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*In Issue 21*, is presented an article *Analysis of oil extractivism in Mexico and industry perspectives*, by SÁNCHEZ-CANO, Julieta Evangelina, RAMOS-ÁLVAREZ, María de Jesús and RUIZ-HERNÁNDEZ, Jaime Antonio, with adscription at Universidad Juárez del Estado de Durango, in the next article *Market research for the development of a business model: restaurant “Huevos al gusto”*, by ALEJO-VAZQUEZ, Laura Edith, MOREJON-SÁNCHEZ, Juana María, NOTARIO-PRIEGO, Ezequiel and RAMOS-PARDO, Osiris Cecilia, with adscription at Instituto Tecnológico de Villahermosa, in the next section *Proposal of a business plan for the optimization of the services of a laundry through multiplatforms*, by RAMOS-PARDO, Osiris Cecilia, MOREJON-SÁNCHEZ, Juana María, LÓPEZ-VALDIVIESO, Leticia and ALEJO-VAZQUEZ, Laura Edith, with adscription at Instituto Tecnológico de Villahermosa, in the next section *Intellectual property in business units*, by ANTONIO-VIDAÑA Paula Rosalinda & RUIZ-LÓPEZ, Carlos Alberto, with adscription at Universidad Tecnológica del Centro de Veracruz.

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**Analysis of oil extractivism in Mexico and industry perspectives****Análisis del extractivismo petrolero en México y perspectivas de la industria**

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**Abstract**

The extractivism is an economic growth model based on the exploitation of primary natural resources, little transformed, including oil, to be sold on the world market. Several countries, including Mexico, were inserted into an extractivist model, to obtain the highest possible income, through which their industrialization and development were financed; on the other hand, these resources have also been used to pay for growing public spending. The objective of this research work is to determine the impact of oil extractivism on the economic growth of Mexico. For which an econometric model was developed, by ordinary least squares, analyzing the period of time 1990-2020. The results obtained show negative effects associated with a high dependence on public finances toward oil extractivism, in addition, derived from the lack of transformation and improvements of the Mexican extractivism model, negative impacts are generated in the economy that, if not addressed, can trigger a domino effect with greater losses for the oil sector, which could lead to increasing the country risk, an aggravating the economic and social situation of the country in the medium term.

**Oil exploitation, Economic impact, Econometric model**

**Resumen**

El extractivismo es un modelo de crecimiento económico fundamentado en la explotación, de recursos naturales primarios, poco transformados, entre ellos el petróleo, para ser vendidos en el mercado mundial. Varios países entre ellos México se insertaron en un modelo extractivista, para obtener los mayores ingresos posibles, mediante los cuales se financiaron su industrialización y desarrollo; por otro lado, también se han utilizado estos recursos para solventar el creciente gasto público. El objetivo del presente trabajo de investigación es determinar el impacto del extractivismo petrolero en el crecimiento económico de México. Para lo cual se desarrolló un modelo econométrico, por mínimos cuadrados ordinarios, analizando el periodo de tiempo de 1990-2020. Los resultados obtenidos muestran efectos negativos asociados a una alta dependencia de las finanzas públicas hacia el extractivismo petrolero, además derivado de la falta de transformación y mejoras del modelo extractivista mexicano, se generan impactos negativos en la economía que de no atenderse pueden desencadenar un efecto dominó con mayores pérdidas para el sector petrolero, que podrá derivar en aumentar el riesgo país, y en agravar las situación económica y social del país en el mediano plazo.

**Explotación petrolera, Impacto económico, Modelo econométrico**

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## Introduction

The Mexican economy has had, over time, different components relevant to its development and growth; such is the case of high technology industries, oil production, mineral exports and manufacturing, among others. Specifically, energy resources were for many years the driving force behind Mexico's economic growth. It is important to note that for Mexico, oil and gas reserves are one of its most prized possessions, since oil production alone represents about one third of government revenues. Furthermore, according to Sanchez (2011), oil had positive effects in terms of industrial growth.

The importance of oil in Mexico can be understood by analyzing its historical trajectory, since with the discovery of large reserves, Mexico based both its economic policy and its foreign relations on its oil potential, taking for granted that it was an abundant and "infinite" resource, it traded it at a very low price for a long time, and from this profit it managed to finance the industrialization of the country, and also tried to diversify the economy (Sánchez, 2011).

Sánchez (2011) argues that Mexico's decision to expropriate and nationalize the oil industry in 1938 not only represented an early action by a developing country to assert the control and exploitation of its natural resources for its economic development, but also constituted tangible evidence that, when there is a national consensus, it is possible to establish limitations to the economic power and political influence of external economic agents that have the national economy as a framework for their operations.

