument for measuring sustainability in the reverse logistics of a bakery company in Villahermosa, Tabasco*, by RAMOS-PARDO, Osiris Cecilia, LÓPEZ-VALDIVIESO, Leticia, ELISEO-DANTÉS, Hortensia and DE LEÓN-DE LOS SANTOS, Brissa Roxana, with adscription in the Tecnológico Nacional de México Campus Villahermosa, as the next article we present, *Identification of key factors for the implementation of a planning culture in micro and small businesses*, by LÁZARO-HERNÁNDEZ, Refugio, GONZÁLEZ-TLAXCO, Nohemí, LAZCANO-CORTÉS, Gabriela and RODRÍGUEZ-FLORES, Fani, with adscription in the Tecnológico Nacional de México campus San Martín Texmelucan, as the next article we present, *Evaluation of organizational behavior in the personnel of Micro and small companies in the city of Izúcar de Matamoros*, by MERINO-VIAZCÁN, Janet, SOLANO-PALAPA, Nathaly, PEÑA-CRUZ-ARCHUNDIA, Félix Martín and MEDINA RAMÍREZ, Anahí, with adscription in the Universidad Tecnológica de Izúcar de Matamoros, as last article we present, *Influence of motivation and job satisfaction on job performance in Mexican industrial microenterprises*, by DE LA MORA-YOCUPICIO, Arturo, SEGOVIA-ROMO, Adriana, RUIZ-PÉREZ, Roberto and HERNÁNDEZ-PONCE, Óscar Ernesto, with adscription in the Universidad Autónoma de Nuevo León.

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Development of an instrument for measuring sustainability in the reverse logistics of a bakery company in Villahermosa, Tabasco

Diseño y elaboración de un instrumento para la medición de la sustentabilidad de la logística inversa de una empresa panificadora en Villahermosa, Tabasco

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Abstract

The aim of this research is to explore in the applicable theoretical perspectives, which innovation factors can be empirically studied in work teams. For that purpose, an integrative review of the literature was carried out using the methodology of search and evaluation for inclusion. A coherent classification, based on theory, was obtained for the innovation factors in work teams that could guide subsequent studies in real life to contribute to the lack of this type of studies reported in the literature.

Innovation factors, Work teams, Empirical studies

Resumen

Esta investigación tiene como objetivo rastrear en las teorías más relevantes sobre el tema de los factores de innovación al nivel de equipos de trabajo que pueden ser estudiados empíricamente, para ello se llevó a cabo una revisión integrativa de literatura usando la metodología de búsqueda y evaluación para inclusión. Como resultado, se construyó una clasificación coherente, fundada en la teoría, de los factores de Innovación que operan al nivel de equipos de trabajo para facilitar estudios en la vida real, que contribuyan a la falta de datos este tipo que ha sido reportada en la literatura.

Factores de innovación, Equipos de trabajo, Estudios empíricos

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Introduction

Over the past few decades organizations around Nowadays, organisations with a sustainability orientation or sustainable approach have a competitive advantage in the globalised market, which is a characteristic paradigm in the 21st century.

Today, thanks to technology, new management methods and innovative management approaches, sufficient tools are available to take on the challenge of administering and managing sustainable organisations, and these can easily impact society, the economy, politics and even the culture of a nation, incorporating models that integrate and promote ethical and responsible behaviour, with sustainable strategies.

Business competitiveness is driving companies to face new challenges in order to survive due to growing material needs, scarcity of natural resources, and social and cultural inequalities. As a consequence, sustainability takes on a key role as a global strategy, based on economic prosperity, ecological balance and the common good. Likewise, sustainability is the way to find economic, ecological and social balance, resulting in progress and capitalisation of new resources. Organisations must advance towards the achievement of their objectives, but they must be aware that society demands that they do so within the framework of their social responsibility.

In view of the above, this study proposes the design and development of an instrument for measuring sustainability in the reverse logistics of a bakery company in Villahermosa, Tabasco, given that the aim is to determine the conditions of this variable in the business environment.

Theoretical foundation

For the economic development of a country, the food industry plays an important role, in view of this, there are several studies on the subject of sustainability.

Kent (2016) mentions that sustainability is a paradigm that is based on socially fair, economically viable and ecologically acceptable development, based on principles of intergenerational equity that, with the recognition of society, favours access to a social, economic and natural heritage equivalent to that of their predecessors.

In turn, Drucker (2007) argued that: "the old forms of business management have not paid attention to people and values, on the contrary, they have underestimated and annulled them, thus weakening the possibilities of development and undermining their own economic objectives".

On the other hand, an organisation will be socially responsible when it manages to internalise a set of shared values that foster a culture capable of generating the conditions required to assume its commitment to sustainability.

While business research has been good in the area of finance, in the field of sustainability it presents an opportunity to create measurement instruments (Bonns, Baumann and Hall, 2012).

With regard to business evaluation, the following questions arise: is it possible to measure creation and destruction in global production value chains; does the measurement of sustainability require economic, environmental, political, technological, cultural and social metrics; and does the measurement of sustainability require economic, environmental, political, technological, cultural and social metrics?

Problem statement

The bakery company located in the city of Villahermosa, Tabasco, which is the object of study, has been characterised for many years as a world leader in the food area. On the other hand, in the area of reverse logistics, little interest has been given to sustainability under strategies for improving competitiveness.

Society demands a quality service where expectations are improved in all areas (economic, social, and environmental) added to the high competition and the signals that mark an image through social networks, the interest of this analysis lies in knowing how the variables of the context affect sustainability, in the environments: social, economic, political, environmental, technological and cultural, where a socially responsible attitude is taken with the awareness and self-sufficiency to leave the following generations better opportunities for development.

Strategies to use, safeguard and maintain human and material resources in an optimal way, with the aim of creating a responsible, friendly and beneficial balance, sustainable in the long term, through recovery and recycling, are part of this sustainable balance for a better world. In environmental matters, the efficient and rational management of natural resources will contribute to improve the welfare of the population by enhancing the sustainability of the company.

Justification

The bakery company to be studied stands out for having a sustainable approach, not only as a form of social contribution, but also as a "way of acting" in favour of society. Therefore, it is of great importance to develop sustainability in this organisation and to establish itself in the social, economic, political, environmental, technological and cultural context, and thus, to implement timely strategies that allow to improve and maintain the organisational sustainable approach.

Being a sustainable company means investing in training, establishing good working conditions and benefits for employees. Stopping seeing actions as an expense, because everything that is given to workers is recovered in the form of efficiency, good service, quality, loyalty and innovation.

It is important to have an integral development model that allows them to respond to the current contexts they face, so that they can remain competitive and keep up with the competition, guaranteeing their growth, permanence and profitability.

Methodology

For the selection of the experts, certain specific characteristics were determined based on their experience, skills or knowledge of the topic under study.

The Delphi method was used, which falls into the family of subjective methods. It is particularly useful when it is not possible to satisfy the requirements of information accumulation demanded by the methods included in the other families of techniques, but nevertheless there is a pool of experts who can offer reasonably solid prospective visions on the analysis of the sustainability of the reverse logistics of the bakery company.

Within the methodological design, we also show the strategies and procedures that allowed the collection of data and information, and its processing, analysis and interpretation in order to respond to the problems that were raised in the research objectives.

- This study proposes a comprehensive productivity measurement instrument, based on ten priority elements in any organisation, either from an intangible or tangible point of view, as both aspects need to be considered when measuring productivity.

Pilot phase

To validate the sustainability measurement instrument, a pilot test will be carried out, selecting through a non-probabilistic sample by convenience, experts from the organisation with knowledge in logistics.

The instrument shown in tables 1-10 consists of 10 fundamental elements for sustainability, which are described below:

- Element 1: Process management. This refers to the way in which processes and procedures are administered and managed in the different areas of the organisation, as well as those responsible for each one.
- Element 2: Infrastructure and resources. This refers to the physical assets available to the organisation, and the degree of importance they have for each process.

- Element 3: Collaboration and relationship with partners. This element considers the relational factor with agents outside the company, in this case with strategic partners.
- Element 4: Measurement and continuous improvement. Here it is considered whether the necessary indicators are in place to measure productivity and whether the necessary resources are available to execute it in the best possible way.
- Element 5: Policy. It is important to assess the involvement of top management in the comprehensive development of both tangible and intangible elements of the organisation, as well as the involvement of government policies.
- Element 6: Economics. This element aims to measure which external and internal economic aspects impact the company, as well as the relationship it has with production.
- Element 7: Society. It is crucial that the people in the organisation are aware of the social variables they face.
- Element 8: Culture. This is another determining element in today's world, as values, customs and traditions have a significant impact on the attitude and aptitude of human capital.
- Element 9: Technology. This is a determining aspect for the development of the organisation in the globalised context in which we live, as knowledge and the application of technologies provide competitive advantages.
- Element 10: Environment. This element measures the environmental impact of the organisation, in a bidirectional sense.

| ELEMENT 1: Process management | | Progress in % | | | | |
|-------------------------------|---|---------------|----|----|----|-----|
| SUB-ELEMENTS | | 20 | 40 | 60 | 80 | 100 |
| 1 | There is a clear and well-defined workflow for reverse logistics processes. | | | | | |
| 2 | It has been documented and communicated to all employees involved in reverse logistics. | | | | | |
| 3 | The key entry and exit points of products and materials in the reverse logistics flow have been identified. | | | | | |
| 4 | Performance indicators have been established to measure the efficiency and effectiveness of the processes. | | | | | |
| 5 | Regular assessments of reverse logistics processes are conducted to identify opportunities for improvement. | | | | | |

Table 1 Integral instrument for measuring sustainability (Element 1)

