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Presentation of the content

In the first article we present, *Impact of the COVID-19 pandemic on the tools and sales strategies of micro and small businesses in the city of Chihuahua*, by SOSTRES-FLORES, Paula Alejandra, ANDREW-SOTELO, María Elena, MINOR-ÁVILA, Dulce Carolina and HELO-LEOS, José Roberto, with adscription in the Universidad Tecnológica de Chihuahua, in the next article we present, *Evaluation of perceived usability of an App for planning tourist destinations based on experiences*, by HINOJOSA-RODRÍGUEZ, Carlos Jesús, MORALES-BRAVO, Nathaly Guadalupe, GALVAN-CORRAL, Alberto and QUIROZ-CAMPAS, Celia Yaneth, with adscription in the Instituto Tecnológico de Sonora, in the next article we present, *Analysis using the intelligence cycle and the Hoshin Kanri methodology in an organization*, by DORANTES-BENAVIDEZ, Humberto, GUTIERREZ-LUGO, Lucía Monserrat, MARTINEZ-CRUZ, Miguel Ángel and DORANTES-BENAVIDEZ, Felipe de Jesús, with adscription in the Tecnológico Nacional de México TESOEM and Instituto Politécnico Nacional, ESIME Zacatenco, in the last article we present, *Educational marketing for high schools*, by LAZCANO-CORTÉS, Gabriela, RODRÍGUEZ-FLORES, Fani, LÁZARO-HERNÁNDEZ, Refugio and GONZÁLEZ-TLAXCO, Nohemí, with adscription in the Tecnológico Nacional de México campus San Martín Texmelucan.

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Impact of the COVID-19 pandemic on the tools and sales strategies of micro and small businesses in the city of Chihuahua**Impacto de la pandemia por COVID-19 en el uso de herramientas y estrategias de ventas de las micro y pequeñas empresas en la ciudad de Chihuahua**

SOSTRES-FLORES, Paula Alejandra*†, ANDREW-SOTELO, María Elena, MINOR-ÁVILA, Dulce Carolina and HELO-LEOS, José Roberto

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Abstract

Goals: Learn about the impact of the COVID-19 pandemic on the sales tools and strategies for SMEs (Micro and small enterprises) in the city of Chihuahua, Mexico.

- Identify sales tools and strategies most used before and after the pandemic.
- Learn which strategies are designed and implemented after the pandemic.
- Evaluate if the new sales strategies applied, generate an increase in the Mypes profit.
- Direct sales strategies based on digital marketing tools.

Methodology: Quantitative research is carried out through the survey method whose purpose is to identify the relationship between sales strategies and the continuance in the market of SMEs in the city of Chihuahua, which are applied before, during, and after the pandemic caused by the SARS-CoV-2 virus. The purpose of this research is to study a representative sample of companies through a descriptive investigation designed with a questionnaire of 11 closed questions: dichotomous and multiple choice. A sample of 211 companies was obtained, in which only SMEs were considered to carry out the research. Contribution: Digital marketing is necessary for companies if they want to stay in the market and increase their share.

Pandemic, Strategy, Marketing**Resumen**

Objetivos: Conocer el impacto de la pandemia por COVID-19 en las herramientas y estrategias de ventas para las pymes de la ciudad de Chihuahua, Chihuahua, México.

- Identificar las herramientas y estrategias de ventas más emplean antes y después de la pandemia.
- Conocer que estrategias se diseñan e implementan de forma posterior a la pandemia.
- Evaluar si las nuevas estrategias de ventas que se aplican generan un incremento en la utilidad de las pymes.
- Recomendar a las pymes estrategias de ventas con base en el empleo de herramientas de marketing digital

Metodología: Se realiza una investigación cuantitativa a través del método de encuesta que se pretende identificar la relación de las estrategias de ventas y permanencia en el mercado de las pymes de la ciudad de Chihuahua que se aplican antes, durante y después pandemia ocasionada por el virus SARS-CoV-2. El objetivo de esta investigación es estudiar una muestra representativa de las empresas a través de una investigación descriptiva con el diseño de un cuestionario de 11 preguntas cerradas: dicotómicas y opción múltiple. Se obtuvo una muestra de 211 empresas en las que sólo se consideran empresas mypes a encuestar para llevar a cabo la investigación. Contribución: Es necesario que las empresas apliquen el marketing digital si quieren permanecer en el mercado e incrementar su participación.

Pandemia, Estrategias, Marketing

Citation: SOSTRES-FLORES, Paula Alejandra, ANDREW-SOTELO, María Elena, MINOR-ÁVILA, Dulce Carolina and HELO-LEOS, José Roberto. Impact of the COVID-19 pandemic on the tools and sales strategies of micro and small businesses in the city of Chihuahua. *Journal-Business Administration-Marketing; Accounting*. 2023. 7-12:1-10.

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Introduction

During the last quarter of 2019, world society faced adverse circumstances generated by a health alert that, weeks later, was declared a "pandemic", because of the high wave of contagions of the SARS-CoV-2 virus, commonly known as COVID-19, which impacted practically the entire world; Mexico was no stranger to this situation in economic, social, environmental and cultural factors. This had an impact, with unfavorable consequences.

On 11 March 2020, Dr. Tedros Adhanom Ghebreyesus, Director General of the World Health Organization (WHO) declared that the Coronavirus 2019 disease was classified as a pandemic; by this date the disease had already claimed the lives of 4,291 people around the world, with 118,000 cases of infection in approximately 114 countries (World Health Organization [WHO], 2020 cited by the Pan American Health Organization [PAHO], 2020).

Therefore, different countries are beginning a process of analysis to decipher which social, health, political, labor and economic strategies, to determine the optimal ones to address health isolation, economic activities have a greater impact for companies in different sectors, sizes and aspects, as is the case of micro and small enterprises that are the subject of this study.

Commercial entities, both formal and informal, have reported having been affected by the sanitary contingency, with a reduction in income being the main factor, as well as a decrease in the demand for their products or services, in addition to a shortage of inputs, as well as permanent and temporary closures of several organizations that marked the direction of the national economy.

This indicates the need to rethink sales techniques to favor the results of SMEs in the city of Chihuahua. When companies take into account the impact of the pandemic caused by COVID-19, they modify their marketing strategies and sales process tools; this is why, in this research, we investigate the behavior of Chihuahua companies in order to identify whether the pandemic forces them to implement adjustments in their sales processes in order to maintain their presence in the market.

The first section is the introduction, which allows us to visualize the background to the problem, followed by the justification, which describes why this research is being carried out. The problem focuses on what sales strategies were used before, during and after the pandemic. The general objective and four specific objectives are mentioned. The second section of this article develops the theoretical framework that supports the concepts included in this research. The third section contains the research methodology; the fourth part presents the results obtained from applying the techniques and procedures. The fifth section includes the conclusions.

General Objective. To determine the impact of the COVID-19 pandemic on the use of sales tools and strategies for small and medium-sized enterprises in the city of Chihuahua.

- To identify the sales tools and strategies most used before and after the pandemic.
- To find out which strategies were designed and implemented after the pandemic.
- To evaluate whether the new sales strategies applied generated an increase in the profitability of the SMEs.
- To recommend sales strategies based on digital marketing tools to the SMEs.

The hypothesis aims to verify, through the application of a questionnaire to a sample of 211 small and medium-sized enterprises, whether they use sales strategies such as social networks and other marketing tools such as WhatsApp business, inbound marketing to increase their participation in social networks to remain in the market and continue to grow.

Justification

SMEs are a determining part of the economic structure of Mexico, due to their high impact on the generation of employment and national production. In the state of Chihuahua, a total of 133 240 establishments are mentioned with 1 279 444 people employed in them in 2019. This highlights the relevance of SMEs in the regional economy.

92.4 % of the enterprises in Chihuahua are micro enterprises and 7.1 % are SMEs, information obtained from the 2019 census of the National Institute of Statistics and Geography [INEGI], (2020). Compared to the 2014 census, a decrease of 0.8 % of these enterprises is observed.

Poor staff training and poor strategic management are the main internal deficiencies that impede the development and growth of SMEs and can even lead to their decline and extinction. This highlights the vulnerability to crisis situations and the importance of implementing tools to face and overcome these challenges. Among the tools are sales strategies (National Institute of Statistics and Geography, 2020).

Prior to the pandemic, companies faced challenges related to the speed of growth, scalability and stagnation in sales, challenges that persist and affect their development; however, it is necessary to conduct research that identifies whether SMEs carry out sales strategies for better positioning, and make effective recommendations to boost their profitability.

This research aims to highlight the challenges and problems they faced before, during and after the COVID-19 pandemic and actions for their survival. In addition, reference is made to the sales strategies applied before the pandemic, highlighting sales growth. The impact of the COVID-19 pandemic at the local level is presented, noting the effects in terms of decreased revenues, low demand and business closures. This supports the need to address the challenges and problems faced, especially in times of crisis in the economy of Chihuahua and Mexico.

Problem

What is the impact of the COVID-19 pandemic on SMEs with respect to the application of sales tools and strategies in the period 2020-2022 that will allow them to remain in the market in the city of Chihuahua?

Objectives

General objective

To understand the impact of the COVID-19 pandemic on sales tools and strategies for small and medium-sized enterprises in the city of Chihuahua.

Specific objectives

- To identify the sales tools and strategies most used before and after the pandemic.
- To find out which strategies were designed and implemented after the pandemic.
- To evaluate whether the new sales strategies applied generated an increase in the profitability of the MSEs.
- To recommend sales strategies based on digital marketing tools to the MSMEs.

Hypotheses

- MSMEs were applying sales strategies before the pandemic.
- MSEs applied different sales strategies after the pandemic to maintain their permanence.
- Sales increased with the application of new sales strategies.

Methodology

Type of research

Quantitative research was carried out using the survey method to identify the relationship between sales strategies and their permanence in the market of SMEs in the city of Chihuahua applied before, during and after the pandemic caused by the SARS-CoV-2 virus. The objective of this research is to study a representative sample of companies through descriptive research with the design of a questionnaire of 11 closed multiple-choice and dichotomous questions. The application of the questionnaire is done through the Google form which is sent via email in a simple random way.

The questionnaire is applied to 211 enterprises of which 11 are classified as micro enterprises and 200 as small enterprises. The sample was obtained with a population of 133,240 micro enterprises, with a confidence level of 95% and a sampling error of 5% considering the limitations for the application of the questionnaire. A sample of 211 enterprises was obtained considering only the MSMEs to be surveyed to carry out the research. The survey monkey internet calculator was used (SurveyMonkey. n.d.).

The assessment instrument is developed according to the problem statement regarding the impact of the pandemic on sales during the period 2020-2022.

Questions 1 and 2 identify the line of business and size of the companies, question 3 seeks to know the years of permanence in the market in order to identify sales strategies applied. Questions 3, 4 and 5 seek to determine how their sales were during the period of the pandemic; and questions 6, 7, 8, 9 and 10 the implementation of sales strategies; finally, question 11 identifies whether there was an increase in sales with the implementation of new sales strategies.

Questionnaire design

1. Business activity
Industry _____ commercial _____ service _____
2. Size of enterprise
Micro (1-10 employees) _____ small _____ (11-50 employees)
3. Years in business
1 to 2 years _____ 3 to 4 _____ 5 to 6 _____
4. How do you consider your sales to be in the years 2020-2021?
Excellent _____ very good _____ average _____
poor _____ very poor _____
5. Was the impact on sales (answer to the previous question) caused by the SARS-COV19 pandemic?
Yes _____ No _____
6. Before the pandemic, were you applying sales strategies?
Yes _____ No _____ (Why?)
7. If yes, which of the following did you use?
____ Personal selling
____ Rewards or gift program. E.g., On purchase of 5 sodas the 6th is free.
____ Point-of-sale distribution.
____ Volume discounts.
____ Discounts on future purchases
____ Days of promotions Example (Tuesday of fruits and vegetables).
____ Purchase advances.
____ Set-aside (10 days, 15 days, etc.).