Thus, throughout the oil development, the Mexican economy became highly dependent on oil exports, but this in turn managed to slow down its long-term growth, bringing, of course, great macroeconomic repercussions to the country. In the first instance, one would think that the large volumes of oil exported by Mexico are always economic advantages for the country, but the truth is that we find a harmful linkage, because as Tosoni (2011) mentions, despite the fact that crude oil prices have increased, Mexico has not managed to have a better economic performance for its oil industry.

This author also states that at the end of the 1990s high oil prices were detrimental, due to a lower demand for non-oil export products from the United States, and just as then, it seems that history is repeating itself, since Mexico continues to be subject to extractivism.

Since the nationalization of the oil industry, Mexico has used oil as an engine of industrial development and economic growth. The existence of oil in abundant quantities, although it had a positive effect in terms of industrial growth, also had a negative effect as the economy became heavily dependent on oil export revenues and, in addition, because it was believed that oil revenues would always be growing, governments resorted to indebtedness and also avoided making adjustments in the economy. The economy did not diversify to the desired level and companies did not make the technological adjustments that would allow them to become more competitive in the international market. The effect of the lack of adjustment was, firstly, the economic crisis that affected the country in 1980, and secondly, the growing external indebtedness, which has limited the possibilities of growth and development of the economy. Oil prices are highly volatile, and the fall in oil prices caused Mexico to face difficulties in paying its foreign debt in the early 1980s, and high indebtedness became an obstacle to economic growth (Sanchez, 2011).

The high dependence on hydrocarbons for an economy always represents a risk and a factor of concern in the short term, which tends to become even more acute in the medium and long term (Cantamutto, 2022), for Mexico this represented an enormous weight as time went by, since the high volatility of prices has generated instability of oil revenues causing strong crises in the Mexican economy (Sanchez, 2017). Although the economy is an important point to analyze, it should not be forgotten that resources such as oil are not renewable and that its extraction will also bring environmental and social consequences (Ofstehage, Wolford and Borrás, 2022), although this article focuses mainly on the economic effects and intends to go deeper into the environmental and social aspects in a later article.

The extractivist model by its own characteristics encourages companies to extract natural resources without ethical limits (Alarcón, 2022), because by prioritizing above all the rate of profit, they ignore the terrible consequences that this model brings not only for the environment and the social aspect, but for the same economic model in the medium and long term (Azama & Ponce, 2014).

The research objectives are to determine the impact of oil extractivism on economic growth in Mexico, using an econometric model to estimate the impact of various indicators associated with oil on economic growth and to discuss the consequences for the Mexican economy and for the economic model with a high dependence on oil extractivism.

## Methodology

An analysis of hydrocarbon statistics in Mexico was carried out considering a period from 1990-2020. An ordinary least squares econometric model was estimated. The dependent variable is GDP and the independent or explanatory variables are gross capital formation, crude oil production, the value of oil exports and the Gini coefficient with a lag. In other words, GDP is a function of or depends on the behavior of the explanatory variables.

The specified model is as follows:

$$Y_i = \beta_0 + \beta_1 X_i + u_i \quad (1)$$

Where:

GDP: Gross Domestic Product in millions of dollars at 2010 prices.

$Y_{Crude}$ : Crude oil production in thousands of barrels per day with a lag.

$X_{S_{oil}}$ : Value of oil exports in millions of dollars at 2010 prices.

Gini coefficient: Gini coefficient (index) with a lag.

GFC: Gross capital formation in millions of dollars at 2010 prices.

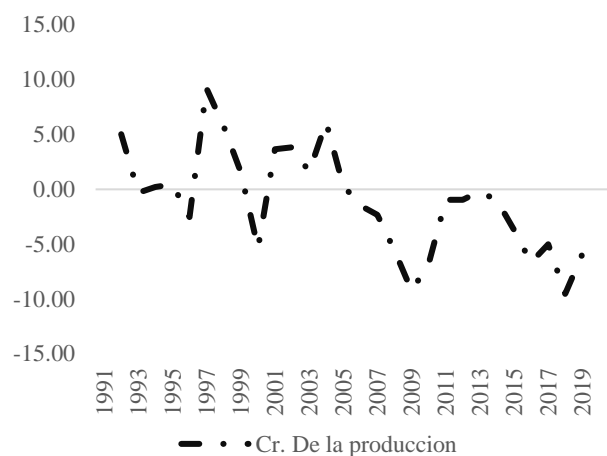
Statistics from official sources were used: World Bank, Ministry of Energy, Bank of Mexico, as main tool the databases and the econometric software Gretl®.