Source: Own elaboration

| ELEMENT 2: Infrastructure and Resources | | Progress in % | | | | |
|---|--|---------------|----|----|----|-----|
| SUB-ELEMENTS | | 20 | 40 | 60 | 80 | 100 |
| 1 | The storage and handling infrastructure for returned goods is adequate and efficient. | | | | | |
| 2 | The necessary resources and equipment are in place to carry out reverse logistics activities efficiently. | | | | | |
| 3 | Information systems and technologies are in place to monitor and manage product and material flows in reverse logistics. | | | | | |
| 4 | A tracking and tracing system is in place for returned products and recyclable materials. | | | | | |
| 5 | A quality and safety management system is in place for reverse logistics. | | | | | |

Table 2 Integral instrument for measuring sustainability (Element 2)

Source: Own elaboration

| ELEMENT 3: Collaboration and relationship with partners | | Progress in % | | | | |
|---|---|---------------|----|----|----|-----|
| SUB-ELEMENTS | | 20 | 40 | 60 | 80 | 100 |
| 1 | Strong and collaborative relationships are maintained with suppliers, retailers and other partners involved in reverse logistics. | | | | | |
| 2 | Relevant information is shared with partners to optimise product and material flows. | | | | | |
| 3 | Clear and established arrangements are in place for the return of products and materials and their reintegration into supply chain processes. | | | | | |
| 4 | Effective and smooth communication with customers is carried out to facilitate the return of products and materials. | | | | | |
| 5 | Regular evaluations of partner performance are carried out and joint improvement actions are established. | | | | | |

Table 3 Integral instrument for measuring sustainability (Element 3)

Source: Own elaboration

| ELEMENT 4: Measurement and continuous improvement | | Progress in % | | | | |
|---|--|---------------|----|----|----|-----|
| SUB-ELEMENTS | | 20 | 40 | 60 | 80 | 100 |
| 1 | Periodic measurements of productivity and performance indicators in reverse logistics are carried out. | | | | | |
| 2 | Specific goals and objectives are set to improve the efficiency and effectiveness of reverse logistics processes. | | | | | |
| 3 | Data collected is regularly analysed to identify trends and patterns in reverse logistics performance. | | | | | |
| 4 | A culture of continuous improvement is fostered and employee participation in identifying opportunities for improvement is encouraged. | | | | | |
| 5 | Corrective and preventive actions are put in place to address identified areas for improvement in reverse logistics. | | | | | |

Table 4 Integral instrument for measuring sustainability (Element 4)

Source: Own elaboration

| ELEMENT 5: Policy | | Progress in % | | | | |
|-------------------|--|---------------|----|----|----|-----|
| SUBELEMENTS | | 20 | 40 | 60 | 80 | 100 |
| 1 | They are aware of government policies and regulations related to reverse logistics and how they impact productivity. | | | | | |
| 2 | Are there specific laws or standards regarding waste management, recycling and extended producer responsibility? | | | | | |
| 3 | Do political changes influence policies and regulations affecting reverse logistics? | | | | | |
| 4 | Are there international agreements that may influence reverse logistics and reverse logistics productivity? | | | | | |
| 5 | What government incentives or subsidies are available to promote sustainable practices in reverse logistics? | | | | | |

Table 5 Integral instrument for measuring sustainability (Element 5)

Source: Own elaboration

| ELEMENT 6: Economy | | Progress in % | | | | |
|--------------------|---|---------------|----|----|----|-----|
| SUBELEMENTS | | 20 | 40 | 60 | 80 | 100 |
| 1 | Learn about the costs associated with reverse logistics, such as transport, storage and handling of returned goods. | | | | | |
| 2 | How changes in prices of raw materials and resources influence the profitability of reverse logistics | | | | | |
| 3 | Understanding exchange rates and how they affect international transactions of returned goods in reverse logistics | | | | | |
| 4 | Economic policies that can influence investment in reverse logistics infrastructure and technology | | | | | |
| 5 | How current economic trends impact the demand for returned goods and the need to efficiently manage reverse logistics | | | | | |

Table 6 Integral instrument for measuring sustainability (Element 6)

Source: Own elaboration

| ELEMENT 7: Society | | Progress in % | | | | |
|--------------------|---|---------------|----|----|----|-----|
| SUBELEMENTS | | 20 | 40 | 60 | 80 | 100 |
| 1 | Do consumers perceive the importance of reverse logistics and its impact on sustainability? | | | | | |
| 2 | Do you know the social expectations and demands in relation to the management of returned goods and reverse logistics? | | | | | |
| 3 | Cultural differences exist that may influence the way in which returned goods and reverse logistics is handled | | | | | |
| 4 | Social considerations can be incorporated into the planning and execution of reverse logistics to improve productivity. | | | | | |
| 5 | Social barriers may exist to effective implementation of sustainable practices in reverse logistics. | | | | | |

Table 7 Integral instrument for measuring sustainability (Element 7)

Source: Own elaboration

| ELEMENT 8: Culture | | Progress in % | | | | |
|--------------------|---|---------------|----|----|----|-----|
| SUB-ELEMENTS | | 20 | 40 | 60 | 80 | 100 |
| 1 | Cultural values related to sustainability and social responsibility in reverse logistics are known. | | | | | |
| 2 | Reverse logistics practices can be adapted to the cultural needs and expectations of different markets. | | | | | |
| 3 | Cultural differences exist that can influence perception and participation in reverse logistics programmes. | | | | | |
| 4 | Cultural changes that encourage greater acceptance and participation in sustainable reverse logistics are promoted. | | | | | |
| 5 | It is known which cultural factors can impact the implementation of sustainable reverse logistics practices. | | | | | |

Table 8 Integral instrument for measuring sustainability (Element 8)

Source: Own elaboration

| ELEMENT 9: Technology | | Progress in % | | | | |
|-----------------------|--|---------------|----|----|----|-----|
| SUBELEMENTS | | 20 | 40 | 60 | 80 | 100 |
| 1 | It is fully understood what technologies currently exist to improve the efficiency and effectiveness of reverse logistics. | | | | | |
| 2 | The technological tools available for tracking and monitoring returned products and recyclable materials are available. | | | | | |
| 3 | You know what technological advances can help optimise reverse logistics processes, such as the use of data analysis or artificial intelligence. | | | | | |
| 4 | Technological solutions can be implemented to improve the visibility and traceability of products in reverse logistics. | | | | | |
| 5 | Technological barriers exist that hinder the adoption of sustainable practices in reverse logistics. | | | | | |

Table 9 Integral instrument for measuring sustainability (Element 9)

Source: Own elaboration

| ELEMENT 10: Environment | | Avance en % | | | | |
|-------------------------|--|-------------|----|----|----|-----|
| SUBELEMENTS | | 20 | 40 | 60 | 80 | 100 |
| 1 | The environmental impact of reverse logistics processes, such as greenhouse gas emissions and consumption of natural resources, is well known. | | | | | |
| 2 | Environmental regulations and sustainability standards are in place that affect reverse logistics and productivity. | | | | | |
| 3 | Initiatives are being implemented to reduce the environmental impact of reverse logistics, such as recycling and reuse of returned products. | | | | | |
| 4 | Reverse logistics practices can be improved to reduce waste generation and promote the circular economy. | | | | | |
| 5 | Opportunities exist to collaborate with partners and suppliers on environmental initiatives in reverse logistics. | | | | | |

Table 10 Integral instrument for measuring sustainability (Element 10)

Source: Own elaboration.

The pilot test will be used to determine whether the elements considered are adequate to comprehensively measure sustainability in the organisation to be assessed, or whether the elements and sub-elements need to be refined.

For the test, it will be necessary to arrange interviews with experts and managers of the organisation for its application.

Results

The study has partial results, so that two of the objectives have been fulfilled:

- To establish the elements for the measurement of sustainability, based on the theoretical foundation.
- To design an integral instrument capable of measuring sustainability in the reverse logistics of a bakery company in Villahermosa, Tabasco.
- These objectives have been fulfilled and dictate a partial conclusion of the research.

Conclusions

Reverse logistics is presented as an important tool, which is generated from the consumer to the producer, having as its objective the correct return of products that are defective, that have been returned or, in its case, that have been discarded.

This procedure, recently applied to industry, will address problems of customer and/or user dissatisfaction at the end of the supply chain. It is a system that consists of analysing and evaluating the origin of the problems that are transmitted to customers when the products and/or services demanded do not comply with the conditions established by the marketing operations between both parties and managing the return of the same.

It will be closely related to the concept of sustainable development because there must be a balance between industrial development and the environment, therefore, rules must be implemented that allow an adequate exploitation of resources without compromising future generations, this is how reverse logistics through the reintroduction of materials that have completed their life cycle and have been set aside, will be able to generate a decrease not only in production costs but also in the amount of waste that is discarded on a daily basis, thus being an important tool to help in business sustainability, as it will be able to extend the life cycle of products and therefore cause an immediate decrease in pollutants.

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Identification of key factors for the implementation of a planning culture in micro and small businesses

Identificación de factores clave para la implementación de una cultura de planeación en la micro y pequeña empresa

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Abstract

Planning as a business tool allows specifying and establishing the objectives to be achieved, as well as the operational processes that must be followed to achieve them. However, the main factors that cause failure or mortality in micro and small enterprises (mSES) in the Mexican territory are mainly attributed to three factors: the absence of a planning culture, the problems derived from the management of the organization and resistance to change. The objective of this research was the identification of factors that positively influence the implementation of a planning culture in the mSES of the Texmelucan region, through the development and application of a measurement instrument with a Likert-type scale. As a contribution, they highlight four key factors to consider; organizational structure, human capital, production and planning, as organizational development tools, in order to maintain competitiveness and permanence of these.

Factors, Planning culture, Mses

Resumen

La planeación como herramienta empresarial, permite precisar y establecer los objetivos que se pretenden alcanzar, así como los procesos operacionales que deben seguirse para lograrlos. Sin embargo, los principales factores que provocan el fracaso o mortandad en la micro y pequeñas empresas (mypes) en el territorio mexicano, se atribuyen principalmente a tres factores: la ausencia de una cultura de planeación, las problemáticas derivadas en la gestión de la organización y la resistencia al cambio. El objetivo de esta investigación fue la identificación de factores que influyen de forma positiva en la implementación de una cultura de planeación en las mypes de la región de Texmelucan, mediante el desarrollo y aplicación de un instrumento de medición con una escala tipo Likert. Como contribución, destacan cuatro factores clave a considerar; estructura organizacional, capital humano, producción y planeación, como herramientas de desarrollo organizacional, con la finalidad de mantener competitividad y permanencia de estas.