____ Offers, for example, 2x1.

____ Other (specify)

8. During the pandemic, did you use the same sales strategies?

Yes _____ (continue at 9) No _____ (continue at 10)

9. Please mark with an "X" which one you continued to use

____ Personal selling

____ Reward or gift program. E.g., On purchase of 5 sodas the 6th is free.

____ Point-of-sale distribution.

____ Volume discounts.

____ Discounts on future purchases

____ Days of promotions Example (Tuesday of fruits and vegetables).

____ Purchase advances.

____ Set-aside (10 days, 15 days, etc.).

____ Offers, for example, 2x1.

____ Other (specify)

10. Which of the following strategies did you implement after the pandemic?

____ Home delivery service

____ Mobile application sales

____ Social media advertising

____ Website

____ Internet sales

____ Other (specify)

11. There was an increase in sales due to the new sales strategies implemented.

Yes _____ No _____.

Theoretical methods

According to the Executive Summary Chihuahua Business Survey, published by the Mexican Employers' Confederation (COPARMEX), which mentions that for 2017 the situation in Chihuahua is considered as a thriving economy. It indicates that recent developments in sales, employment, and investment in 2016 and 2017 are generally positive for companies. However, the momentum for the next two years is expected to be even better. There are clear expectations for future investment and economic growth based on the prospects for increased sales and employment.

One of the main findings of this article is a statistical analysis of the factors that determine business success and sustainability in Chihuahua. It was found that, for informal businesses, access to finance and human capital are determinants. While for formal enterprises, in addition to those already mentioned, the development of initiatives for business improvement and the link with foreign trade also contribute to business success. It distinguishes that being a micro or small enterprise is a disadvantage.

In the article Economic impact of COVID-19 on small and medium-sized businesses under voluntary and imposed restrictions, Bejarano, et al. (2021) highlight a worldwide historical fact in 2020, that approximately 37 % of micro and small businesses closed temporarily and reported a 35 % reduction in the number of employees. These results are consistent with the study by Bartik, et al. (2020) for the United States, who find that approximately 43% of such businesses closed due to the pandemic and reduced the number of employees by 39%. The impact of the temporary closure of establishments on sales was significant and accounts for most of the drop in sales.

On the other hand, the use of sales strategies is known to contribute directly to sales growth, and SMEs should be no exception. As Striedinger (2018) points out, strategy is a term that is used in various fields, although in organizations it includes the logic for achieving objectives; in addition, new activities are generated: growth, increasing market share and competitiveness, and the use of information technologies. Since the mid-1990s, digital marketing (or online marketing) has been implemented as an innovation strategy; it is conceived as direct marketing with the support of rapid advances in database technologies and new marketing media, especially the internet (Armstrong and Kotler, 2011, cited by Striedinger, 2018). "It is a trend that understands the changes in consumer behaviour and acts more under pull strategies, where it is the user who pulls the content, which makes it more effective and closer". (Rentería, 2015 cited by Striedinger, 2018).

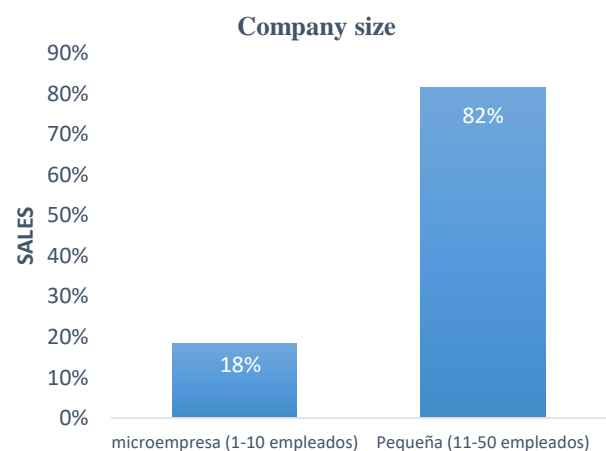
According to the article by Meza and López (2021) La reinversión de las pymes a un año de la pandemia presented by El Economista newspaper, millions of businesses in the country have been damaged by the pandemic. The second edition of the Survey on the Economic Impact of COVID-19 on Companies (ECOVIED-IE), carried out by the National Institute of Statistics and Geography (INEGI), mentions that 1,873,564 companies in the country (86.6%) have been affected by the pandemic.

Furthermore, one year after the start of the pandemic in Mexico, it is estimated that 1 010 857 (20.8 %) businesses have definitively closed down, according to the Business Demographics Study (EDN) 2020 published by INEGI. If one takes into account that of the 4.9 million establishments, 99.8 % are micro, small and medium-sized, the cessation represents an economic crisis for the country. The three sectors with the greatest impact in this area are private non-financial services (24.9 %), commerce (18.9 %) and manufacturing (15 %). Oaxaca, with fewer establishments closed 13.70 %, while Quintana Roo with 31.8 % and Baja California Sur with 28.1 % had the highest number of closures. The final closures generated the loss of 3,000,000 jobs, while the businesses that continued to operate lost 1,150,000 people, making a total of 4,120,000 unemployed.

Results

Variables are established to determine whether MSMEs in the city of Chihuahua are implementing sales strategies before the pandemic, how their sales were during the period 2020-2021, and the implementation of strategies after the 2022 pandemic.

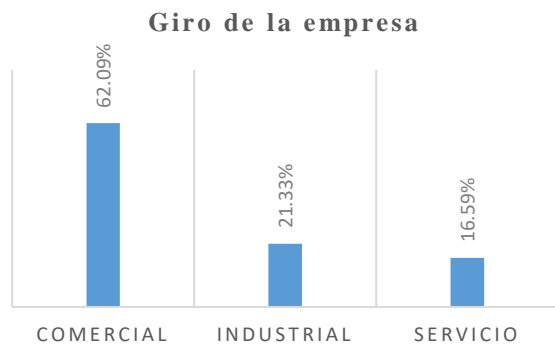
To analyze the responses obtained from the questionnaire, and to easily visualize the results, Excel pivot tables are used to analyze the results.



Graphic 1 Classification according to the number of employees

Source: Own elaboration

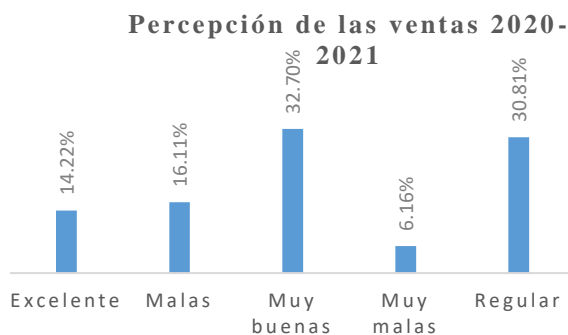
As can be seen in graph 2, 18 % of the enterprises are micro-enterprises and 82 % are small enterprises.



Graphic 2

Source: Own elaboration

Graph 2 shows that of the 211 SMEs surveyed, 62.09 % are engaged in commercial activities, 21.33 % in industrial activities and 16.59 % in service activities.

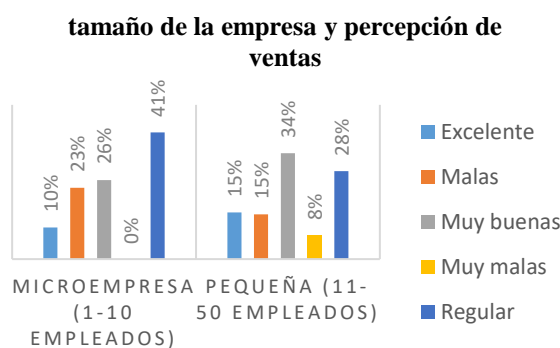


Graphic 3 Perception of sales

Source: Own elaboration

14.22 % of the MSEs consider sales to be excellent in the period 2020-21, while 32.70 % mention that they are very good, 30.81 % fair, 16.11 % bad and, finally, 61.6 % very bad.

To identify the perception of the sales of micro and small enterprises, a cross-check is made between the variables: size of the enterprise and the perception of sales in the period 2020-2021. (graph 4)

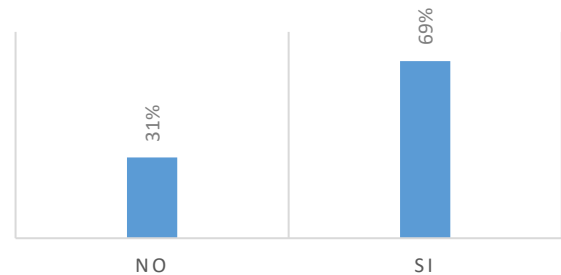


Graphic 4 Relationship between company size and perception of sales

Source: Own elaboration

According to graph 4, 15 % of small enterprises consider that sales were excellent compared to 10 % of micro enterprises in the period indicated. With regard to micro enterprises, 23 % of the micro enterprises consider that sales were bad, compared to 15 % of the small enterprises. 8% of small enterprises consider that sales were very bad.

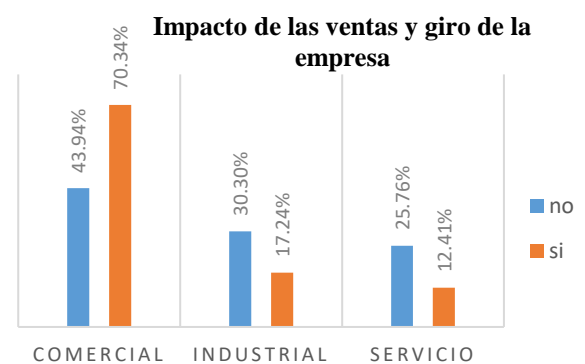
Impacto en las ventas por COVID-19



Graphic 5 Impact of COVID-19 on sales

According to Graph 5, 69% of the MSMEs consider that the pandemic caused by COVID-19 had a negative impact on sales, while 31% perceive that there is no impact.

Graph 6 shows a simple correspondence analysis between the variables impact on sales due to COVID-19 and the company's line of business.

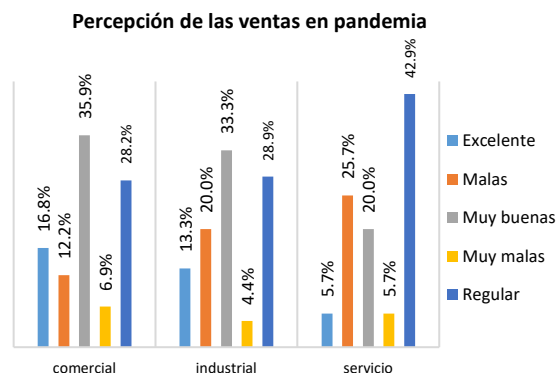


Graphic 6 Impact of sales by COVID-19 with the company's line of business variable

Source: Own elaboration

As can be seen in Graph 6, the impact of the pandemic derived from COVID-19 has a greater impact on sales for commercial SMEs, with 70% of those who responded affirmatively.

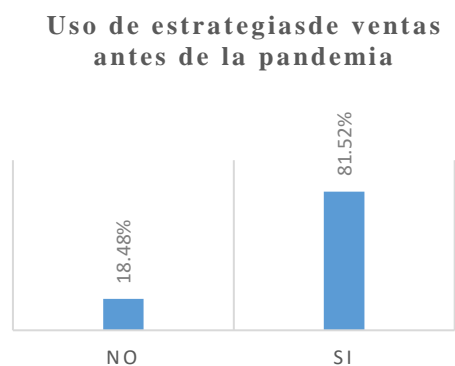
It is analyzed whether there is a relationship between the variables: type of business and the perception of sales during the period of the pandemic.