## Results

### *Overview of the hydrocarbon sector in Mexico*

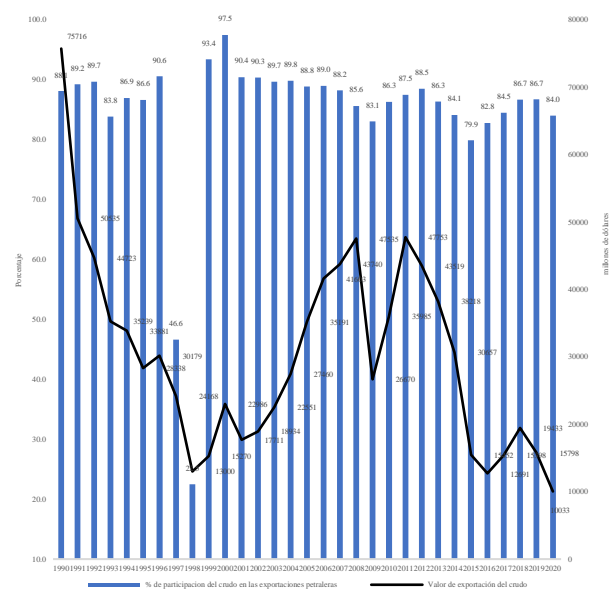
Oil is a very important resource for Mexico's economy and represents a national security issue. Despite the high volatility of oil prices, with abrupt drops in the price of crude oil worldwide in recent years, the contribution of oil revenues to public finances is more than 15 percent. On the other hand, given that oil is a non-renewable natural resource, the long-term viability of oil extractivism and the lack of greater diversification of Mexico's energy matrix are under discussion.

According to data from the Energy Secretariat, crude oil production participated with 59.83 percent of total primary energy during 2019. In addition, Mexico had in 2018 an exploration and extraction area of 19,034,031 hectares, of which 86.5 percent are dedicated to exploration and 12.2 percent dedicated to hydrocarbon extraction (Reynoso, 2018). Pemex has 97.7 percent of the contracts and allocations of national crude oil production; while the remaining is held by private initiative (Secretaría de energía, 2020). During the period from 1990 to 2020, crude oil production decreased at an average annual rate of 1.3 percent, however, it continues to be the largest producer. Analyzing the production of 30 years, it is observed that since 2005 crude oil has negative production growth rates, reaching around 9 percent between 2009 and 2018, so the high dependence on oil revenues for public finances represents a high economic risk for the country (Fig. 1).



**Figure 1** Crude oil production growth rate  
 Source: Own elaboration with data from the Ministry of Energy (2021)

It is also important to point out that crude oil is the hydrocarbon with the highest share in the international market; its share in the value of oil exports since 2000 has been at least 80 percent of oil currencies; however, in 1997 and 1998 it contributed 46.6 percent and 22.5 percent, respectively, atypical data if we consider its share during the period under analysis. Overall, crude oil exports contribute an average of US\$30,334 million annually (Fig. 2).

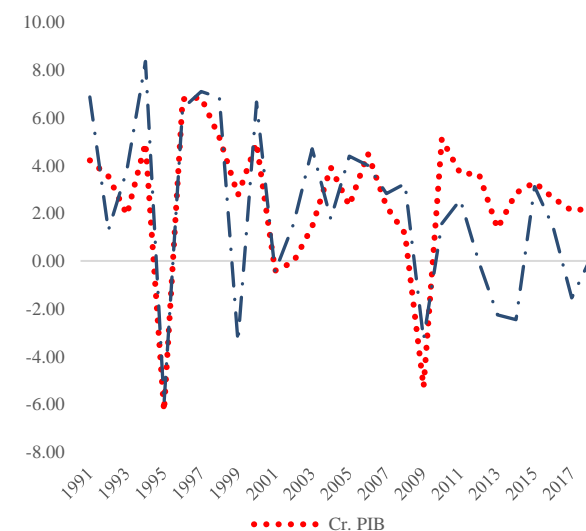


**Figure 2** Value of crude oil exports  
 Note: Value of exports expressed in millions of dollars at 2010 prices  
 Source: Own elaboration with data from the Statistical Information System of the Ministry of Energy and Banco de México (2021)

An antipodean characteristic of economic growth is that on the one hand it generates economic wellbeing, however, on the environmental side it generates pollution and resource depredation (Auz, 2022), even more so in the case of oil production, since it is an activity that generates soil and water pollution, as well as Greenhouse Gas Emissions (GHG), including carbon dioxide, the main cause of global warming. In general, most of the activities related to higher economic growth also imply higher CO<sub>2</sub> emissions.