Factores, Cultura de planeación, Mypes

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Introduction

Globally, SMEs are of great importance, since for thousands of families they represent not only their daily sustenance, but also contribute to the social and economic development of their communities.

Based on the fact that SMEs have a great influence on the development and growth of any country, they have been the subject of several investigations.

In Mexico, there are more than five million companies, in which more than 29 million people work; of the total number of companies, micro, small and medium-sized companies constitute 99.8%, generate 73% of the jobs and contribute 35.9% of the national Gross Domestic Product (GDP), according to data from the National Institute of Statistics and Geography (INEGI) of 2019.

In this sense, the National Survey on Productivity and Competitiveness of Micro, Small and Medium Enterprises, applied in Mexico in 2015, points out that these, make up 99.6%, generating an occupation of 88.9% of active personnel (ENAPROCE, 2015). In Mexico, MSMEs face various vicissitudes framed in the constant competition of global and emerging markets.

The sustainability and permanence of Mexican MSMEs is in constant vulnerability, as 14.7% reported that they do not intend to expand or grow their business, justifying this by keeping a low profile so as not to attract the attention of organized crime, which is unfortunately a serious problem in several areas of the country (ENAPROCE, 2015).

On the other hand, Mexican mypes are family businesses, managed by the microentrepreneurs or owners, assisted by family members, whose knowledge and skills are acquired empirically and generally do not have a formal administration (Saenz et al., 2016).

In this regard, INEGI revealed that the mortality rate of MSMEs is 37.6% and considering that they are an essential element in the national economy, strategies should be sought and implemented to contribute to their stability and permanence (INEGI, 2016).

A relevant fact to highlight is related to the three main causes of mortality of micro and small enterprises in Mexico, which can be summarized in three main factors: the lack of strategic planning, the problems themselves, derived from the operationalization of the organization and resistance to change (Posada et al., 2016).

Speaking of planning, Alvarez (2015), determined that 37% of micro and small companies do not carry out any type of planning in their businesses. On the other hand, research conducted by Cárdenas (2013), on a sample of 322 micro and small companies in Mexico, mentions that 83% of the companies analyzed have a strategy in mind, but not formally established. However, only 45% have a well-defined and established written planning. This results, in the short term, in inconsistent decision making due to the difference between what is thought and what has been previously planned.

In general, the life cycle of a mype ranges from two to three years because it does not have adequate business planning and management; 95% of the mypes that are established or opened remain in the market for one year at most; another alarming fact is that only 50% of them survive eight years with difficulty (Santana, 2017).

Planning is a concept that is not part of the daily activities of most MSMEs; therefore, the objective of this research was to identify key factors for implementing a planning culture in microentrepreneurs as a strategic tool.

It should be noted that the geographical location of the Texmelucan region has favored the development and growth of commerce, however, the arrival and installation of new businesses puts the already established ones at a disadvantage, whose capital and organizational structures, as well as the culture of planning and strategies that emanate from them, are key factors that allow them to be competitive leaders. Derived from the above, the need arises to address this economic sector, seeking and identifying the important elements that should be taken into consideration when implementing or promoting a culture of planning in micro-entrepreneurs that favors the permanence, development and sustainability of these businesses that drive the economy and employment in the region.

Research design

The present work was developed applying the quantitative type of research, the quantitative approach is sequential and evidential. Each stage precedes the next and steps cannot be avoided. The order is rigorous, although, of course, some phases can be redefined. It starts with an idea that is gradually delimited and, once delimited, research objectives and questions are derived, the literature is reviewed and a framework or theoretical perspective is constructed.

From the questions, hypotheses are established and variables determined; a plan is drawn up to test them (design); the variables are measured in a given context; the measurements obtained are analyzed using statistical methods, and a series of conclusions are drawn with respect to the hypothesis or hypotheses.

The research approach was quantitative and the scope was descriptive, the design was non-experimental as the results obtained in the survey elaborated were not intentionally provoked since there was no direct control (Hernández Sampieri, 2018).

Sample design

The target population for this study focused on microentrepreneurs or local business managers or mypes in the region of San Martin Texmelucan, Puebla, in order to identify the characteristics of these in their various areas and thus focus on the key factors in the implementation of a culture of planning for micro and small businesses as a strategic tool, in addition to knowing whether each of them applies or has identified the appropriate process for proper management of the same, in order to achieve each of their goals. The type of probability sampling used in this research was simple.

The demographic segment was 11,381, data taken from INEGI (2019), number of SMEs in the region under study. The formula applied was for finite population, which implies that:

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

Where:

n = Sample size

N = Population size

Z = Statistical parameters that depend on the confidence level (CN)

e = Maximum accepted estimation error

p = Probability of occurrence of the statistical event (success)

q = (1-p) = Probability of occurrence of the studied event (Anderson et al., 2019).

This equation is for known populations. As a result, n = 372 was obtained, which was the number of microentrepreneurs to be surveyed initially, considering that a value of success and failure of 50% was taken, because it was the first time that this survey was applied, therefore, there were no antecedents.

As for the operationalization of the variables, a contextual dimension was established with six variables and the variables around the topic of planning culture, which served as the basis for the development of the measurement instrument.

Measurement instrument

The measurement instrument for this research was a questionnaire consisting of two parts. The first section sought to determine the characteristics of the microentrepreneurs (demographic data, contextual dimensions) and in the second, the constructs or dimensions of the variables (factors) related to the culture of planning. A total of 28 statements were established, 22 of which originated from the established variables.

Additionally, a five-point Likert-type scale (Table 1) was established to evaluate the perceived importance of each of the statements.

| Scale | Item |
|-------|---------------|
| 1 | Never |
| 2 | Almost never |
| 3 | Regularly |
| 4 | Almost always |
| 5 | Always |

Table 1 5-point Likert scale

Source: Own elaboration

The scale ranges from unimportant critical factor (number 1) to extremely important critical factor (number 5) in the implementation of a planning culture.

Validation of the instrument

To evaluate the reliability or trustworthiness (degree to which an instrument gives consistent and coherent results) of the measurement instrument, the Cronbach's alpha coefficient was calculated.

By calculating Cronbach's alpha coefficient, the reliability of the instrument was evaluated to ensure that the data collected were consistent and coherent, and thus to determine the reliability of each of the variables taken into account to identify the key factors in the planning culture.

For an exploratory research, obtaining alpha values between 0.50 and 0.60 are to consider that the instrument has reliability for the study (Nunnally 1987). On the other hand, Hernández Sampieri (2018) suggests that the value of 0.75 is acceptable and if it is higher than 0.90 the reliability is high to take very much into account.

For Cronbach (1951), a value above 0.65 is acceptable. The Cronbach's alpha value obtained in this research according to the criteria of the authors cited in the previous paragraphs, the Cronbach's alpha value obtained indicates an extremely high reliability since it was 0.942.

Application of the measuring instrument

The surveys were applied to micro-entrepreneurs in the Texmelucan region with the support of students of the 7th semester Business Management Engineering course, in person, the period of application and data collection took place between the months of February and March of this year, collecting a total of 415 valid questionnaires for their corresponding analysis. The determined sample size of 342 was exceeded, which contributed greatly to the analysis and field study.

Results and discussion

The analysis of the survey is divided into two categories, the first in contextual dimensions in which it was of interest to know about the company data that help to learn more about the microentrepreneurs, such as the sector that their business focuses on, whether it is a product or service, in which it was learned that in the region of San Martín the activity to which the microentrepreneurs are most dedicated is the commercial field, given that, of the total of 415 surveys applied, 66.5% belong to the commercial activity.

Regarding the size of the MSMEs, according to the number of workers, 87.3% have between one and ten employees, which indicates that the majority of these are micro and small enterprises in the region. On the other hand, 49.9% of the SMEs have been in operation for between one and five years. It is worth noting that 55% of the SMEs are managed or directed by women between the ages of 36 and 45.

In terms of educational level, 34.5% of the microentrepreneurs only have a high school education, which confirms the fact that most of the SMEs are managed empirically or their managers do not have adequate academic preparation to face the daily challenges.

In relation to the dimension of planning culture, this was divided into six categories around the topics of planning, production, demand, human capital, management and sales. The purpose of these was to identify how much is known about the planning culture and strategies that microentrepreneurs apply on a daily basis. The following results are relevant: only 40% of the managers or microentrepreneurs set short and medium-term goals and 33% make adjustments to their planning to assign new priorities.

Another relevant data identified has to do with the activity of programming or planning daily tasks in the productive sphere; in this area, 32.7% indicated that they do it regularly.

By virtue of the analysis of the data and results obtained, it can be assumed that, in the mypes, the object of this study, the culture of planning daily activities is not a habit.

Conclusions

The period for the elaboration of this project was a limitation, derived from the COVID 19 pandemic, since it did not allow the development of the project in greater depth as would have been required.

According to the results obtained, the mypes in the region of San Martin Texmelucan, do not have a planning culture, it can be intuited that this is a consequence of running their businesses in an empirical way. In addition, they lack knowledge and soft skills for the development of their daily activities from an administrative approach, but not from an operational one.

In addition, the lack of information on the subject and ignorance of it leads to poor planning.

As a result of this research, it can be concluded that microentrepreneurs in this region, whose main activity is commerce, generally lack a culture of planning, so they carry out their activities according to how they arise in their daily lives and program as they go along.

It was also observed how important it is to have planning in SMEs, implementing a culture of planning in microentrepreneurs, directors or managers of companies, has different benefits not only for employees or collaborators of these.