Graphic 7 Perception of sales during the pandemics and business line of business

Source: Own elaboration

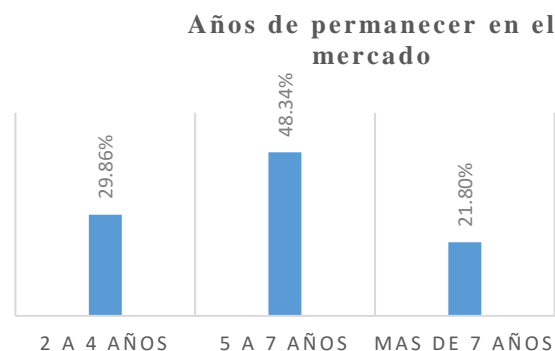
Graphic 7 shows that 16.8% of SMEs in the commercial sector consider that their sales were excellent, while 35% consider that they were very good. Based on these results, it can be determined that 51.8% of the SMEs were not affected by the pandemic caused by the COVID-19 virus. The rest of the SMEs, 48.2%, consider that their sales were fair, bad and very bad. Therefore, there is a relationship between the following variables.



Graphic 8 Use of sales strategies before the pandemic

Source: Own elaboration

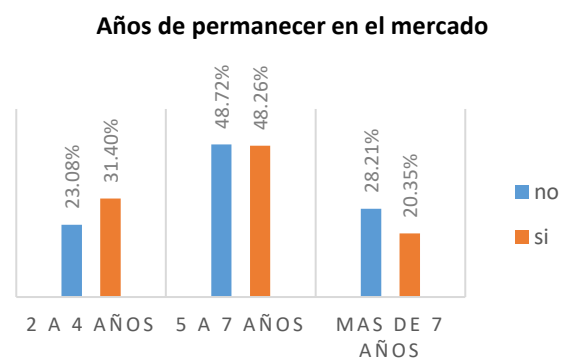
Graphic 8 shows that 81.52% of the SMEs were already using sales strategies before the pandemic, while only 18.48% indicated that they were not using them. Table 1 shows why these companies did not use them.



Graphic 9 Years in the market

Source: Own elaboration

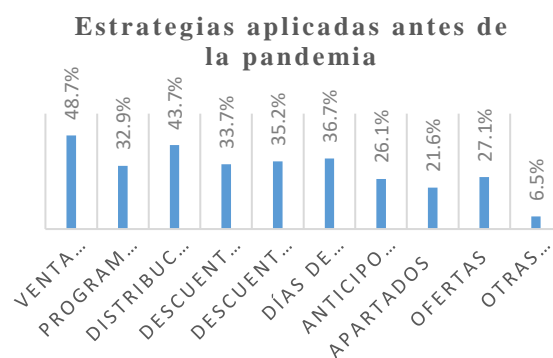
The objective of obtaining this data presented in Graphic 9 is to identify the permanence of MSMEs in the market in the city of Chihuahua, the creation of which is between 5 and 7 years and represents 48.34 % of the total number of MSMEs in the market.



Graphic 10 Years in the market/sales strategies

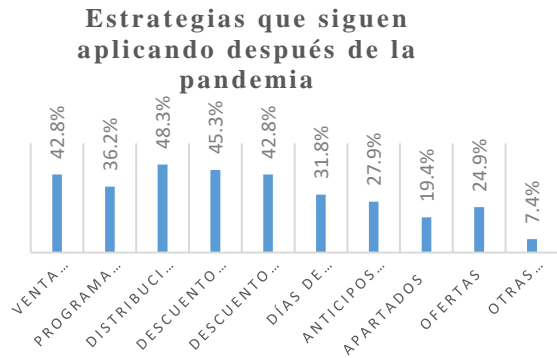
Source: Own elaboration

As can be seen in Graphic 10, 48.26% of the MSEs with the longest time in the market in the city of Chihuahua are those that apply sales strategies.



Graphic 11 Sales strategies that continue to be applied before the pandemic

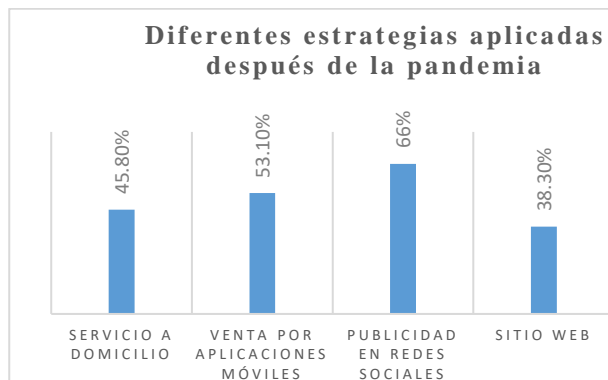
Source: Own elaboration



Graphic 12 Sales strategies that continue to be applied post-pandemic

Source: Own elaboration

A comparison is made between Graphics 11 and 12 to identify which sales strategies increase and which decrease after the pandemic. Personal sales strategies decrease by 5.9% post-pandemic, rewards and gift programs increased by 3.3%, point-of-sale distribution had an increase of 4.6%, discounts on future purchases show an increase of 4.6%; the sales strategy promotion days, decreases to 4.9%. Offers such as 2-for-1 show a decrease of 2.2%. Therefore, it is determined that there are changes in the strategies used after the pandemic.



Graphic 13 Different sales strategies applied after the pandemic

Source: Own elaboration

Graphic 13 shows that the SMEs used new strategies for their business after the pandemic (2020-2021) to reach the end customer. With 45.80%, they mentioned that they used door-to-door sales, sales via mobile applications 53.10%, the use of advertising on social networks was 66% and the creation of a website 30%.

If the answer was no to the question "Before the pandemic, did you use sales strategies?" 18.5% (39 small and micro enterprises) of the respondents said that they did not use strategies for the following reasons (not all answers are mentioned as they are repetitive).

It was not necessary because of the influx of people.

I didn't think it was necessary.

I didn't need it.

Because he did not find it necessary.

He does not know about strategies.

He doesn't know about marketing.

Never thought about it because it was going well.

Don't know how to apply them.

Don't know how to use them.

Didn't know about them.

Didn't know about them.

Table 1 Responses given by SMEs as to why they did not use sales strategies before the pandemic

Increased sales due to new sales strategies implemented	
Yes	100%
Grand total	100%

Table 2 Increase in sales with the implementation of new sales strategies after the pandemic

Source: Own elaboration

Table 2 shows that 100% of the SMEs show an increase by applying strategies such as door-to-door sales, mobile applications, advertising on social networks and the creation of websites.

Anexxes

Size of your company	
Microenterprises	18%
Small	82%
Grand total	100%

Table 3 Size of SMEs

Source: Own elaboration

Business activity	
Comercial	62.09%
Industrial	21.33%
Service	16.59%
Grand total	100%

Table 4 Business of the SMEs

Source: Own elaboration

How do you see your sales in the 2020-2021 period?	
Excellent	14.22%
Bad	16.11%
Very Good	32.70%
Very bad	6.16%
Regular	30.81%
Grand total	100%

Table 5 Perception of MSME sales

Source: Own elaboration

	Excellent	Bad	Very Good	Very bad	Regular
Microenterprises	10.26%	23.08%	25.64%	0.00%	41.03%
	15.12%	14.53%	34.30%	7.56%	28.49%
grand total	14.22%	16.11%	32.70%	6.16%	30.81%

Table 6 Relationship between the size of the MSEs and the perception of sales

Source: Own elaboration

How do you see your sales in the period 2020-2021 and their impact generated by COVID-19			
	Impacted no	Impacted yes	Total
Excellent	7.58%	17.24%	14.22%
Bad	21.21%	13.79%	16.11%
Very Good	22.73%	37.24%	32.70%
Very bad	10.61%	4.14%	6.16%
Regular	37.88%	27.59%	30.81%
Grand total	100.00%	100.00%	100.00%

Table 7 Impact of sales was by COVID-19

Acknowledgements

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Conclusions

According to the responses obtained from the MSME entrepreneurs, it can be identified that 81.52% were already using sales strategies before the pandemic. Those that have been established for between 5 and 7 years are the ones that have applied the most sales strategies (Graphic 10).

After the pandemic, MSMEs had a decrease of 5.9% in the use or application of personal sales strategies and there was also a decrease of 4.9% in the application of promotional days strategies; the application of offers such as 2-for-1 had a decrease of 2.2%; in contrast, the application of rewards and gift programmes increased by 3.3%, as did point-of-sale distribution with an increase of 4.6%. In terms of discounts on future purchases, there was an increase of 4.6 %.

The results show that MSMEs had an increase in sales when they applied different sales strategies to those previously used, such as home delivery, mobile app sales, social media advertising and website (Graphic 13).

It is necessary for companies to apply digital marketing if they want to stay in the market and increase their market share. Recommended sales strategies are inbound marketing, WhatsApp business, increasing their participation in social networks such as Tik tok, Instagram and Facebook.

Information is sent to the SMEs about the internships of the students of the Universidad Tecnológica de Chihuahua. The internship is the period in which the student develops a program of activities with the objective of solving a real problem of the organization or the proposal of continuous improvement within the company. The students of the Business Development degree are the students who have the competence in the area and can collaborate with the interested companies, during the stay period, to create an effective and directed digital marketing project, which allows them to remain and grow in the market.

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Evaluation of perceived usability of an App for planning tourist destinations based on experiences**Evaluación de usabilidad percibida de una App para planificación de destinos turísticos basados en experiencias**

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Abstract

The purpose of the present investigation was to evaluate the perceived usability of an App for planning tourist destinations based on experiences, taking the Masiaca community as a case study, which allows generating the tourist and visitor profile appropriate to user preferences and providing a space for interaction for service providers. For this, a study with a quantitative approach was developed, the design was non-experimental, of a correlational type and transversal, the study subject was tourists, visitors and service providers from the Masiaca community, the study sample was non-probabilistic by convenience, the technology acceptance model instrument was applied to determine the level of perceived usability of the App, later the data was collected and analyzed, resulting in that the level of perceived usability of the App was high and will be a tool which comes to strengthen the way of using technology to transform the tourism sector, currently considered one of the most relevant and growing sectors for the countries, it will also promote the development of communities and the opportunity to display their cultural patrimony in the world.

Resumen

El propósito de la presente investigación fue evaluar la usabilidad percibida de una App para planificación de destinos turísticos basados en experiencias tomando como caso de estudio la comunidad de Masiaca, que permita generar el perfil de turista y visitante adecuado a las preferencias del usuario y brindar un espacio de interacción para los prestadores de servicio. Para ello se desarrolló un estudio de enfoque cuantitativo, el diseño fue no experimental, de tipo correlacional y transversal, el sujeto de estudio fueron turistas, visitantes y prestadores de servicios de la comunidad de Masiaca, la muestra de estudio fue no probabilística de cuota por conveniencia, se aplicó el instrumento de modelo de aceptación de tecnología para determinar el nivel de usabilidad percibida de la App, posteriormente se recolectaron los datos y se analizaron, teniendo como resultado que el nivel de usabilidad percibida de la App fue alto y será una herramienta que viene a fortalecer la manera de utilizar la tecnología para transformar el sector turismo, considerándose en la actualidad uno de los sectores de mayor relevancia y crecimiento para los países, además impulsará el desarrollo de las comunidades y la oportunidad de visualización de su patrimonio cultural en el mundo.

Evaluate, Acceptance, Perceived**Evaluar, Aceptación, Percibido**

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Introduction

Tourism has become one of the most important strategic sectors for countries, representing one of their best sources of income, especially for those economies that bet on this activity, where it equals or surpasses important sectors such as oil or automotive exports. According to the World Tourism Organization, tourism contributes 10% of the gross domestic product (GDP) worldwide. In Mexico the tourism sector has had an impact on the development of the economy, in 2017 reached 99.3 million visitors from abroad, of which 39 million were tourists, giving the country the title of sixth place with the highest number of international tourists, it is important to note that during the last five years, there has been an increase of 68% of international tourists in Mexico, surpassing the average global growth (Secretaría de Turismo [SECTUR], 2018).