According to data from the World Bank (2021), in 2018 Mexico ranked eleventh in pollution with 679, 880 kt of CO<sub>2</sub>. Carbon dioxide emissions had an average annual growth rate of 2 percent during the period 1990-2020. However, the annual growth with respect to the previous year is higher than 2 percent in half of the observations, and contrasting with GDP growth, a similar behavior is observed with an average rate of 2.05 percent (Fig. 3).

It should be noted that the energy sector, understood as the energy transformation and commercialization sector, is responsible for one third of greenhouse gas emissions. In fact, Mexico and Brazil are the only Latin American countries in the ranking of the 15 countries that emit the most carbon dioxide (CO<sub>2</sub>) in the world, according to data from the Global Carbon Atlas, a collaboration between the international network of scientists Future Earth and the UN, (BBC News Mundo, 2019).



**Figure 3** GDP growth rates and CO<sub>2</sub>  
 Source: Elaborated with data from the World Bank (2021)

## Econometric analysis

The model was expressed as:

$$\begin{aligned}
 PIB = & 2403230 + 2.03251FBC_{t-1} - 1.31442Ycrudo_{t-1} \\
 & - 1.38304Xspetroleras_{t-1} \\
 & - 35242.7 Coef. gini_{t-1}
 \end{aligned}$$

The model proposed is characterized by the use of lags in its explanatory variables, which means that the impact that these variables have on GDP is not immediate, but responds after a period of time, so that the effects can be cumulative in the medium and long term.

As for the economic interpretation of the model, the estimated parameters yield the following:

Gross capital formation has a direct relationship with GDP, this means that if BCF increases GDP increases, on the contrary, if BCF falls GDP decreases. Based on the model parameter, if GFCF increases by \$1 million, GDP will increase by \$2.03 million.

Contrary to the CBF, the relationship between crude oil production, the value of oil exports and the Gini coefficient have an inverse relationship with GDP, which implies that if any of the mentioned variables increases, GDP decreases, or if they decrease, GDP increases.

If crude oil production increases by 1,000 barrels per day, it generates a negative impact on GDP, causing a drop of 1.31 million dollars. On the other hand, if the value of oil exports increases by 1 million dollars it causes a drop in GDP of 1.38 million dollars. The Gini coefficient is an indicator that measures inequality in Mexico; its inverse relationship with GDP indicates that a one-unit increase in the Gini index causes a decrease in GDP of 35,242.70 million dollars.

The estimated parameters showed the expected signs, where the volume of crude oil production and the value of oil exports have an inverse relationship with GDP, evidencing the negative effects of oil dependence, despite the economic importance of oil for the Mexican economy, indicating that, although there is an increase in the value of crude oil exports, economic development is not being generated in Mexico related to this indicator.

The variables that are statistically significant at a 99 percent confidence level are: gross capital formation and the Gini coefficient. The value of oil exports is significant at a 95 percent confidence level. In other words, the aforementioned variables influence the behavior of GDP.

The R-squared is 94 percent, it is considered a good fit of the independent variables on GDP. Where 94 percent of the model is explained by the independent variables.

Model: OLS, using 1991-2020 observations (T = 30).

### Dependent variable: GDP

	Coefficient	Standard Deviation	Statistic t	p-value	
Const	2.40323e+06	517871	4.641	<0.0001	***
FBC_1	2.03251	0.447517	4.542	0.0001	***
Ycrudo_1	-1.31442	23.5267	-0.05587	0.9559	
Xs_petroleras_1	-1.38304	0.576017	-2.401	0.0241	**
Coef. gini_1	-35242.7	8600.19	-4.098	0.0004	***
Average of vble. dep.	993859.7	D.T. of the vble. dep.	194970.5		
Sum of squared residuals	5.58e+10	T.D. of regression	47253.41		
R-squared	0.949363	Corrected R-squared	0.941261		
F(4, 25)	117.1769	p-value (of F)	8.23e-16		
Log-likelihood	-362.7317	D.T. of the vble. dep.	735.4635		
Schwarz criterion	742.4695	T.D. of regression	737.7047		
Rho	0.232705	Corrected R-squared	1.513362		

The results of our model go hand in hand with what Payan & Rodriguez (2021) affirm according to a study conducted by the author at Rice University, in which he argues that Pemex hinders Mexico's economic growth, proof of this is that the government has injected 1.4 percent of GDP to support PEMEX, (budget higher than that invested in overcoming the pandemic of covid19 which was 1.1 of the GDP in the same year), which calls into question not only the economic recovery, but the country's destiny can be seen anchored to the destiny of Pemex, since all the money injected to Pemex, lacks investment plans, is not destined to the development of new technologies, nor does it have a long-term strategic business plan to avoid greater losses (Payán & Rodríguez, 2021:4).