The analysis of the field study in this research helped to identify and confirm four key factors, involving organizational structure, human capital, production and sales. These elements are important because they will facilitate the implementation of a planning culture, which will permeate in all areas of the mypes, contributing to the sustainability and permanence of these, especially in these times, where competition is the biggest challenge to overcome and sustain a good positioning in emerging markets so competitive.

The objective of the planning culture is not only to plan the management and operation activities, but also to carry them out in a coordinated manner, establishing and assuming responsibilities and obligations in each of the members of the mypes, it is recommended to maintain a sequence of activities that includes, from the administrative part, human resources, as well as focusing on the processes related to the supply of materials and necessary components, in order to avoid interruptions or delays due to the lack of these.

During the documentary research, it was observed that there is currently no research in the region under study related to the culture of planning as a habit among microentrepreneurs in the region. At the national level, works were identified in relation to this topic, but the vast majority are focused on large companies, mainly transnationals, therefore, it is suggested to develop projects that consider this important sector, not only at the local level, but also at the national level.

For future research, it is suggested to design a model with the four factors identified to give continuity to the implementation of the key elements that influence MSMEs, in order to corroborate its application and relevance.

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Evaluation of organizational behavior in the personnel of Micro and small companies in the city of Izúcar de Matamoros

Evaluación del Comportamiento organizacional en el personal de las Micro y pequeñas empresas de la ciudad de Izúcar de Matamoros

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Abstract

The Micro and small companies of the city of Izúcar de Matamoros, have suffered great effects for various reasons, through university intervention we want to evaluate the impact of not carrying out an analysis of organizational behavior. According to the above, the interest of evaluating the organizational behavior of the market dedicated to the purchase and sale of tangible goods and helping to improve the areas of opportunity that may arise, likewise, to be able to strengthen the company and contribute to its permanence. in the market. It is considered important to mention that one of the reasons for this research is to help and provide greater knowledge of the organizational culture and organizational climate and how they influence the behavior of staff and their job performance. It is considered essential to involve the senior management of MSMEs, because they must have knowledge about the behavior of this phenomenon, that is, the relationship between culture, climate and behavior in performance, labor productivity of employees. collaborators in the economic entities of the center of Izúcar de Matamoros, Pue.

Assessment, Organizational behavior and personal

Resumen

Las Micro y pequeñas empresas de la ciudad de Izúcar de Matamoros, han sufrido grandes afectaciones por diversas causas, por medio de la intervención universitaria se quiere evaluar el impacto de no llevar un análisis del comportamiento organizacional. De acuerdo a lo anterior, el interés de evaluar el comportamiento organizacional del mercado dedicado a la compra venta de bienes materiales y coadyuvar a la mejora de las áreas de oportunidad que se pueden presentar, así mismo, poder fortalecer la empresa y contribuir a su permanencia en el mercado. Se considera importante mencionar que una de las razones de esta investigación es coadyuvar y aportar mayor conocimiento de la cultura organizacional y el clima organizacional y cómo éstos influyen en el comportamiento del personal y en su desempeño laboral. Se considera primordial involucrar a la alta dirección de las MiPyMEs, debido a que, ellos deben tener conocimiento sobre el comportamiento de este fenómeno, es decir, la relación que guarda la cultura, el clima y el comportamiento en el desempeño, productividad laboral de los colaboradores en las entidades económicas del centro de Izúcar de Matamoros, Pue.

Evaluación, Comportamiento organizacional y personal

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Introduction

In Mexico, small and medium-sized enterprises generate 78% of national employment and represent the economic engine of the country, with almost 4.1 million SMEs according to research conducted by the National Institute of Statistics, Geography and Informatics INEGI (2019).

The information published in Data Mexico about the results of the Economic Census 2019, the predominant economic sectors in the city of Izúcar de Matamoros, Puebla, are the retail trade sector with 44.9%, followed by Temporary accommodation services and food and beverage preparation with a percentage by 16.6%, other services except governmental activities being 13%, likewise manufacturing industry has a 10.3% share.

At the national level, MSMEs have been studied for several decades, through which it has been detected that they face a series of difficulties that notably obstruct their development, among which are the following factors that affect their cost structure: low efficiency in labour, low efficiency of indirect labour, outdated technology, machinery and equipment, high costs in the maintenance and repair of machinery, excessive variety of products, problems related to education, lack of training, lack of qualified labour for companies to face the challenges of competitiveness, lack of entrepreneurial culture and lack of capacity of companies to improve important aspects such as: administration, marketing, financing, identification of business opportunities and management of human resources. Instituto de Investigaciones Legislativas del Senado de la República (2002).

In Izúcar de Matamoros, through university intervention, it was observed that the majority of MSMEs in the region lack administrative theory. This is due to various factors, including the fact that entrepreneurs do not have the knowledge due to their academic training, lack of time or lack of interest in training, which represents a limitation to achieve adequate development and growth; therefore, the planning of their projects or activities is not always possible.

The daily rights are minimal, having to survive day by day in a highly competitive environment. Through various diagnoses, it was detected that empirical administration continues to predominate, and the lack of knowledge of various administrative tools is also notable and exposed by the businessmen.

Nowadays, the new market conditions require us to orient economic entities more and more towards professionalisation, innovation, creativity and customers, since competition, both internal and external, is constantly growing, which attacks market niches. Consumers in general are more informed, which may limit the satisfaction of their expectations. Technological progress, in particular social media, has contributed to increased competition and has revolutionised the ways and times of doing things. From this point of view, it is worth highlighting the factors that influence the behaviour of entrepreneurs, since the permanence of the company in the market depends directly and indirectly on it.

It is considered that it is increasingly necessary to promote the culture of "recurrent evaluations in companies or organisations", as it can be a preventive mechanism or a visualisation of those failures or areas of opportunity that appear, due to current problems or situations, caused by extensive growth in the market, as well as the needs that are increasing day by day.

University intervention in economic or social entities in the centre of Izúcar de Matamoros, Pue., through the application of instruments that measure organisational behaviour will allow senior management to generate strategies and proposals for MSMEs to have appropriate processes, a healthier organisational climate, trained human capital, favourable lines of communication, better work performance, among other benefits; the aforementioned will have an impact on productivity, being able to diagnose the entity is essential for a win-win, referring to human capital and productivity.

It is worth mentioning that contributing to the development of MSMEs will allow for a better performance in the following areas: MERINO VIAZCÁN, Janet, SOLANO PALAPA, Nathaly, PEÑA CRUZ ARCHUNDIA, Félix Martín and MEDINA RAMÍREZ, Anahí. Evaluation of organisational behaviour in the staff of micro and small enterprises in the city of Izúcar de Matamoros.

The workers, in the development of the economic entity and therefore in the municipality.

Organisational behaviour

Principles of the Theory of Human Relations Theory

Ramos Lugo & Triana Gómez (2007), in their research "School of human relations and its application in a telecommunications company" expose Elton Mayo and his followers who support the Theory of Human Relations, with the results of the "Hawthorne Experiment" and the ideas of Psychology and Sociology that allowed to outline its basic principles:

- Integration and social behaviour: production levels depend on social integration, the worker does not act in isolation, but as a member of a social group, so work is a group activity, the study showed that the behaviour of the individual is conditioned by social norms or standards.
- Social rewards and sanctions: it was found that workers who produced above or below the socially determined norm lost the affection and respect of their peers.
- Informal groups: they constitute the human organisation of the company, which is often in opposition to the formal organisation established by the management; they define their forms of rewards or sanctions, scale of values, beliefs and expectations.
- The content of the job: Mayo and his collaborators observed that specialisation in work did not guarantee efficiency and that workers changed jobs frequently to avoid monotony.

- Emotional aspects: the study found that human relations and cooperation are key to avoiding conflict and maintaining primary groups.
- Supervisory style: managers must be able to treat their workers with dignity, understand, know how to communicate, be democratic and persuasive, on the basis that man is a social being.

Implications of the Theory of Human Relationships

Theory

The theory of Human Relations provided a new language and the basis for the Behaviourist School, which was joined by the theories of various scholars such as Kurt Lewin, Herbert Simon, Maslow, Skinner, McGregor, but their studies are not the subject of this paper, so we do not go into them in depth; in general, the following concepts began to be handled:

Motivation: All human behaviour is motivated, in the psychological sense, it is the persistent tension that originates in the individual some form of behaviour directed towards the satisfaction of one or more needs.
Leadership: It is the interpersonal influence exerted in a situation, oriented towards the achievement of one or more objectives through the process of human communication.
Communication: It is the exchange of information between individuals, it constitutes one of the fundamental pillars of human experience and social organisation.

Informal organisation: It is the set of interactions and relationships established by the various human elements of an organisation, different from the formal one. This concept was developed by Rothlisberger and Dickson in their book on the Hawthorne experiment.

Group dynamics: These are people who integrate with each other and perceive themselves as members of a group, the dynamics is the sum of the interests of its members, it can be activated by stimuli to achieve greater rapprochement and learning. Kurt Lewin in his book "Dynamics of Personality" (1935) developed this concept extensively.

Contributions

The contribution of this humanistic approach to management can be summarised as follows:

- Involving for the first time the human being as a primary element in an organisation. Observing the organisation as a social system.
- Proposing that productivity is not a problem of engineering, but of group relations.
- Pioneered the study of motivation, leadership, communication and informal groups.

Beginnings of Behavioural Theory

In the publication "Behavioural theory: what is it, origins, characteristics, advantages", by Lifeder (2019), he asks What is behavioural theory?

Behavioural Theory, to which he answers that it is also known as Behavioural Management Theory, is one that refers to all those behaviours of people within an organisation. In other words, its focus is on the habits of each individual within a company.

He explains that this theory arises in opposition to classical management theories, which did not have the person as their main focus, but rather other organisational elements. This is due to the fact that behavioural theory aims to emphasise the individual behaviours of workers.

Thanks to the emergence of this theory, organisations were able to take a different direction from previous philosophies. This allowed companies to have a different perspective on how to do and plan their internal activities and, above all, to strengthen human relations within the company.