The National Statistical Information System of the Mexican Tourism Sector (DATATUR, 2022) mentions that from January to April 2022, 20 million 256 thousand international tourists arrived, 4 million 661 thousand more visitors compared to the same period in 2021. In recent years, tourism in Mexico has been one of the main drivers of the economy and job creation. It should be noted that due to the pandemic produced by Covid-19 it generated a significant negative impact on the tourism sector, however, it can be noted in this last quarter a positive progress in the reactivation of the sector.

In the State of Sonora, Mexico, tourism activity has been increasing in 2000, it was estimated at 8,997.5 million pesos; with a 43 percent growth, it reached the figure of 12,901.25 million pesos in 2010, and in 2014, despite a lower dynamism, it reached 17,061.87 million pesos. In addition, approximately 91 thousand people are employed in the tourism industry (Comisión de Fomento al Turismo del Estado de Sonora [COFETUR], 2021).

With the globalization process and the intensive use of Information Technologies, they have come to transform societies, since they are a tool that favors development at a global level, and are redefining part of the behavioral patterns that regulate social interaction (Sandoval et al., 2017).

According to the National Institute of Statistics and Geography (INEGI, 2021) in Mexico there are 84.1 million internet users and 88.2 million cell phone users, in recent years there has been an accelerated increase, showing that technology is becoming an essential tool not only to maintain communication, but also to perform various activities and information queries from the ease of the devices.

For this, organizations need to reinvent themselves to respond quickly to the challenges of an environment that sets the tone for the digital economy, the digital transformation processes being implemented by many industrial companies has shown an increase of 20% to 30% in productivity. Organizations need to anticipate the future which entails shorter and more dynamic strategic cycles that allow them to meet the needs of our environment and thus be able to offer experiences to their customers, adapting to market changes and customer behavior quickly, arising the need to enter into a cyclical process of generating ideas and improvements in processes, that is, innovate in an incremental or disruptive way (Valderrama, 2019).

Current technological trends and accelerated changes in markets within the volatile, uncertain, complex and ambiguous (VUCA) world we live in, adaptability, i.e., the ability to react to changes, must be paramount to create new opportunities in those environments with high uncertainty, These events are forcing the tourism industry to transform itself, since they provide the opportunity to convert information into knowledge to be used, the tourism sector needs new models of services and integral products that are more flexible and personalized, it should be taken into account that the tourist is more informed and increasingly demanding.

According to Kenteris et al. (2009), in the past, in order to make a trip it was necessary to request the services of travel agencies, tour guides, recommendations on places to eat and other consultation activities. Today, with the growth that has occurred with the use of mobile devices and their impact on tourism, the way to consult all the required tourist information and the services that can be accessed has changed radically.

Ulrike et al. (2015), for their part, mention that technologies have become a driving force in people's activities and that, as a result of globalization, new consumer trends are forcing organizations to transform themselves technologically in order to survive. Coinciding with the author, according to Soteriades (2012) tourist destinations are undergoing a series of changes due to the new needs of the consumer and the environment, as well as the companies it is necessary to implement a plan to be able to respond to the needs of the client and be successful in the future.

The tourism industry has undergone remarkable changes, Garcia (2017) comments that in the planning of a trip different activities are involved that can be carried out, thanks to the access of information that is available, today on the internet the user performs by himself the planning of his trip, considering aspects such as cost, preferred places to visit, days of stay, among others.

The tourism sector requires access to a large amount of information, including tourism products and services offered, in order to make the decision to make a trip and its planning (Mendes et al., 2013). With technological advances and the process of digital transformation, have given the guideline for the creation of tourism applications, however, they are mostly informative and only consider the emblematic tourist sites, in addition, Ricci et al. (2015) mentions that with the large amount of information found on the Web, the user may find it complex to make the planning of his trip.

The research was conducted in the community of Masiaca, located in the south of the State of Sonora, where the predominant activity among its inhabitants is the sale of services and products such as handicrafts, saddlery, traditional food, and lodging. Being a small and little known community, it is not considered in current applications; however, the service providers have been working to establish a tourist structure since they have a broad cultural heritage.

Despite the efforts that have been made in the tourism sector, there is no application that, based on recommendations based on user experiences based on sensations, tastes and emotions, generates a tourist or visitor profile to offer a better planning with tourist services of interest in a personalized way according to their preferences.

Therefore, the objective of the research was to evaluate the perceived usability of an App for planning tourist destinations based on experiences, taking as a case study the community of Masiaca, which allows to generate a tourist and visitor profile appropriate to the user's preferences and provide a space for interaction for service providers.

The following hypotheses were proposed for the research:

- H1: The level of usability perceived by Tourists, Visitors and Service Providers is High.
- H2: Ease of use affects usability in tourists and visitors.
- H3: Ease of use affects usability in service providers.

Ghaderi et al. (2018), comments that the experience of a trip depends on how one perceives the services, products and facilities they tour, which can be found through technology.

Technology combines the traditional methods of tourism with the current ones that are virtual, this causes the services offered to tourists to have extensive customization and allows the tourist to improve the experiences around their trip and increase travel satisfaction (Wang et al., 2020).

For Figueredo et al. (2017), the tourism sector is an economic activity of great relevance for the countries which has had an important growth, generating economic spillover and employment, for this reason it is of great value to understand what needs the tourist has in the destinations and to take better advantage of the available resources.

For the above reasons, Kontogianni and Alepis (2020) refer to the fact that recommendation systems represent an opportunity to offer tourists more personalized services in line with their tastes and preferences.

The importance of this study lies in helping the community of Masiaca and any entity to transform itself, so that by means of technology there is a greater diffusion and attraction of tourists and visitors, to promote a better quality of life for its inhabitants.

Description of the method

A quantitative approach study was developed, the design was non-experimental, correlational and transversal, where the variables to be correlated were ease of use and perceived usefulness. The quantitative approach is to define reality as accurately as possible.

The non-experimental design is an investigation that is carried out without altering the variables, and the correlational studies seek to obtain the degree of association between two or more variables. As for cross-sectional studies, the data are obtained at a particular moment or time.

The subjects of the study were tourists, those people who travel to the destination and stay more than 24 hours, visitors, who are considered to be individuals who consume tourism products and/or services, but stay less than 24 hours, and service providers in the community of Masiaca, who offer their tourism services. A total of 61 people participated, 31 were tourists and visitors, of which 48% were female and 52% male, and 30 were service providers, 73% female and 27% male.

The study sample was non-probabilistic by convenience quota, since only tourists, visitors and service providers from the community of Masiaca were required to participate voluntarily in this research.

The Technology Acceptance Model (TAM) instrument proposed by Davis (1989), one of the most widely used Information Technology (IT) adoption models, was applied.

The TAM is influenced by two perceptions: usefulness and ease of use, the instrument is composed of 12 items, from 1 to 6 it measures perceived usefulness and from 7 to 12 ease of use, using a Likert-type response scale of 1 to 7 points, where 1 is extremely unlikely and 7 is extremely likely.

Since the application is aimed at tourists, visitors and service providers, two instruments were adapted, one for tourists and visitors and the other for service providers.

For the analysis of the results, three levels of IT adoption were determined, as shown in Table 1, calculating means by variable and in general, and a correlation analysis of the variables was carried out with the Pearson coefficient and a significance level of 0.05 and factor analysis with varimax rotation using the SPSS statistical program, version 23.

Levels	Lower value	Upper value
Low	1.0	4.0
Intermediate	4.1	6.0
High	6.1	7.0

Table 1 Levels of IT Adoption
Source: Own elaboration, (2023)

The procedure followed for the development of the research was to apply the TAM instrument, then the data were collected, the validity and reliability of the instrument were determined by means of Cronbach's Alpha and factor analysis with varimax rotation, the level of perceived usability of the App for planning tourist destinations was determined, the correlation between ease of use and perceived usefulness was examined, and finally the results were analyzed and discussed.

Results

For the validity and reliability analysis of the instrument responses, Cronbach's alpha coefficient was calculated, obtaining a 0.933 for tourists and visitors and 0.968 for service providers.

As for the reliability analysis of the instrument, it was found by means of a factor analysis with varimax rotation in the KMO test with 0.860 with a significance of .000 for tourists and visitors (see Table 2) and a KMO of 0.812 with a significance of .000 for service providers (see Table 3).

Kaiser-Meyer-Olkin measure of sampling adequacy		.860
Bartlett's test for sphericity	Approx. chi-square	270.032
	df	66
	Sig.	.000

Table 2 KMO and Bartlett's test for tourists and visitors
Source: Own elaboration, (2023)

Kaiser-Meyer-Olkin measure of sampling adequacy		.812
Bartlett's test for sphericity	Approx. chi-square	452.287
	df	66
	Sig.	.000

Table 3 KMO and Bartlett's test for service providers
Source: Own elaboration, (2023)

As a result corresponding to the study variables of the usability level of the App for the management of tourist destinations based on experiences in the case study of the community of Masiaca (See Table 4), the overall result is 6.40 for tourists and visitors and 6.30 for service providers, presenting a high level in both cases.

For tourists and visitors, the utility with a value of 6.34 and ease of use with 6.46 show a high level, and for service providers, the utility with a value of 6.39 and ease of use with 6.21 also show a high level.

Variables	Utility	Standard deviation	Ease of Use	Standard Deviation	Mean
Tourists and Visitors	6.3419	0.58468	6.4677	0.52687	6.4048
Service Providers	6.3933	0.55704	6.2167	0.62261	6.3050

Table 4 Descriptive statistics
Source: Own elaboration, (2023)

For the correlation analysis of variables, in tourists and visitors are shown in Table 5, with a positive correlation of 0.719 with a significance of .000 between the variables of ease of use and usefulness, resulting in a strong positive association with a high level of significance, so the Pearson coefficient is statistically significant, which leads to the conclusion that the level of ease of use is associated with the utility, where increasing the perception of ease of use of the app increases the perception of usefulness.

		Usefulness	Facility
Usefulness	Pearson correlation	1	.719**
	Sig. (bilateral)		.000
	N	31	31
Facility	Pearson correlation	.719**	1
	Sig. (bilateral)	.000	
	N	31	31

Table 5 Correlation of Person for tourists and visitors
Source: Own elaboration, (2023)

In addition, Table 6 shows the correlation of variables, for service providers, with a positive correlation of 0.894 with a significance of .000 between the variables of ease of use and usefulness, also resulting in a strong positive association and with a high level of significance, statistically significant, where with these results, hypotheses H1, H2 and H3 are accepted.

Usefulness	Pearson correlation	1	.894**
	Sig. (bilateral)		.000
	N	30	30
Facility	Pearson correlation	.894**	1
	Sig. (bilateral)	.000	
	N	30	30

Table 6 Correlation of Person for service providers
Source: Own elaboration, (2023)

As can be seen with the results of the research, they coincide with the author Wang et al. (2020), since he mentions that technology causes that the services offered to tourists have a wide personalization and allows the tourist to improve experiences and satisfaction and also with Kontogianni and Alepis (2020), who refers that recommendation systems represent an opportunity to offer tourists more personalized services related to their tastes and preferences.

In addition, this research comes to strengthen the way to use technological tools and transform the tourism sector, to avoid mainly what the author Ricci et al. (2015) mentions, that the user may find it complex to make the planning of his trip with the large amount of information on the web.