The Behaviourist Management Theory has long been a model for organisations of all kinds around the world to follow, as its approach and concepts can be applied to any economic and management sector.

Behavioural theory began at the end of the 1940s in the United States, when a new administrative model was implemented that focused on strengthening human relations as a central element within organisations.

In this way, classical theories that focused on other types of components that did not have the human aspect as the main factor were left aside. At the time, human relations, such as communication or interaction between employees, customers and managers, were not prioritised, but rather the structure of the company and the execution of tasks and functions.

The emergence of such a theory, which focused on people and what revolves around them, was at first strongly rejected because of the formulas by which companies were previously managed. Over time, Behavioural Theory forced companies to change the way they think and perform their functions.

Advantages and disadvantages of behavioural theory

The model proposed by the Behavioural Theory brought great benefits to companies since its formulation, but it also companies since its formulation, but there are also some disadvantages, as we will see below:

Advantages

By seeking to improve the productivity of the company and the fulfilment of functions, individuals are rewarded to keep them motivated.

There is much greater communication and interaction between people, resulting in high employee satisfaction.

There is greater collaboration and coordination of tasks in order to carry out organisational activities effectively and efficiently. There are individualities so that not everyone can be treated the same, allowing some to excel more than others.

Achievements are rewarded and shortcomings are punished, in order to achieve greater motivation and thus improve productivity.

It makes workers feel increasingly useful and necessary, as it makes them the backbone of organisational production.

Disadvantages

Some studies have shown that this model can cause worker anxiety and some health problems. This is important, as the model should ensure the emotional stability of people. It can often lead to a reluctance on the part of workers to face new challenges and tasks.

Some workers' self-esteem may also be lowered when they see that others excel in certain tasks or functions.

Often the interaction between people within the organisation can trigger conflicts or problems that must be solved by the top management in order not to affect the company's objectives.

In the research by Suárez Guevara et al., (2020), called "Organisational behaviour and its role in business management", they tell us that managers do the work through people. They allocate resources, direct the activities of others and make decisions to achieve organisational goals. The organisation is a coordinated social unit, composed of two or more people, functioning to achieve a common goal. Managers are responsible for the functioning of the organisation.

The world has become a global village. Understanding organisational behaviour has become very important for today's managers. Globalisation has presented challenges and opportunities for organisational behaviour. Various changes such as increase in the number of female employees, reduction of corporate staff, increase in the number of temporary workers are occurring in organisations. Business is shifting to where the technology is. It can be said that business has become technological.

Bravo et al., (2020), states that the survival of an organisation depends to a large extent on the use of behavioural models that favour employees, whose behaviour helps or directly affects the organisation.

This is manifested in various human resource practices as an important predictor of organisational success. Studies have found effective relationships between positive climates and various measures of organisational success, such as employee retention, productivity, customer satisfaction and profitability.

Business managers are constantly looking for improvements for their organisations, but they need to know the behaviour of their employees as individuals, groups and organisations. This is a field of study that investigates the effect that individuals, groups and structure have on behaviour within organisations, with the purpose of applying such knowledge to improve organisational effectiveness. They argue that organisational behaviour is the study of human behaviour in organisational contexts, of the interface between human behaviour and the organisation, and of the organisation itself. Scholars agree that any assessment of organisational behaviour or its manifestations necessarily involves the analysis of the variables that describe it and the measurement of its effects.

Chiavenato (2009), called "Organisational behaviour", shares that organisations are the most sophisticated and complex creation of mankind, because he considers that they are the basis of all inventions, as they continuously innovate products, services, facilities, means of entertainment and information.

Organisations are made up of individuals, who present certain behaviours and interests among themselves.

For Chiavenato (2009), organisational behaviour refers to the study of people and groups that act in organisations. It is concerned with the influence that they exert on organisations and the influence that organisations exert on them. In other words, CO portrays the continuous interaction and reciprocal influence between people and organisations. It is an important field of knowledge for anyone who has to deal with organisations, whether to create new ones or change existing ones, to work or invest in them or, most importantly, to manage them.

CO is an academic discipline that emerged as an interdisciplinary body of knowledge to study human behaviour in organisations.

Although the definition has remained, in reality, it is not organisations that exhibit certain behaviours, but the people and groups that participate and act in them.

CO refers to the actions of people working in organisations. It is mainly based on contributions from psychology and is a field that deals with the behaviour of individuals, i.e. issues such as personality, attitudes, perception, learning and motivation. CO also relates to the behaviour of groups, i.e. it includes topics such as norms, roles, team building and conflict management. In this sense, it builds on the contributions of sociologists and social psychologists. However, the behaviour of a group of people cannot be understood solely as the sum of the actions of individuals. The behaviour of the group is different from the behaviour of each of its members.

In the research "Procedure for the study of Organisational Behaviour" Bravo et al. (2018), highlight the definitions of OC provided by Robbins and his collaborators, which can be summarised as the impact of individuals and groups on the behaviour of organisations by applying their knowledge in effectiveness. This definition has points in common with Erdogan's (2012) definition of the influence of the knowledge of individuals and groups at work and their dependence on the organisation for the effectiveness of the organisation.

In both, the existence of three dimensions or variables (individual, group and structure) and their interrelation is specified, but these authors do not point out the relationship between them, and in Chiavenato's opinion they are contained in each other.

Dailey (2003) describes organisational behaviour as the study of the performance and attitudes of people within organisations. This field focuses its analysis on how the work of employees contributes to or detracts from the effectiveness and productivity of the organisation. Other authors focus on the impact that individuals, groups and organisational structure have on organisational behaviour.

We must emphasise the importance of human resources within an organisation. There are many different terms used in the current environment in relation to the people who work in a company.

Methodology to be developed

At present, in almost all organisations there is a crisis in leadership and there is a need for good leaders who can carry out the necessary transformations to generate a suitable climate where the followers feel motivated and satisfied, to face the challenges and achieve a better institutional quality and a higher quality of personal life, which is why to carry out this research we would start with the collection of numerical data and later its analysis, it is considered feasible to apply the quantitative research paradigm.

From the interpretative point of view, it is considered a study with a qualitative focus, centred on the phenomenon and not on the results, given that it analyses the subjective reality, deepens the ideas and contextualises the phenomenon and starts from the direct observation of how it is being presented in reality.

The research will have a non-experimental design, according to Hernández et al. (2014) the type of "research is descriptive - correlational". "It is descriptive because it seeks to specify the important properties, characteristics, profiles" of workers who will be supported by answering the instrument, in order to know how the categories of the instrument are manifested. It is correlational, since, the relationship between the dimensions Leadership and Decision Making, Conflict Management, Motivation and Behaviour, Communication and Result Orientation was measured.

The approach is quantitative because the results of the data collection instruments will be analysed and processed in Microsoft Excel. This study is carried out from an explanatory conception with a non-experimental design under a quantitative, non-experimental.

This study is based on a non-experimental, quantitative approach, which allows for the generation of a situational diagnosis as empirical support for the analysis of the research results.

The study sample comprises MSMEs in the centre of Izúcar de Matamoros, which were segmented as follows:

| Size | Sector Industry | Ranking by number of employees | |
|-------------------|-----------------|--------------------------------|-----------------|
| | | Trade | Services |
| Micro enterprise | To 10 | To 10 | To 10 |
| Small enterprise | 11-50 | 11-30 | 11-50 |
| Medium enterprise | 51 To 250 | 31-100 | 51 To 100 |
| Large enterprise | 251 from now on | 101 from now on | 101 from now on |

Table 1

The instrument will be applied in MSMEs, whose distribution will be given by the participation of companies by size according to INEGI's 2019 Economic Censuses: 66% of the interviews will be carried out in micro-enterprises, 17% in small economic units and the other 17% in small economic units.

17% to small economic units and the remaining. 17% will be conducted with medium-sized enterprises.

The instrument is oriented with: ten dimensions, 55 items with Likert-type scale responses, which are applied in digital format through Google Forms by those responsible for the research and with the collaboration of two students. The digital application will facilitate data collection.

The design of the instrument for data collection is based on the survey or questionnaire method, which is considered a classic procedure in the social sciences for obtaining and recording data. Its versatility allows it to be used as a research instrument and as an instrument for the evaluation of people, processes and training programmes. It is considered to be an evaluation technique that can cover quantitative and qualitative aspects; García, (2023), points out that "the singular characteristic of a survey lies in the fact that it allows a wide population to be consulted in a quick and easy way". population in a quick and cost-effective way.

For this research the instrument that was designed is applied to the human capital of the MSMEs in the centre of Izúcar de Matamoros, which is made up as follows:

| Dimensión | Número de ítems | Dimensión | Número De ítems |
|--------------------------------|-----------------|----------------------------|-----------------|
| Liderazgo y toma de decisiones | 10 | Calidad | 5 |
| Manejo de conflictos | 10 | Relaciones Interpersonales | 3 |
| Motivación y Comportamiento | 10 | Iniciativa | 2 |
| Comunicación | 7 | Trabajo en equipo | 2 |
| Orientación de resultados | 3 | Organización | 3 |

Table 2

Martínez (2019), states that, in the development of a documentary measurement instrument, the qualitative research process allows the phases of the development and validation of the instrument to be known, depending on the variables to be studied. It is therefore considered to be a determining factor for the researcher, because it allows the information to be legitimised in order to quantify in a meaningful and appropriate way the feature for the measurement of which the instrument has been developed. In this research, it is considered appropriate that the validation be carried out by experts, due to what Lagunes (2017) states, which indicates that validation by experts is carried out through an interview with at least two experts, to obtain and consider their opinions regarding the content of the instrument. In relation to the above, the doctors who support the validation have a great track record in national and international research.

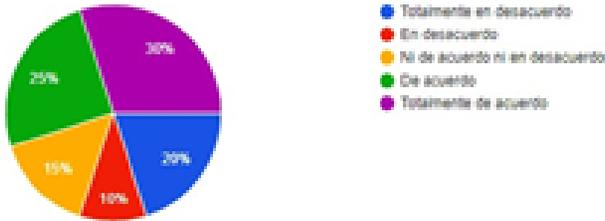
The Organisational Behaviour questionnaire is applied individually to the human capital of micro and small enterprises in a confidential manner in digital format by means of Google Forms, which takes each collaborator around 15 minutes to answer.

The data collection is carried out by means of primary data, as it will be obtained from the results of the application of the instrument.

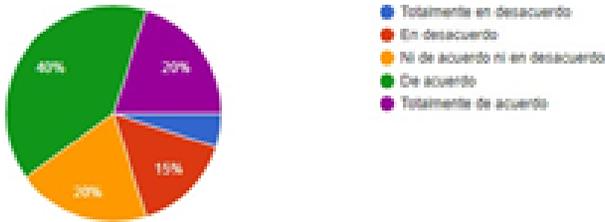
In order to be able to carry out the analysis, as a first phase, the data must be organised and summarised by means of descriptive statistics. Descriptive statistics, specifically frequency distribution.

The data collected and tabulated will be presented in various forms, such as tables and graphs.

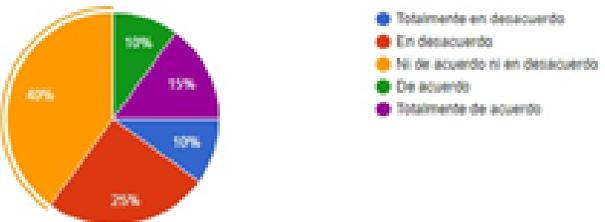
Results



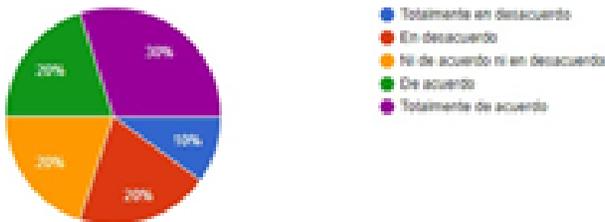
Graphic 1 Do you consider your boss to be a good leader?



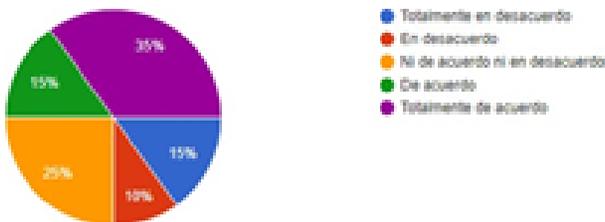
Graphic 2 When a particular problem arises, it is known who should solve it



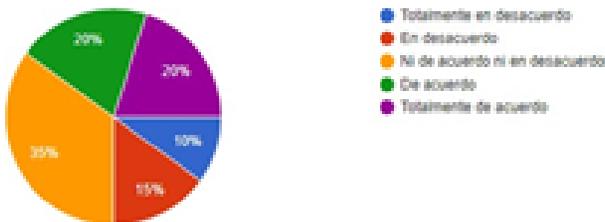
Graphic 3 My boss promotes positive attitudes to solve it



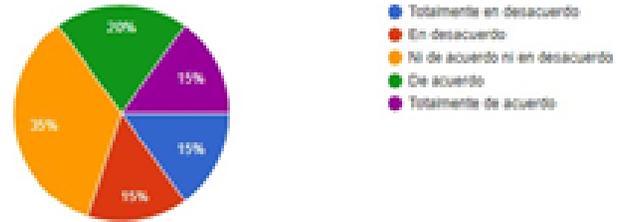
Graphic 4 My boss is results-oriented at work



Graphic 5 My boss helps the team in difficult times



Graphic 6 I receive adequate and timely training to meet new job demands



Graphic 7 In this job I feel professionally fulfilled

Note: Due to the size of the file it is not possible to add all the graphics.

Conclusions

Proposals and recommendations based on the Theory of the Process of Change

Díaz (2016), tells us that if we consider change as a dynamic process that is generated through the modification of different factors within the organisation that are approached from a single theoretical approach, however, Although in reality it is considered that this should be seen as a holistic factor that includes and differentiates the theoretical models to allow less resistance and greater approval to the new acquisition of information, according to the model that is sought to be implemented. Considering the above, proposals and recommendations are presented to solve the areas of improvement that were observed in the results applied to the human capital of MSMEs in the centre of Izúcar de Matamoros. It can be observed in the analysis of the results that the work team considers that there is a marked absence of leadership in the search for work objectives on the part of top management, which causes a hostile environment with a certain level of uncertainty, the quality of internal communication is functional but far from optimal, the great strength detected is that there is coordination between the work team and the management team, The great strength detected is that there is coordination between the work team to carry out the activities, the staff fulfils the tasks entrusted to them showing professionalism, adaptability and a good attitude to teamwork in adverse circumstances is observed, good planning is observed to carry out the work, and indicators are adequately managed to measure the functioning of the activities. It can be observed that there is an area of opportunity in the relationship between the work team and the boss or bosses, causing a climate of insecurity.

For the above reasons, it is recommended to use the ADKAR change model. The ADKAR model is popular for its people-centred approach to change management.

The ADKAR model is popular for its people-centred approach to change management, as it helps to facilitate change at the individual level, and it is considered that this model would help to gradually bring about positive change in the areas of opportunity identified.

The model to be applied would be:

- Awareness: Awareness of the need for change.
- Desire: Desire to participate and support change.
- Knowledge: Knowledge of how to change
- Ability: Ability to implement the change
- Reinforcement: Reinforcement to sustain the change

As the change would be directly dependent on the

As change would depend directly on the top for its successful implementation, it is critical that human capital has a clear understanding of what changes are occurring, why they are occurring and how they affect them personally. This model presents only three simple phases, the only requirement being the commitment of all staff.

- Phase 1. Prepare the approach: define success, define impact and define the approach.
- Phase 2. Manage change: plan and act, track performance and adapt actions.
- Phase 3. Sustain results: evaluate results, activate sustainability and transfer ownership. This will undoubtedly lead to success. It is also considered important for management to receive courses or diplomas in leadership or management skills development.

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Influence of motivation and job satisfaction on job performance in Mexican industrial microenterprises

Influencia de la motivación y la satisfacción laboral en el desempeño laboral en microempresas industriales mexicanas

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Abstract

The main objective of this paper is to analyze the relationship between motivation variables and job satisfaction in job performance. The hypothesis of this study is that there is a relationship between motivation and job satisfaction with job performance. This study has a quantitative approach, with a descriptive, correlational and explanatory scope. The design is non-experimental and cross-sectional. The object of study are industrial companies with less than 10 workers in a municipality in the south of the state of Sonora in Mexico. The subject of study were the workers of the operational areas of said companies. An instrument with a Likert-type scale was designed, which was submitted to statistical tests to determine its validity and reliability. One contribution is that only one investigation was found regarding small and medium-sized companies in which job satisfaction is positively related to the performance of workers, which was carried out by Soomro and Shah (2019). No one made in Mexico was found.

Motivation, Job Satisfaction, Job Performance, Industrial, Municipality

Resumen

Este trabajo tiene como objetivo principal analizar la relación que existe entre las variables de motivación y la satisfacción laboral en el desempeño laboral. Las hipótesis de este estudio es que sí existe relación entre la motivación y la satisfacción laboral con el desempeño laboral. Este estudio es de enfoque cuantitativo, de alcance descriptivo, correlacional y explicativo. El diseño es no experimental y transversal. El objeto de estudio son las empresas industriales con menos de 10 trabajadores de un municipio del sur del estado de Sonora en México. El sujeto de estudio fueron los trabajadores de las áreas operativas de dichas empresas. Se diseñó un instrumento con escala tipo Likert, la cual se sometió a pruebas estadísticas para determinar su validez y confiabilidad. Una aportación es que sólo se encontró una investigación referente a pequeñas y medianas empresas en la que la satisfacción laboral se relaciona positivamente con el desempeño de los trabajadores, la cual fue realizada por Soomro y Shah (2019). No se encontró alguna realizada en México.

Motivación, Satisfacción Laboral, Desempeño Laboral, Industrial, Municipio

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Introduction

At the international level, the Organisation for Economic Co-operation and Development (OECD, 2020) presents the level that Mexico occupies in that organisation in a comparative trend of labour productivity and its components in the period 2000-2016, where its position is not outstanding, ranking among the last places. Reviewing the panorama of the American continent, ILO statistics (2019b) are presented regarding trends and projections of labour productivity, the expected decrease for North America starting in 2018 and which will not end until 2020 (with 1.3%), but not the expected decrease for Latin America and the Caribbean, where Mexico is located. The latter region shows a sustained and remarkable growth since 2017 (where it performed in negative numbers: -0.1). The significant jump was from 2017 to 2019.

Regarding the labour productivity index (by sector) based on hours worked in Mexico shown by INEGI (2020c) in manufacturing firms decreased from April to June 2020, -9% compared to the previous quarter. Analysing the labour productivity index by state in Mexico with data from INEGI (2020c), manufacturing companies in the state of Sonora show a decrease of -9.3% with respect to the same quarter of the previous year. Sonora is in the group of entities that showed a decline in their labour productivity index, with the state of Oaxaca presenting the worst performance (-46.8%). Yucatan, with 37.1%, is one of the states with the best performance compared to the same quarter last year.

As a consequence, this research is important because there are factors that can improve workers' performance, including motivation and job satisfaction. Therefore, the following question is posed: What is the relationship between motivation and job satisfaction with job performance in Mexican industrial microenterprises?

The main objective of this paper is to analyse the relationship between motivation variables and job satisfaction and job performance. The hypothesis of this study is that there is a relationship between motivation (H1) and job satisfaction (H2) with job performance.