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Conclusions

With the increase and use of technology many sectors have been transformed and the tourism sector is no exception, currently the tourist or visitor, has endless options for the management of their trips, ie is more involved and can have access to Internet tools to perform these tasks, although in the market there are a variety of tourism applications, Most of them are informative, that is, they only provide information about hotels, restaurants, museums, among others, considering the most emblematic sites of each place, leaving out a large number of places that are less known and do not have the option to contribute with their cultural richness, thus losing the opportunity to develop these communities and offer a better quality of life to their inhabitants.

As mentioned by different authors, the tourism sector is an economic activity of great relevance for the countries which has had an important growth and economic spill over, being one of the main activities in the countries that contributes considerably to the Gross Domestic Product, hence the importance of taking advantage of the resources and technological tools to develop the sector.

Therefore, with the development of the research it was possible to determine the level of usability of a mobile App, which allows the management of tourist destinations based on experiences and provides personalized alternatives through the knowledge of tastes and preferences of the user and this is obtained through the experiences in their travels, through a profile in which this information is recorded.

In addition, for service providers who are mostly inhabitants of the communities or places where tourism products or services are offered and whose income and that of their families depend on tourists and visitors, they are offered the opportunity to use a technological tool with which they can publicize their products and services, so that the App, in addition to serving tourists and visitors, also has a space for service providers.

In conclusion, it is important to note that the level of perceived usability of the Mobile App for tourists, visitors and service providers for the case study that was the community of Masiaca is high, it will be a support tool to transform tourism products and services, serving in the best way the needs of tourists and visitors, allowing them better growth and development to their communities and visibility to the world.

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Analysis using the intelligence cycle and the Hoshin Kanri methodology in an organization**Análisis utilizando el ciclo de inteligencia y la metodología Hoshin Kanri en una organización**

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Abstract

The lack of planning is not only a local problem, but of a global nature, the consequences reflect the lack of monetization, growth and strategic alliances that allow the expansion of them. This research proposes to develop the intelligence cycle and the Hoshin Kanri methodology in an organization as a factor of change in Mexican organizations. A current problem in every organization is the lack of planning, it is not a local problem but a global one. Taking into account the following factors such as: Returns and delays in delivery within the organization, the results are encouraging, going from 27% to 12% of returns and from 26% to 10% in the reduction of delays. Through the cycle (PDCA) the actions will be fed back together with senior management seeks to feed back the actions together with the management through a strategic approach and inclusion of all the personnel of the organization.

Resumen

La falta de planeación, no es un problema solo local, si no de índole mundial, las consecuencias reflejan la falta de monetización, crecimiento y alianzas estratégicas que permitan la expansión de las mismas. La presente investigación propone desarrollar el ciclo de inteligencia y la metodología Hoshin Kanri en una organización como factor de cambio en las organizaciones mexicanas. una problemática actual en toda organización es la falta de planeación, no es un problema local sino de índole mundial. Teniendo en cuenta los siguientes factores como: Devoluciones y retrasos en la entrega dentro de la organización, los resultados son alentadores, pasando del 27% al 12% de devoluciones y del 26% al 10% en la reducción de retrasos. A través del ciclo (PDCA) se retroalimentarán las acciones en conjunto con la alta dirección busca retroalimentar las acciones en conjunto con la dirección mediante un enfoque estratégico y de inclusión de todo el personal de la organización.

Intelligence cycle, Hoshin Kanri, PDCA**Ciclo de inteligencia, Hoshin Kanri, PDCA**

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Introduction

Through the knowledge and development of the functions obtained in different departments of design, planning, production and quality, it has been observed that organizations are focused on their transformation processes and on providing quality services.

This research develops the Hoshin Kanri (HK) and the intelligence cycle as a proposal for continuous improvement in an organization dedicated to the manufacture of boxes for medicines, currently the customer portfolio increased from 60% to 95% which require that the products produced meet quality standards among other factors such as: delivery time, standards and specifications. Forcing the quality department to generate strategies that allow us to find a way to satisfy the customer through our quality processes. The problem of any organization lies in the focus on its production processes rather than on quality. Each department has individual objectives to meet without a strategic vision and without a focus on quality. One of the needs of this organization was to meet delivery dates in order to gain prestige with customers, reducing their complaint levels; however, the lack of proper planning caused incomplete deliveries and increased the number of rejections.

The overall objective of this research is to design and implement a strategic planning model including the intelligence cycle within the Hoshin Kanri (HK) methodology, which achieves that the individual objectives of each department are unified to deliver on time and quality.

The proposal based on strategic planning including the intelligence cycle within the Hoshin Kanri (HK) methodology will allow a total quality system within the organization. The four phases of the intelligence cycle are: direction, procurement, elaboration and dissemination as referenced by (Jordán Enamorado, 2016). The importance of probability in any teaching-learning process in the innovation of any system as a learning process (Rueda, 2019). However, there are configure strategic organizational thinking in the field or in practice for decades makes it increasingly complex (Sanabria, 2004).

One of the characteristics of the HK and its elements that distinguishes it from conventional strategic planning, makes mention of an expansion from seven to ten steps (Jolayemi, 2008). The HK methodology refers to the following points: plans are developed more systematically, progress of plans is carefully monitored, changes are made to plans when necessary, planned objectives are achieved, the planning process is standardized, continuous improvement is made, and finally organizational behavior occurs within organizations (Kenyon, 2007). One of the combinations of the HK methodology in conjunction with the balanced scorecard, its objective is to propose a model for the combination of these long-term organizational activities as a framework for a higher level to manage the strategic fit of top management with day-to-day management (Witcher B. and., 2007). Hoshin Kanri could be successfully used to implement strategies and improve top-down matching, which must be achieved so that experts are adequately prepared and frontline staff are engaged in daily continuous improvement efforts (MHA., 2020).

Currently the literature highlights the lack of standards and success stories in lean implementation, organizational culture and cultural context of workers could affect the way HK and lean are performed (Gubinelli, 2020). Long-term strategy and effective planning is critical to create an organizational strategy and vision. Lean and Six-sigma are powerful tools for continuous improvement that are widely used to increase quality, productivity, profitability and competitiveness in today's marketplace (Cudney, 2016). The strategic management model proposed by HK proposes to align functions and activities with the most important strategic objectives of the organization (Santos & V., 2022).

The present research proposes six phases of the intelligence cycle: system planning, information evaluation, information gathering, information processing, information analysis and disseminating results in conjunction with the methodology (HK) the results are encouraging for the quality and continuous improvement department of the present research.

Literature review

One of the works that mentions the strategic model in organizations, Skinner suggests five strategic areas for marketing and distribution: 1) plant and equipment 2) production planning and control 3) manpower and staffing 4) product engineering design; and 5) organization and management, as a strategic model in organizations (W., 1996). On the other hand there are works that refer to performance in SMEs the approach of their hypotheses between the functions of resource management, personnel management in order to prioritize operations in SMEs (B.E. Narkhede, 2012), one of the works where the Hoshin Kanri methodology is based on the process of continuous improvement provides a link between the strategic intent and its implementation in the daily management within the company (Butterworth, 1999). In the political context one of the tools used is the Hoshin Kanri as a strategic means, setting trends and breaking paradigms between objectives and business process reengineering as mentioned (Inquilino & Roberts, 2001). An approach to the medium and long term policies, the basic philosophy of the company and the quality policy as mentioned in the work entitled Hoshin Kanri a participatory form of quality management in Japan under the implementation of target and catch-ball in top management as referred to (Kondo, 1998). However, strategic planning developed in international organizations such as Hewlett-Packard makes us reflect on the importance of daily management in order to prioritize and adapt decision making in daily work (Barry & Rosie, 2000). One of the following works addressing the topic is Hoshin Kanri and critical success factors in quality management and lean production makes reference that strategic planning is a component of TQM/lean production and that its components are found within Hoshin (John, 2016). The balanced scorecard and hoshin Kanri approach as integrative dynamic capabilities potentiate the strategic management process as mentioned in his article Balanced scorecard and Hoshin Kanri: Dynamic capabilities for managing strategic fit (Witcher B. a., 2007). So far one of the articles that includes the circle of continuous improvement is Hoshin Kanri: A Technique for Strategic Quality Management, which refers to business process management, parallel planning and execution methodology with an enterprise-wide approach (Tennant & Roberts, 2011).

The role of strategic planning becomes more important in Japanese industries by simulating the Hoshin Kanri methodology and potentiating strategies in top management as mentioned by (Barnabé, 2017). Any proposal and extension of the Hoshin Kanri (HK) methodology as described in the work Hoshin Kanri planning process in human resource management: recruitment in a high-tech firm, which mentions the importance of strategic management and potentiates its actions for the fulfillment of organizational objectives (Su & Yang, 2015). Through paradigm shifts and a good strategic redirection, the tree (HK) is born, which is based on standardization and learning rates for the generation of Industry 4.0 organizations mentioned in the work The HOSHIN KANRI TREE. Cross-plant Lean Shopfloor Management (Javier Villalba Diez, 2015). The industrial applications of (HK) have had to focus on Japanese organization and is the means by which total quality management (TQM) is implemented (Charles & Paul, 2000).

Total quality management includes, among its most important elements, a planning system. There are different guides to elaborate it, but the one chosen for this study is the Hoshin Kanri model, also known as "Hoshin Kanri Planning System". The intelligence circle is still a valid simplification to explain the way the intelligence function works, however, it is limited in a way that tends to evolve to full intelligence cycle hour which helps to understand more accurately the different phases of the intelligence cycle as referenced by (Viqueira, 2016).

The importance of Hoshin Kanri planning as long as it is accompanied by total quality control as mentioned by (Akao, 1991). The interest of implementing the Hoshin methodology in the organization is the constant interest of implementing policies that make work in organizations more efficient as mentioned by (Lee, 1998).

The present work highlights an executive management system that allows continuous progress in the organization, through the development of a plan of policies established annually.

Development

The Hoshin Kanri planning system consists of several stages. The first stage is a review of information from the environment, as well as data from the organization itself. Subsequently, the director develops a set of objectives, strategies and monitoring indicators; finally, the executives at the next level create more specific action plans, as well as how to implement them. In this way, a blueprint is formed that covers the objectives that are circulated from management to employees and their implementation teams.

The first step determines the current situation; this part of the process requires the collection of information to understand the situation in which the company finds itself in order to be able to propose appropriate strategies.

The second and third steps of the process involve the creation of a vision or desired future, identifying its most important elements and using them as a basis for the deployment of objectives and goals.

The fourth and fifth steps help to create a plan based on the company's vision, which is then extended to all levels of the company. The implementation process consists of spreading the proposed strategies throughout the organization. This part of the process is very important, because the personnel at each hierarchical level validate and commit to the objectives and goals defined by themselves.

The sixth, seventh and eighth steps of the process consist of implementing the plan and monitoring it periodically through some indicators; in this part the control cycle is also carried out, at the level of each objective. First, the status of the objective is checked, it is analyzed to assess whether it needs to be improved and the way to do so is established, and finally, the agreed-upon actions are put into practice and the indicators are checked again to verify progress.

Finally, a review is made at the end of the period; in this review, the entire Hoshin Kanri planning process is reactivated. It is important to note that the control cycle is a fundamental part of the process, both for the execution of the system and for the creation of a plan for the following period.

Main elements

To complement the proposed method (Mary Malone, 1995), she points out that the elaboration of this plan requires the participation and collaboration of all the company's personnel, with the following four main elements:

Objectives: Purposes to be achieved, generally of a competitive nature.

Goals: Indicators of the fulfillment of objectives, these must be established very objectively in order to be quantifiable.

Strategies: They describe the procedure and methodology for the fulfillment of goals and objectives.

Measurement of applications: Determine the progress or competence of the strategy in order to be able to qualify the fulfillment of the strategies.