Theoretical Framework

Job performance

Improving performance is the most important goal of an organisation. Companies should implement motivation schemes for their employees to increase performance. Two ways of measuring performance have been identified: financial and non-financial. (Pang & Lu, 2018). In the past, companies evaluated their performance by measuring only financial aspects, sales and profitability. Such criteria are no longer adequate to achieve the results sought by business corporations. Therefore, financial and non-financial indicators are now used as they complement each other (Ha, Lo, & Wang, 2016).

In addition, several research studies have criticised current performance evaluation schemes, specifically those that only measure financial aspects. These disagreements are based on the fact that such an approach projects little performance into the future and is more concerned with immediate results as they look only within companies and ignore aspects of competitors and customers. Furthermore, they do not show strategic initiatives and do not encourage innovation. (Parida, Kumar, Galar, & Stenström, 2015).

Some authors define performance as the ease with which a company executes its operational plans. (Parida, Kumar, Galar, & Stenström, 2015). It also refers to the way in which a worker adds his or her effort to that of his or her organisation. (Kwame Mensah, 2015).

Motivation

Both Maslow in 1943 (hierarchy of needs), Herzberg in 1968 (dual factor) and McGregor (X-Y) in 1960 presented theories on motivation to meet requirements and improve the performance of workers to achieve organisational results (Asrar-ul-Haq & Anwar, 2018). According to Zlate and Cucui (2015) Maslow explains five types of people's needs: physiological, safety, social, respect and personal achievement. Their degree of satisfaction determines their increase. Herzberg proposes two factors: motivational (achievement, recognition) and hygiene (safety, salary).

MacGregor proposes two attitudes to work responsibilities: willingness or unwillingness to work.

For Ohueri, Enegbuma, Wong, Kuok, & Russell (2018) motivation is about the internal and external elements that influence a person to maintain their focus on fulfilling set commitments or activities through continuity in their behaviour. It is a term associated with elements internal and external to the individual and focused on their own expectations and beliefs (Savolainen, 2018).

Job satisfaction (SL)

When it's time to evaluate performance, job satisfaction is one way to measure it. (Pang & Lu, 2018). The theory of work design has a direct relationship with job satisfaction, job performance and work environment. It proposes that work activities should be distributed in an orderly and orderly manner to workers or teams within the workplace. It proposes several tactics to promote good performance, including role variety, broadening activities, job enrichment, self-directed teams towards high performance. (Akinwale & George, 2020). The forerunner of this theory was Viteles in the early 1950s (Akinwale & George, 2020) but later taken up by Hackman and Oldman (1980) cited in Akinwale & George (2020) who comment that this theory offers great opportunities and limitations to distribute tasks, which affects the fulfilment of the same.

With regard to the definitions of job satisfaction for Zayas Agüero, Báez Santana, Zayas Feria, Hernández Lobaina (2015) it is the perception of the experiences in the company by the collaborator, which prevails when an objective is achieved, generating a favourable or adverse position of their employment. It is the benefit perceived for the work performed in comparison with other colleagues (Gevrek, Spencer, Hudgins, & Chambers, 2017).

Methodology to be developed

The stages of the methodology used in the development of this work are explained below. This study has a quantitative approach as an instrument will be applied to measure the variables.

The research is descriptive in scope because it measures concepts and establishes variables, it is correlational because it seeks to explain how two variables are related and it is explanatory because it establishes the causes of the problem. The research design is non-experimental because the variables were not manipulated, only what happened is observed, and transversal because data will be obtained at a single point in time, reviewing variables and their interaction. (Hernández Sampieri, Fernández Collado, & Baptista Lucio, 2010).

The object of study is the industrial enterprises of Navojoa, Sonora, Mexico with 10 or fewer workers (microenterprises) and the subject of study or unit of analysis was the workers in the operational areas of these enterprises. Statistical methods were used for hypothesis testing and correlation of variables. A Likert-type scale instrument was designed and subjected to validity and statistical tests to determine its validity and reliability. The surveys were applied in the field and captured in spreadsheets. The results were analysed and conclusions and recommendations of the study will be presented.

An instrument was constructed from previously valid and reliable scales with a Likert scale 1-5 (1=completely disagree to 5=completely agree) because the level of discrimination of the operative personnel of the companies to be studied was considered in order to facilitate the understanding of the answers. Also, the 5-point scale was the most commonly used in the studies from which the items were obtained to elaborate the instrument.

In addition, the instrument consists of three sections. The first section explains the instructions for answering the questionnaire, and the second section includes 26 items to measure the three variables under study (one dependent and two independent). For the dependent variable Worker Performance, 10 items taken from Kalemci et al. (2018), Rehman et al. (2020), Soomro and Shah (2019) and Sanchez et al. (2021) were used with Cronbach's alpha of 0.81, 0.75, 0.78 and 0.77 respectively, which shows an acceptable level of reliability. A five-point Likert-type measurement scale was used, where 1=strongly disagree and 5=strongly agree.

In the independent variable motivation, 6 items taken from Beltran and Bou (2018), Cafferkey and Dundon (2015), Shafi et al. (2020) and Kuvaas (2006) were considered with a Cronbach's alpha of the mentioned items was 0.86, 0.81, 0.94 and 0.85 respectively, which shows a good reliability index. The measurement scale is a five-point Likert-type scale, where 1=strongly disagree and 5=strongly agree.

The independent variable job satisfaction included 8 items taken from Al-Haroon and Al-Qahtani (2019) and Rehman et al. (2020) with a Cronbach's alpha of these items was 0.84 and 0.85 respectively, i.e. a good level of reliability. A five-point Likert-type measurement scale was used, where 1=strongly disagree and 5=strongly agree, and in the third section 7 items are included to obtain demographic information of the respondent and to know the profile of the company.

The population to be studied is represented by the 1731 workers of the 729 manufacturing microenterprises (0 to 10 workers) in the city cited (INEGI, 2019a) included in Sector 31-33 Manufacturing industries, which represent 13.7% of the total number of personnel hired in companies of that size considering that it is the third largest in that sector.

According to Rositas (2014) an adequate sample size makes a difference when making knowledge contributions. To calculate the sample size for this research, the finite population formula of this author is used, since the value of the population to be studied is known.

$$n = \frac{NPQ}{(N-1)(e/z)^2 + PQ} \tag{1}$$

Sample calculation
 Source: Rositas (2014)

Where:

N=Population size

n=Sample size

P=Probability of success

Q=Probability of failure

e=Error tolerated

z=Confidence level

The data were analysed to calculate the sample as follows: N=1731 microenterprise workers, z=1.96 (95% reliability), P=0.5, Q=0.5 and e=10% a sample of 91 workers is obtained, which were visited in their enterprises in the colonies registered in the city in INEGI (2020a) to achieve a simple random sampling by convenience.

In order to verify the level of understanding of the instrument's items and to capture information regarding the reliability of the instrument, a pilot test was conducted by applying 30 surveys with 24 items to operative workers who, due to their characteristics, represent the unit of analysis.

The statistical analysis of the data was carried out with the SPSS programme and Cronbach's alpha was calculated for each of the variables. According to George and Mallery (2019) the Cronbach's alpha levels generally applied are: 0.9=excellent, 0.8=good, 0.7=acceptable, 0.6=questionable, 5=poor and less than 5=not acceptable. The results of this pilot test can be seen in the table below.1.

| Variable | Cronbach's alpha | No. of items |
|-----------------------|------------------|--------------|
| Y. Worker performance | 0.783 | 10 |
| X1. Motivation | 0.762 | 6 |
| X2. Job satisfaction | 0.707 | 8 |

Table 1 Results of Cronbach's alpha by variable in pilot test

Source: own elaboration

With the above results, the variable Worker Performance (Y) shows a coefficient of 0.783 with 14 items. The variable Motivation (X1) shows an alpha of 0.762 with 6 items. The variable Job Satisfaction (X2) shows an alpha of 0.707, with 8 items. All three variables show acceptable levels of reliability.

Results

The statistical results of the sample data, descriptive statistics and the statistical analysis of this research are presented below. Starting with the socio-demographic data of the 91 operative workers of the manufacturing companies of the mentioned city that are part of this research.

Figure 1 shows the gender distribution of the workers. There are 54 men and 37 women. The gender distribution of the workers is balanced.

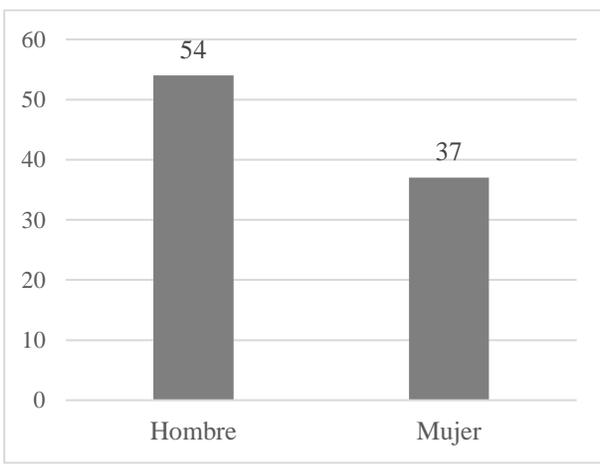


Figure 1 Sex of workers
Source: Own elaboration with data taken from SPSS.

Figure 2 shows the levels of schooling of the workers who answered the instrument. There are 41 workers with secondary school completed, followed by 34 with high school, 11 with primary school completed and 5 with a bachelor's degree completed. As can be seen, the highest concentration of workers in terms of schooling is found in secondary school.

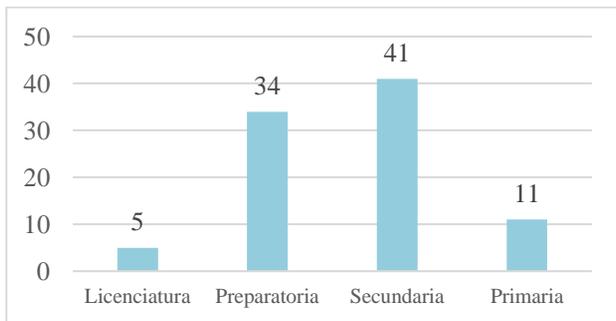


Figure 2 Workers' level of education
Source: Own elaboration with data taken from SPSS.

Moving on to the statistical analysis of the data, the results of the normality assumption are presented below. Figure 3 shows how most of the data are included within the curve. According to Williams et al. (2013) normality assumes that the data of the variables have a normal distribution, i.e. they are normally distributed. This indicates that this assumption is met.

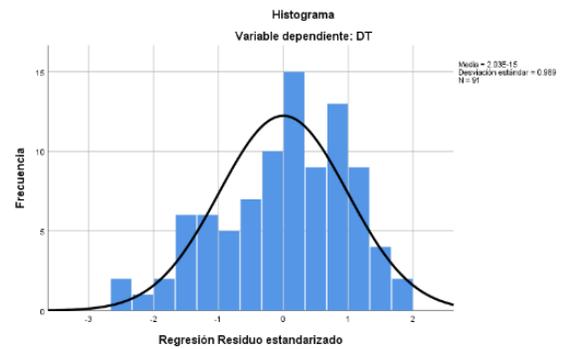


Figure 3 Normality plot
Source: Own elaboration with SPSS data

According to Lévy Mangin and Varela Mallou (2003) a linear regression model is based on the meaning of stochastic dependence between variables, one of which is the dependent variable with a quantitative character and the other variables will be independent variables that support explaining the behaviour of the dependent variable.

The mathematical notation of the linear regression model is:

$$Y = XB_0 + B_1X_1 + B_2X_2 + \dots + B_kX_k + u_i \quad (2)$$

Source: Lévy Manhin and Varela Mallou (2003)

Table 2 below shows the model on which this research is based. It is a model with one dependent variable and two independent variables with a total of 24 items. In this case, the relationship of each of the two proposed independent variables (motivation and job satisfaction) with the dependent variable (employee performance) is reviewed and motivation is significant ($p < 0.05$) as is job satisfaction. ($p < 0.05$).

| Model | Coefficients ^a | | Beta | t | Sig. |
|-------|-----------------------------|---------------------------|------|-------|------|
| | Unstandardised coefficients | Standardised coefficients | | | |
| 1 | (Constant) | 2.235 | .319 | 7.006 | .000 |
| | MOT | .332 | .093 | 3.561 | .001 |
| | SL | .183 | .091 | 2.007 | .048 |

a. Dependent variable: DT

Table 2 Linear regression results
Source: Own elaboration with SPSS data.

As can be seen in table 3, the model presents an R-squared (also called coefficient of determination) of 0.359, which represents an acceptable level of prediction of the model, as this indicator behaves between 0 and 1. This means that the model presented has 35.9% of prediction in terms of the result it forecasts.

| Summary of the model ^b | | | | | |
|------------------------------------|-------------------|----------|----------------|--------------------------------|---------------|
| Model | R | R square | R tight square | Standard error of the estimate | Durbin-Watson |
| 1 | .611 ^a | .374 | .359 | .27976 | 2.108 |
| a. Predictors: (Constant), SL, MOT | | | | | |
| b. Dependent variable: DT | | | | | |

Table 3. Summary of the model. *Source: Own elaboration with SPSS data.*

Regarding the independence assumption, according to Vilà Baños, Torrado Fonseca and Reguant Álvarez (2019), it establishes that the errors between the independent variables are independent of each other, for which the Durbin Watson statistic is used and they are considered independent if this indicator is between 1.5 and 2.5. Table 3 presents the results of the independence of the variables by means of the Durbin-Watson test. In this case it is 2.108, which is acceptable since the cited authors establish that the range is between 1.5 and 2.5. Therefore, it can be established that this assumption is also fulfilled. Table 4 shows the results of the hypotheses proposed.

| HYPOTHESIS | P VALUE | RESULT |
|---|---------|----------|
| H1 Motivation positively and significantly influences worker performance in the industrial sector of Navojoa, Sonora (Mexico). | 0.001 | Accepted |
| H2 Job satisfaction is positively and significantly related to worker performance in the industrial sector of Navojoa, Sonora (Mexico). | 0.048 | Accepted |

Table 4 Hypothesis testing

Source: Own elaboration with SPSS data

It is important to clarify that both hypotheses were accepted as both assumptions were statistically significant.

Funding

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Conclusions

The general objective of this work was achieved since the relationship between the variables of motivation and job satisfaction in the performance of workers in the industrial sector of Navojoa, Sonora, was analysed. The general research question was also answered and the objective was fulfilled.

Considering the hypotheses stated, it can be affirmed that the motivation variable has a significant influence on performance (H1), which approves this assumption. This result is in line with those found by Imam et al. (2015) and Kriengsak (2017). The first study was conducted with 550 employees of a state-owned company engaged in managing and protecting forests on the island of Java (Indonesia). The second study was conducted with 330 members and managers of cooperatives in Thailand. Motivation is an important part of what workers in these companies consider to improve their performance, as it represents those stimuli that make them change their behaviour when pursuing their goals.

Regarding the hypothesis of job satisfaction, the impact of this variable on job performance is affirmed, which confirms H2. This shows agreement with the research of Ye et al. (2019) and Zhu and Wu (2016). The first research was conducted with 466 bank employees in China. The second study was conducted with 761 government employees, also conducted in China.

A contribution of this work is that only one research was found concerning small and medium-sized enterprises in which job satisfaction is positively related to workers' performance, which was conducted by Soomro and Shah (2019). None was found in Mexico, which also generates a valuable contribution to knowledge.

Practical implication

This research will help industrial companies because they will be able to adopt strategies that improve aspects related to the motivation and job satisfaction of their employees, since if adequate levels of performance are maintained, sources of employment will remain active, as INEGI (2019a) states that in the aforementioned municipality there has been a stagnation in the number of companies dedicated to manufacturing since there are fewer companies in 2019 than those registered in 2009.

Regarding job satisfaction, Deloitte Consulting Group S.C., (2019) shows interesting data from their studies in Mexico. In the face of several factors that can cause satisfaction among workers, tools and technology stand out. The new generations demand better technological conditions to carry out their functions, with a dissatisfaction level of 19%.

This will also have an impact on a better working environment. The OECD (2017) states that the working environment is a factor that can affect workers' performance. In addition, Deloitte Consulting Group S.C., (2019) shares interesting statistics regarding the Mexican labour market in its report on trends in human capital. It states that positive work environment is the factor with the highest weight with 65%. Both data support the importance of motivation and job satisfaction in the performance of workers.

The present study can also contribute value to society, since it benefits from the good performance of organisations, which, by having motivated and satisfied individuals, generate a positive working environment that produces well-being even in family environments.

With respect to the economy, the value of this work is that it shows that satisfied and motivated workers will be more productive and this will have an impact on the performance indicators of companies, benefiting the sector and ultimately the country.

Recommendations

There are branches in the city where this research was carried out within the sector under study (manufacturing) that represent a high percentage, as is the case of traditional bakery, where it would be interesting to carry out research focused on this sector. It would also be possible to adapt the instrument to administrative personnel of companies in Commerce and Other Services, where, at least in this municipality, they are larger than those in manufacturing.

It is recommended that this type of study be replicated in different parts of Mexico and Latin America in order to make comparisons and generalise results. It would be interesting to analyse the motivational factors of these workers as well as to initiate the design of performance evaluation schemes to evaluate the effect of these variables on the productivity of the companies. It would also be of great value to share these results with all the employers who allowed the application of the instruments and to invite the members of the different local chambers of commerce to show them the results of this research and to share suggestions focused on the variables analysed.

Regarding future research, we could study the variables organisational culture and worker commitment that influence performance and analyse motivation and job satisfaction in manufacturing industries with 10 or less workers but considering staff from different generations.

Moreover, as proposed by Fridayani et al. (2023) microenterprises should take care to better exploit the data obtained through devices they use in digital marketing, so it would be important to conduct research in this type of companies and the use of digital tools. Speaking of digital entrepreneurship in microenterprises, Chiatchoua and Ávila-Romero (2023) conducted a study on digital self-employment that emerged in Mexico during the COVID-19 pandemic, in which the new generations demonstrate their skills to offer high-value digital services in the market.

As mentioned by Dumenu et al. (2023), another interesting research alternative could be to look for a classification of micro-enterprises operating informally based on their characteristics, as well as to find the reasons why they engage in this practice.

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

What is your added value with respect to other techniques?

Clearly focus each of its features

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

Explanation of sections Article.

Development of headings and subheadings of the article with subsequent numbers

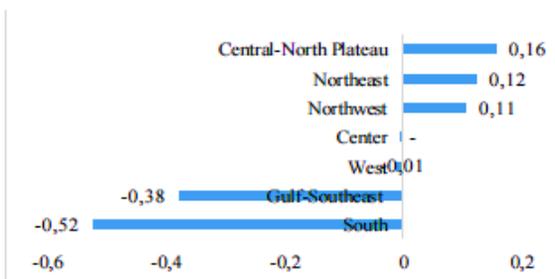
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| REGION | STATE | Participation (%) on Gross | | |
|-------------------------|---|----------------------------|-------------|-------------|
| | | Surface | Population | Production |
| 1. Northwest. | Baja California; Chihuahua; Sonora; Baja California Sur; Sinaloa. | 32.1% | 11.1% | 13.1% |
| 2. Northeast. | Coahuila; Nuevo León; Tamaulipas. Aguascalientes; Durango; | 15.1% | 9.3% | 15.6% |
| 3.Center North Plateau. | Guarajuato; San Luis Potosi; Zacatecas. | 15.1% | 10.9% | 9.2% |
| 4. West. | Colima; Jalisco; Michouacán; Nayarit. | 8.7% | 11.9% | 10.2% |
| 5. Center. | Distrito Federal; Hidalgo; México; Morelos; Puebla; Querétaro; | 5.1% | 33.7% | 34.8% |
| 6. South. | Tlaxcala. Chiapas; Guerrero; Oaxaca. | 11.8% | 10.0% | 4.7% |
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