(Babich, 2006) Recommends the use of a format for the elaboration of the action plan, an example is presented below:

Key objective		Goals
Description of the main objective		
Estrategias para lograr el objetivo.		
Strategy		Goals
Strategy 1		
Strategy 2		
Strategy...		
Strategy		

Table 1 Hoshin Kanri planning form

Competitive intelligence

Part of the essence of competitive intelligence (CI) is scientific and technological knowledge. This is considered as that certain, tangible and demonstrable thought, which is based on the information of the environment and uses it for its benefit.

Definition

According to (Barnabé, 2017), "competitive intelligence is an analytical process that transforms disaggregated competitor, industry and market data into strategically applicable knowledge related to competitors' capabilities, intentions, performance and position."

Methodology

For (Gregorio, Javier Gil, & Eduardo, 1996) the process to carry out an intelligence system is known as intelligence cycle, which comprises eight interdependent stages.

Planning process. In this stage, the general planning of the program is carried out. Needs, users, objectives, available resources, schedule of activities and people in charge are defined.

Identification and selection of information sources. The most appropriate sources of information to meet user needs and objectives are defined, taking into account available resources.

Collection of information. This must be obtained at a speed that allows generating results within the specified time limit. Likewise, it must be cost-effective and accurate in terms of quality.

Data processing. The information found is debugged. This is done based on the needs and objectives previously set.

It is normally carried out simultaneously with the collection activity and in a cyclical manner, until satisfactory results are obtained, which will be subsequently analyzed.

Analysis. Its objective is to convert the information found into a useful product and concrete application in the company's decision-making process. Together with the collection of material, this stage constitutes one of the basic processes for the creation of intelligence.

Dissemination of results. The choice of the medium to be used for the publication of the results obtained depends on several factors, such as the type of information to be distributed, type of audience, resources and time available. Given the current advanced development in information technology, the alternatives for disseminating results within a company are very broad. Among them, a combination of reports, memos, e-mails, voice mails, telephone calls, meetings or oral presentations can be used.

Decision-making. The results generated must be applied in decision making. The fundamental objective of the intelligence is to obtain a direct benefit for the company by having a positive impact on the decisions made.

Program performance evaluation. At this stage, the objective is to ensure that the system is updated periodically and constantly, since changes are continually taking place in the company and in the environment.

Description of the problem

Customer satisfaction, delivery effectiveness and effectiveness in quality commitments have been deficient, yielding negative results for the organization, since out of 7 customers, two of them have a degree of satisfaction of 50%, the deliveries that were made in one month were 26% late and 27% of these same deliveries were returned; therefore, there is dissatisfaction with the service and/or product provided.

Strategic planning model

This section presents the model that integrates the Hoshin Kanri planning system with the organization's competitive intelligence to generate answers that can solve the initial problem statement.

This proposed model consists of 10 steps that begin by establishing the organization's key objective, then the strategic planning model is run and finally the action plan is created, implemented and followed up to determine whether there are opportunities or threats in the environment.

Integration of the model

To achieve the integration of the model, the following methodology is briefly developed as shown in Figure 1.

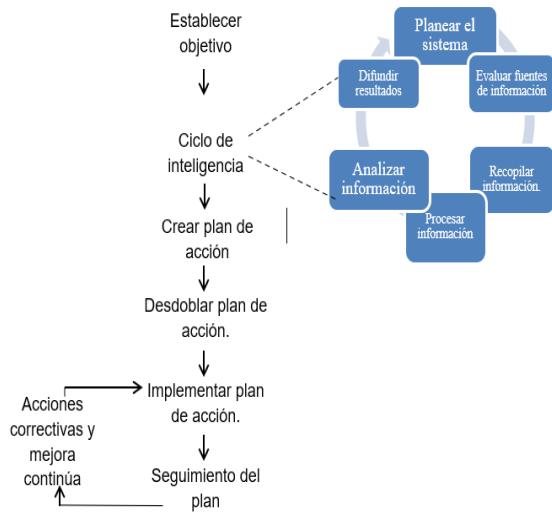


Figure 1 Integration model

Establishing the key objective is the first step. The company's objective was analyzed and its elements were prioritized. In this case it was not necessary to carry out the affinity diagram proposed in the methodology, because the organization is clear about its key objective: to be a highly profitable and productive organization with a high degree of commitment to the customer.

Its focus is on the quality area of the medicine box manufacturing business. Therefore, the prioritization of the elements of the objective is oriented solely towards it. The particular key objective element towards which this strategy is directed is: customer satisfaction.

Planning the intelligence cycle

In this stage, the objectives, resources, chronological planning of activities, the work team and its responsibilities were defined. An affinity diagram was used to determine the key objective, specifically the points that need to be addressed with the intelligence cycle. The result of the application of this tool was as follows:

Goal: Gather information about current productivity rates, as well as customer satisfaction assessments. Specifically, the information sought is:

- Causes affecting productivity.
- Dissatisfied customer indicator.
- Causes of customer dissatisfaction.

Once the objective to be achieved through the intelligence cycle was defined, a work team was formed to carry it out. The duration of the study was 10 days, as described in the following schedule:

ACTIVITY	OCTOBER										Responsible
	1	4	5	6	7	8	11	12	13	14	
Cycle planning. Identify and select sources of information.											Author, DO
Information gathering.											Author, DO, P,JP
Information processing.											Author, DO, P,JP
Information analysis. Presentation of results.											Author, DO

Table 2 Planning of the intelligence cycle

The team that was integrated to carry out the application of the methodology was:

- 1.- Author.
- 2.- DO-Director of Operations.
- 3.- P-Production.
4. JP-Planning.

Once the intelligence cycle planning process was completed, the selection, collection and processing of information sources began.

Selection, collection and processing of information sources

For the selection of information, primary and secondary sources were sought. The primary sources consisted of consulting and interviews with experts, in this case the Operations Director, Production Manager, and Planning Manager. The entire intelligence cycle was developed always taking into account their opinions and points of view. For the study, the organization provided information about the main clients for the interviews; it also provided support with other resources such as telephones and computers for information management.

Productivity indices

For the selection of information, primary and secondary sources were sought. The primary sources consisted of consulting and interviews with experts, in this case the Operations Director, Production Manager, and Planning Manager. The entire intelligence cycle was developed always taking into account their opinions and points of view.

For the study, the organization provided information about the main clients for the interviews; it also provided support with other resources such as telephones and computers for information management.

Two types of indicators were determined to determine current productivity. Rodriguez and Bravo (Rodriguez, 1991):

Effectiveness in compliance: through this type of indicator we evaluate the degree of compliance, in terms of the quantity of the product delivered, its general form is as follows:

$$\text{Effectiveness in compliance} = \frac{\text{Actual production}}{\text{Scheduled production}} \quad (1)$$

Taking the history of one month, we have the following information:

The quantity scheduled to be produced in that month was 2,001,000 pieces.

The quantity produced in that month was 1,994,872 pieces.

$$\text{Effectiveness in compliance} = \frac{1,994,872}{2,001,000} \quad (2)$$

$$\text{Effectiveness in compliance} = 0.99 = 99\% \quad (3)$$

Effectiveness in delivery: If a product is not finished at the requested time, it cannot satisfy the customer's needs, being the same as a defective product. Therefore, it is important to control compliance with delivery dates. The indicator to evaluate this type of situation in the delay in delivery, its general form is as follows:

$$\text{Delayed delivery} = \frac{\text{No.of delayed deliveries}}{\text{Nº of deliveries made}} \quad (4)$$

Taking one month's history, we have the following information:

The number of deliveries made in that month was 69.

The number of late deliveries was 18.

$$\text{Delayed delivery} = \frac{18}{69} \quad (5)$$

$$\text{Delayed delivery} = 0.26 = 26\% \quad (6)$$

Customer satisfaction indicators

To assess client satisfaction, a survey was conducted in which the client evaluates the service and product obtained on a monthly basis.

Five attributes are taken into account and a weight is assigned to each one; the sum total should be one hundred (100). For each attribute, the client will choose a box that reflects his degree of satisfaction and that will be the value of that attribute. The satisfaction index will result from dividing the sum of values (grand total) by the maximum total as shown in Table 3.

Weight	Attribute	Customer satisfaction			Date
		Levels of satisfaction			
		Deficient	Good	Excellent	Partial values
15%	Response to quotations				
15%	Attention received				
10%	Product information				
30%	On-time delivery				
30%	Product quality				
				100%	Grand Total
Customer satisfaction					
Name and signature of the evaluator					

Table 3 Customer Satisfaction Attributes

It was decided to conduct these surveys via e-mail at the end of each month. Customer satisfaction was evaluated for the last month. The following is the overall evaluation of customer satisfaction.



Graphic 1 General evaluation of customer satisfaction

The instrument was validated with the Cronbach's Alpha reliability coefficient, which evaluated the reliability of the instrument developed, the analysis is shown below.

Respondents	ITEMS					SUM
	1	2	3	4	5	
E1	5	5	5	2.5	2.5	20
E2	5	5	2.5	2.5	2.5	17.5
E3	5	5	5	2.5	2.5	20
E4	5	5	2.5	0	2.5	15
E5	5	5	2.5	2.5	0	15
E6	5	5	5	5	5	25
E7	5	5	5	5	5	25
Variance	0.000	0.000	1.531	2.551	2.551	
Sum of item variances	6.633					
Total variance of the instrument	15.051					

Table 4 Respondents' answers

DORANTES-BENAVIDEZ, Humberto, GUTIERREZ-LUGO, Lucía Monserrat, MARTINEZ-CRUZ, Miguel Ángel and DORANTES-BENAVIDEZ, Felipe de Jesús. Analysis using the intelligence cycle and the Hoshin Kanri methodology in an organization. Journal-Business Administration-Marketing; Accounting. 2023

$$\alpha = \frac{k}{k-1} \left[1 - \frac{\sum s_i^2}{S^2} \right] = 0.699 \text{ survey reliability coefficient} \quad (7)$$

Range	Reliability
0.53 a less	Null reliability
0.54 a 0.59	Low reliability
0.60 a 0.65	Reliable
0.66 a 0.71	Very reliable
0.72 a 0.99	Excellent reliability
1	Perfect reliability

Table 5 Ranges of reliability of the instrument

According to the reliability range and the reliability coefficient given by the survey, the instrument used is determined to be "Very reliable".

Effectiveness in quality commitments

Percentage of returns: This evaluates the proportion of out-of-specification products that reach the client or user and are returned, returned for replacement or, in some cases, discounted or reduced from the service billing. Rodriguez and Bravo (1991) Its form is:

$$\text{Percentage of returns} = \frac{\text{Quantity of returned products}}{\text{Quantity of products shipped}} \quad (8)$$

Taking one month's history, we have the following information:

The number of deliveries made in that month was 69.

The number of returns was 19.

$$\text{Percentage of returns} = \frac{19}{69} \quad (9)$$

$$\text{Percentage of returns} = 0.27 = 27\% \quad (10)$$

Analysis of the information

In this step of the methodology, the information gathered in the previous stage is analyzed. A SWOT analysis is used to identify the opportunities and threats of the environment, as well as the organization's strengths and weaknesses.

Before carrying out the SWOT, the conclusions of the results obtained in the previous stage are presented:

Effectiveness in compliance

According to the results obtained in the previous stage, it is observed that the degree of compliance is 99%, which indicates that the amount of product delivered has been effective.

Effectiveness in delivery

According to the results obtained in the previous stage, there was a delay of 26% in the deliveries made during the month, which indicates that there is a problem in the production process that lies in deliveries outside the time established by the client.

Analyzing the stages of the production process, there is a bottleneck in the final stages of the process, with the "Eye Inspection" and "Conditioning" departments being the cause of the delay in deliveries.

Customer satisfaction

Analyzing the results of the surveys, which are shown in the graph, it can be assumed that one of the customer's nonconformities is product quality.

This nonconforming product arises from the lack of review by the "Eye Inspection" department because, since there is a bottleneck there, its review is not effective.

Effectiveness in quality commitments

According to the results obtained in the previous stage, it is observed that there was a 27% return rate in the deliveries made during the month, which indicates that there is a problem in the production process that impacts product quality. Once the conclusions of the information processing are established, we proceed to create the SWOT analysis, this analysis was carried out in the process of "Eye Inspection" since this process is one of those responsible for the quality of the product, by performing an inspection of 100% of the material and it is also where the first bottleneck that causes the delay in deliveries is generated.

STRENGTHS		WEAKNESSES	
- Qualified personnel. - Effectiveness in product delivery. - Relatively simple production process.		- Poor communication. - Lack of human resources. - Lack of staff commitment. - Lack of planning.	
OPPORTUNITIES		THREATS	
- Reduced presence in the market. - Lack of client portfolio. - Lack of infrastructure.		- Economic crisis - Shortage of material. - Variations in planning. - Constant increase in costs.	

Table 6 SWOT Analysis

With these conclusions in mind, originating from the application of the intelligence cycle, the next step was to present the results to the operations manager.

Results

To present the results of the intelligence cycle, a meeting was held, where the operations manager, the production manager, and some members of quality control were present. In this meeting, each of the points raised in the initial objective of the intelligence cycle were reviewed. In addition, the SWOT analysis was presented, integrated with all the conclusions of the intelligence cycle. In this phase, a brainstorming session was held to evaluate the best way to improve the intelligence cycle. It was concluded that the most important thing is to collect information related to product quality, as well as basic data on delivery delays.

This proposal is considered in the next stage of the intelligence cycle, by making a detailed analysis of the information sought and the benefit it can bring to the planning process.

The next step is to create and unfold the action plan. The objective is to use the SWOT, which was obtained as a result of the information analysis, to create specific strategies that in turn are aligned with the company's key objective. The action plan created is shown below:

Key objective	
To be a highly profitable and productive organization with a high degree of customer commitment.	
Title objective	Objectives
Improve the percentage of effectiveness in the delivery and quality commitments.	Have at least 90% effectiveness in delivery and quality commitments.
Strategies to achieve the objective	
Strategy	Objectives
a. Create two shifts in the Ocular Inspection area.	1. Reduce the percentage of late deliveries from 26% to 10%.
b. Make the target visible in turn	2. Create staff commitment.
c. Assign responsibilities and activities per person	3. Reduce the percentage of returns from 27% to 10%.

Table 7 Action plans for key objectives

Once the key objectives of the strategy were defined, the next step was the deployment of these objectives by the visual inspection department. For this process, a meeting was convened with the director of operations, production, quality control and visual inspection. Subsequently, the implementation of the plan began.

The next step of the methodology indicates that the strategies set out in the organization should be implemented.

A chronogram was drawn up, with all the activities and those responsible for them, in order to follow up on the fulfillment of the objectives. The implementation plan is shown below:

ACTIVITY	NOVEMBER				Responsible
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	
Create two shifts in the Eye Inspection area.					DO
Divide the work by activities and assign them per person.					Author, JIO
Make the goal visible in turn.					Author, JIO

Table 8 Implementation of the action plan.

The team that was integrated to carry out the application of the methodology was as follows:

- 1.- Author
- 2.- DO - director of Operations

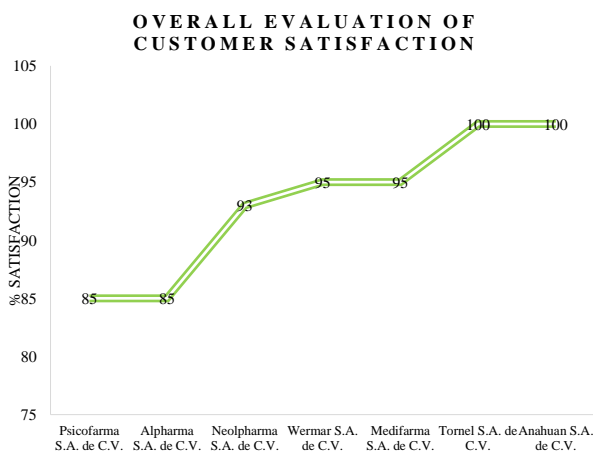
3.- JIO - head of Ocular Inspection

Once the implementation of the action plan had begun, it was necessary to follow it up through the goals set for each specified objective (for this purpose we sent the customer satisfaction surveys again at the end of the month).

It was important to review the results of the November surveys and compare them with those of September. Figure 3 and Figure 4.



Graphic 2 Overall evaluation of customer satisfaction for the month of September



Graphic 3 Overall evaluation of customer satisfaction for the month of November

A comparison was also made of delivery effectiveness and quality commitments.

Taking the historical data for the month of November, we have the following information:

The number of deliveries made in that month was 65. The number of returns was 6.

$$\text{Percentage of returns} = 8/65 \tag{11}$$

$$\text{Percentage of returns} = 0.12 = 12\% \tag{12}$$

The number of late deliveries was 7.

$$\text{Delayed delivery} = \frac{7}{65} \tag{13}$$

$$\text{Delayed delivery} = 0.10 = 10\% \tag{14}$$

According to the information obtained and compared with that of September, there was an improvement in terms of quality commitments, from 27% of returns in September to 12% in November, as well as in delivery effectiveness, with 74% in September and 90% in November.

This is the last step of the proposed model. Here additional actions must be proposed to ensure that the organization's key objective is met.

Due to time constraints, this last step could not be carried out. It requires a longer period of working time, so that those responsible for the plan have the opportunity to fulfill their responsibilities.

The development of this method should be resumed every year to define the objectives of the method. However, given the nature of continuous improvement, the action plan can be modified according to the results obtained and the needs that arise during its implementation.

Conclusions

The strategic planning model proposed in this qualitative research case, proved to be an easy-to-apply tool, helping management to deploy its vision and align the team to actions focused on achieving the expected results.

The application of the intelligence cycle in the planning process of the organization, generated great knowledge about the environment, facilitated the collection of information; in addition, it allowed to create and deploy an action plan, according to the key objective of the organization. This action plan, in addition to reaching a high level of detail, was proposed by the entire team. In this way, each objective and goal was developed taking into account everyone's comments and contributions.

Subsequently, in the implementation of the plan, greater commitment was observed on the part of those involved, because they became aware of the importance of the strategies established to achieve the proposed goals, which was reflected in the following results:

- Decrease in returns for the month, from having 27%, 12% of returns were achieved.
- Increase in delivery effectiveness, from 74% to 90% effectiveness.

Based on the above, it can be deduced that the application of the strategic planning model based on Hoshin Kanri and the integration of the intelligence cycle, as a guide to obtain a clear vision of an organization, results in the effective execution of plans, incorporating elements of improvement and favoring the inclusion of all the company's personnel, helping the organization to consider in an anticipated and more efficient way the events of the environment, to create more competitive action plans not only in the present but also in the future.

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Educational marketing for high schools**Mercadotecnia educativa para escuelas de nivel medio superior**

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Abstract

Educational marketing is a key tool for institutional positioning and attracting new students in upper secondary schools. In addition, it allows the offering of quality services adapted to the educational needs of students and potential applicants. The objective of this study was to design an educational marketing plan for this educational level, using a mixed research approach. Systematic, empirical, and critical processes were applied, as well as quantitative and qualitative data analysis. The data collection instruments were addressed to the target population, that is, third-grade students from seven secondary schools in the city of Tulancingo, Hidalgo, and their parents. Based on the results obtained, positioning, loyalty, and attention strategies were proposed for the applicants and the students of the campus where the research was carried out. These strategies can be used by other educational institutions of the same level.

Resumen

El marketing educativo es una herramienta clave para el posicionamiento institucional y la captación de alumnos de nuevo ingreso en las escuelas de nivel medio superior. Además, permite ofrecer servicios de calidad adaptados a las necesidades educativas de los estudiantes y los potenciales aspirantes. El objetivo de este estudio fue diseñar un plan de marketing educativo para este nivel educativo, utilizando un enfoque mixto de investigación. Se aplicaron procesos sistemáticos, empíricos y críticos, así como el análisis de datos cuantitativos y cualitativos. Los instrumentos de recolección de datos se dirigieron a la población objetivo, es decir, alumnos de tercer grado de siete escuelas secundarias de la ciudad de Tulancingo, Hidalgo, y sus padres de familia. A partir de los resultados obtenidos, se plantearon estrategias de posicionamiento, fidelización y atención para los aspirantes y los estudiantes del plantel donde se realizó la investigación. Estas estrategias pueden ser utilizadas por otras instituciones educativas del mismo nivel.

Education, Marketing, Strategy**Educación, Estrategias, Mercadotecnia**

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Introduction

Low school enrollment is a problem that affects many higher education institutions, which has repercussions on their viability and quality. One of the causes of this problem is the lack of advertising strategies to position the institution in the educational market and attract potential applicants. Educational marketing is the set of activities that seek to collect, analyze and distribute information on educational supply and demand, in order to adapt services and improve the institutional image.

The objective of this study was to design an educational marketing plan for CBTIS 179 located in Tulancingo, Hidalgo, which has had a low school enrollment for 3 years as shown in Table 1.

School year	Registered students
2018-2019	235
2019-2020	210
2020-2021	190
2021-2022	153

Table 1 Students enrolled in the school cycles
Source: Own elaboration

Ramírez et al. (2014) define school dropout as "the action of abandoning school; this problem occurs at all educational levels and is caused by various intrinsic and extrinsic factors" (p.52).

For Espíndola & León (2002), school dropout is the result of a process in which extra-school and intra-school factors intervene.

To this end, a mixed research approach was used, combining systematic, empirical and critical processes, as well as quantitative and qualitative data analysis. The data collection instruments were applied to 174 third grade students from seven secondary schools in the city and to 10 parents. Based on the results obtained, positioning, loyalty and attention strategies were proposed for the applicants and students of the campus. These strategies can be used by other educational institutions at the same level.

According to Mendoza (2020), educational marketing will allow the institution to obtain greater enrollment of students and thus position itself in the educational market.

This document is structured in the following sections: methodological design, educational diagnosis, sample design, market research, educational marketing plan, results of implemented strategies and conclusions. The added value of this research is that it provides a guideline for educational institutions to consider the design of educational marketing as a tool to achieve their objectives in the short and medium term due to positioning in the educational field at local, state, national and international levels.

Methodological design

In the present study the mixed type of research was applied, which combines quantitative and qualitative methods, to analyze the variables that will be useful for the institution's marketing plan. Data were collected from the sample by means of questionnaires and interviews, and the perception that the target public has of the educational service offered through its advertising was analyzed. Thus, we sought to obtain valid and reliable information for the educational diagnosis and the design of marketing strategies.

The methodological design to carry out the marketing plan was based on the model proposed by Arcos & Corrales (2012), which considers five stages:

Situational diagnosis: consists of analyzing the internal and external environment of the institution, identifying its strengths, weaknesses, opportunities and threats (SWOT).

Market research: consists of gathering information on the target market, competition, product, price, distribution and promotion, using quantitative and qualitative techniques.

Strategic direction: this consists of defining the institution's mission, vision, values, objectives and marketing strategies, taking into account the situational diagnosis and market research.

Action plan: consists of establishing the concrete actions to be taken to implement the marketing strategies, assigning responsibilities, resources, deadlines and budgets.

Plan control: consists of evaluating the fulfillment of the marketing plan's objectives and actions, using performance indicators and control tools.

The instruments used to carry out the research were two techniques: a survey that made it possible to collect quantitative data on the willingness of individuals to acquire the educational service and meet their needs upon graduation, and an interview that facilitated obtaining qualitative data through direct interaction with parents, in order to identify their wishes regarding the key points that institutions of higher secondary education should have in order to enroll their children once they graduate from high school.

Educational diagnosis

Knowing the situation surrounding the educational institution was essential to determine the actions to be taken. For this purpose, the SWOT analysis method was used, which consists of identifying the strengths, opportunities, weaknesses and threats of the institution, as well as the problems derived from it.

The results of the SWOT analysis revealed that CBTIS 179 has strengths such as low costs, teachers' experience, scholarships and agreements with universities; opportunities such as lack of promotion, publicity and positioning; weaknesses such as low economic income, location, no resources for publicity, poor corporate image and lack of efficiency in management; and threats such as competition from other institutions and insecurity.

Based on these results, several problems were detected that affect the performance and quality of the institution, such as lack of maintenance, school dropout, low enrollment and the low number of scholarships. These problems require strategic actions to strengthen strengths, take advantage of opportunities, overcome weaknesses and confront threats.

The educational diagnosis carried out allows us to know the current state of CBTIS 179 and its main challenges and potentialities. Thus, it contributes to its continuous improvement and its positioning in the educational market.

Selection of the sample

The population for the development of the study focused on seven schools in the city of Tulancingo.

The study population consisted of 1,348 students in the third year of high school in the 2022-2023 school year, from which a non-probabilistic sample of 174 students was selected by convenience, with an equal distribution by gender. The inclusion criterion was to be enrolled in the third year of secondary school and to have attended at least 80% of the classes. The exclusion criterion was to present some disability or special educational need that would hinder the application of the measurement instrument. The selection of the sample was carried out with the collaboration of the principals of each school, who facilitated access to the students who met the established requirements.

Market research

The following results were obtained from the questionnaires applied:

The sample consisted of 174 students, of whom 95 (54.6%) were female and 79 (45.4%) were male. The socioeconomic level of the respondents was mostly low, with 68% receiving between 50 and 70 pesos a week from their parents for their expenses. The average age of the students was 14.7 years, with a standard deviation of 0.8 years. Forty-two percent were 14 years old, 40% were 15 years old, 8% were 16 years old, and only 1.7% were older. The majority of the students (92%) expressed their interest in continuing with their high school education, arguing reasons such as improving their quality of life, obtaining a professional career, having a stable job and having a taste for learning. On the other hand, 49% indicated that they would stop studying if they faced economic problems, while 21% did not answer this question and only 6% stated that they would not stop studying for any reason.

One of the aspects that the survey inquired about was the means by which the respondents learned about the institution. The results showed that 50% of the respondents learned about the institution through its proximity to the high school they were attending, 26% through the recommendation of a family member or friend, and 17% through social networks. The remaining 7% did not answer this question.

Another variable explored in the survey was the students' preference for the type of media used to access information about the educational offerings. The results revealed that 38% of the students considered social networks to be the best medium for information, while 25% opted to consult a web page and 37% expressed interest in receiving printed advertising.

Educational marketing plan

Based on the market research conducted, it is proposed to implement a series of educational marketing strategies to attract and retain students and parents of a high school institution. These strategies are based on offering added value, generating trust and loyalty, and creating a positive and differentiated image of the institution.

One of the strategies consists of providing free workshops on topics of interest to parents and students in the third grade of high school. These workshops are aimed at orienting potential clients about the educational options available, the benefits of studying at the institution, and the skills necessary for academic and professional success. According to several studies, these types of activities contribute to improving customer perception and satisfaction regarding the quality of the educational service (Sanz Del Vecchio, D. et al., 2017; Gordon Isasi, J. et al., 2020).

Another strategy is to create a basic English course for students currently in the third grade of high school. The purpose of this course is to provide a learning and linguistic development opportunity for students, as well as to encourage their interest in continuing their studies at the institution. The course would be given in classroom or online mode, depending on the students' preference, and would last for three months. At the end of the course, students would receive a certificate accrediting their level of English. English language proficiency is a key competence for academic and professional success in the globalized world (García Valero, M.C., 2018; Betancourt, R. R., & Zermeño, M. G. G., 2017).

On the other hand, it is proposed to plan contests and sweepstakes on social networks to generate interaction and dissemination. These contests and sweepstakes would consist of inviting users to follow the institution's official accounts, share its publications or tag their friends. The prizes would be partial or full scholarships, special discounts or promotional items. This strategy seeks to take advantage of the potential of social networks as communication and educational marketing tools (Chen, T., 2022).

In addition, it is proposed to develop special offers to capture the attention of new customers. These offers would include discounts for early payment, scholarships for academic or athletic merit, payment facilities or financing. These offers would be communicated through various means, such as brochures, posters, emails or WhatsApp messages. The objective is to offer competitive advantages and reduce economic barriers that may prevent customers from accessing or remaining at the institution (Gómez-Bayona, L. et al., 2020; Arciniega, Z., & Antonio, J., 2018.).

Likewise, it is suggested to organize cultural, sports and social events that promote coexistence and a sense of belonging. These events would be aimed at both current and potential customers, and would be held at the institution's facilities or in public spaces. Some examples of these events are festivals, concerts, exhibitions, tournaments, races, etc. These events are intended to create a positive and differentiated image of the institution, as well as to encourage customer participation and engagement (Gómez Ramírez, C., 2007; Torres et al., 2020).

Another strategy is to plan an event called "Open Days", which consists of opening the doors of the institution to the general public, where potential applicants and parents can learn about the facilities, the teaching-learning process and visualize and participate in some classes, activities and/or workshops. The purpose is to capture the interest of potential applicants and show them the advantages and opportunities offered by the institution. This strategy is based on the principle that direct experience is more effective than indirect information in influencing the decision of customers (Feito Alonso, R. et al., 2021).

It is also proposed to implement WhatsApp business as a direct and personalized communication channel with customers. This tool would allow instant messages, images, videos or audios to be sent to customers, as well as answering their queries, doubts or suggestions. The purpose is to establish a close and trusting relationship with customers, as well as to keep them informed about the institution's news and activities. WhatsApp business is a tool widely used and valued by customers, especially by young people (Sixto et al., 2021; Rodríguez Marin C., 2019).

In addition, it is proposed to create a specific area for the attention to students, where guidance, counseling and academic monitoring would be provided. This area would be made up of a multidisciplinary team of professionals, such as psychologists, pedagogues, tutors, etc. The objective is to offer a comprehensive and personalized service to students, addressing their academic, emotional and social needs. This strategy seeks to improve students' performance, motivation and satisfaction, as well as to prevent dropout or dropout (Cadena et al., 2018; Espinoza, Z. D. C et al., 2013).

Finally, it is suggested to produce testimonial videos of graduating students sharing their experiences and achievements. These videos would be disseminated through social networks, the website or the media. The objective is to show success stories that inspire and motivate potential clients to choose the institution as their educational option. Testimonials are a form of persuasion based on credibility and identification with the issuer (Escudero Artola, M. L., 2021; Monterrubio Cabrera, E., & Gordillo Benavente, L. de J. 2023). To carry out these strategies, an annual budget of \$218,000 pesos was developed. Table 2 shows the budget breakdown for each strategy.

Strategy	Cost
Free workshops	\$40,000
Basic English course	\$6,900
Contests and sweepstakes	\$9,000
Special offers	\$15,000
Cultural, sporting and social events	\$130,000
Open days	\$5,000
WhatsApp business	\$3,000
Student service area	\$4,100
Testimonial videos	\$5,000
Total	\$218,000

Table 2 Budget for educational marketing plan

Source: Own elaboration

Of this amount, it is estimated that \$130,000 pesos will be recovered from the income generated by the events that have a cost. Therefore,

Results of the educational marketing plan

An essential part of the educational marketing in this study has been to attract and retain customers in the educational sector, therefore, a call for fathers' day was made. This strategy was designed to generate interest and participation among current students and potential high school graduates. The call was disseminated through the institution's Facebook page, obtaining a total of 332 reactions from the public.

Another strategy consisted of producing institutional videos showing the institution's facilities, programs, services and activities. For this purpose, three people were contacted and produced different videos with the aim of reaching the target audience. The videos were posted on social networks, totaling 50 photos and a drone video.

In addition, different publications were made on the Facebook page about the activities carried out by the institution. Among them, the following stand out:

- Promotional visits to high schools, where the educational offerings and the benefits of studying at the institution were made known.
- Informative talks on reproductive health, as well as the delivery of contraceptive methods as a way of promoting public health.
- Activities carried out during different subjects, such as projects, experiments or exhibitions.
- The visits made by different universities, in order to disseminate their educational offerings and facilitate access and continuity of graduates.

The purpose of these publications was to show the academic, social and cultural work carried out in the institution, as well as to generate interaction and dissemination among users.

Conclusions

In conclusion, this study has achieved the objectives set out in the research, thus providing a concrete follow-up of the purposes of the project. Regarding the first objective of identifying the causes of the low level of interest of parents and potential applicants to enter the first semester and therefore the low enrollment in CBTIS 179, the problem identified was that parents and high school students are unaware of the existence and location of the institution. This is due to the lack of promotional dissemination of the educational center, and it was also identified that most parents prefer public schools. A relevant fact is that parents showed interest in the costs and educational offerings, arguing that they would have liked to know the offerings in advance, in order to consider enrolling their child.

It was also identified that high schools are potential customers, this is due to the proximity of the potential applicant's home to the school. It was observed that parents and children seek some type of scholarship to facilitate and continue their studies.

In accordance with the objective of designing an educational marketing plan in accordance with social needs and demands, based on a situational analysis of the campus, a SWOT analysis and determining the target public, strategies were designed to increase the number of new applicants and enrolled students. The proposed strategies are based on the objective of disseminating the educational offerings to attract the attention of parents and students in third grade of high school, achieving the positioning of the campus in the educational market.

It should be noted that the strategies that were implemented gradually during the course of this work, to date have obtained good results, achieving that the target market (new applicants) requested more detailed information about the educational offer and increased the number of new students in the period of September 2022.

Finally, to fulfill the objective of evaluating the marketing plan in order to modify or eliminate strategies according to the results, four instruments were designed. The first one will allow us to know the characteristics that a strategy should have.

The second will record the number of leads and students enrolled. The third will show the number of students enrolled and re-enrolled in each semester. Finally, a record of the reason for dropping out of school to design strategies to reduce the number of dropouts.

This work integrated the instruments to evaluate each strategy of the marketing plan in order to modify or eliminate strategies according to the results obtained. Now that the company knows its target public and its needs, it will be able to implement the suggested strategies.

The research conducted in this work provides a guideline for educational institutions to consider the design of educational marketing to achieve their short and medium term objectives, as well as positioning in the educational field at local, state and national levels.

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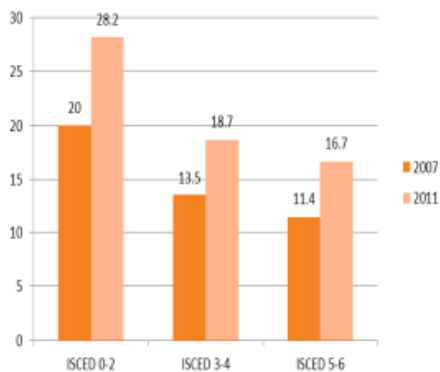
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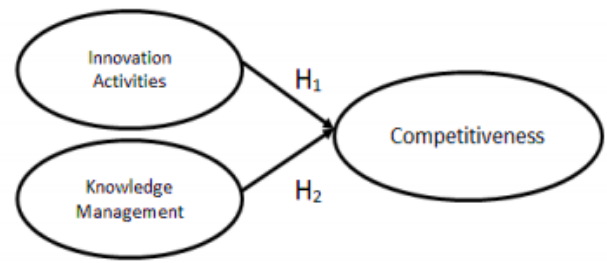


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