Unfortunately, Pemex is the most indebted oil company in the world with 110 billion dollars of debt, which has strongly deteriorated both its credit profile and Mexico's country risk (Cota, 2021). The company has huge losses every year, and according to data from the same company in 2020 it lost 481,000 million pesos (Ibidem, 2021).

The Payan & Rodriguez (2021) study states that Pemex's financial situation will continue to deteriorate, "especially if it does not undergo a restructuring or partner with the private sector". Since there is a high probability that PEMEX will cause the greatest negative impact on the economy and contribute to the weakening of finances in 2021 (Payan & Rodriguez, 2021: p. 5).

It is important to mention that, in reality, after the reform, the necessary changes have not taken place and oil production has negative effects, since it is a natural resource that is extracted without giving a positive and defined direction to those revenues, in favor of a truly productive and successful economic model (Ofstehage, Wolford & Borrás, 2022), given this it is necessary to highlight that "after the reform, Pemex will continue to contribute financially to the federal budget, besides that it is still subject to spending and indebtedness restrictions; and its labor liabilities indicate that it has an urgent need to negotiate a new collective bargaining agreement, which will allow it to get rid of such an onerous burden that weighs heavily on the company's financial situation. All of the above added to its heavy indebtedness, "will not allow it to position itself strategically against its competitors" (Reyes Heróles, 2015, in Pérez & Clavellina-Miller, n.d. p. 83).

Oil production and exports also do not translate into profits that contribute to GDP, firstly, oil production in Mexico has increasingly high costs and its production in the last two decades, has fallen by 50 percent (Cota, 2020). Second, much of the revenue generated by oil production and exports goes to finance public spending. The fall in oil revenues and the lack of a fiscal reform may cause serious problems for federal financing, which depends on 17 percent of the resources obtained from oil.

The Mexico Association calculated in 2020 that for every 50,000 barrels of oil that were no longer produced in a year, the Treasury would lose 16.3 billion pesos (Cullell, 2020), and fewer resources for public spending would mean government cuts in investments in security, health and education (Ordaz, 2020).

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### **Conclusions**

This research studies the case of oil extractivism in Mexico and analyzes its relationship with economic growth, economic development and, at the same time, it shows strong implications with social inequality from 1990 to 2020. It is highlighted that Mexico is highly dependent on oil resources to cover its public finances, there is a latent risk that the fall in production, productivity, high indebtedness and the lack of good business management of the Mexican oil company will negatively impact the economy in the coming years, with the serious consequences that this means for the economic and social sector.

In the analysis developed in this research we show that due to oil extractivism, Mexico's economic development has been diminished, being a process that has a negative impact on the country's economic growth.

Gross capital formation generates positive impacts on GDP, the value of oil exports and the Gini coefficient indicate a negative relationship with GDP. The estimated parameters are an indicator of the influence that investment, the value of oil exports and economic inequality have on GDP.

Oil production and exports, given the process of extractivism and based on expectations, do not translate into profits that contribute to GDP; on the other hand, a large part of these profits go directly to finance public spending, which, added to the poor business performance of PEMEX as a state-owned oil company, calls into question not only economic recovery, The money injected into Pemex lacks viable investment plans, nor does it develop new technologies, nor does it have a strategic business plan in the short, medium and long term to avoid greater losses and give the sector an entrepreneurial focus that will allow it to compete in the international market.

In addition, oil production in Mexico has increasingly higher costs and its production in the last two decades has declined alarmingly. After the reform, the necessary changes have not been made and oil production will have negative effects, since the extraction of natural resources, in this case oil, which is extracted without giving a positive and defined direction to those revenues in favor of a truly productive and successful business oil economic model, will end up depleting resources without obtaining the necessary growth cycles for the sector.

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## Market research for the development of a business model: restaurant “Huevos al gusto”

### Investigación de mercado para el desarrollo de un modelo de negocios: restaurant “Huevos al gusto”

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#### Abstract

Currently in Tabasco, there are countless businesses dedicated to the preparation of food in an informal way. Therefore, it is extremely important that there are models of investment projects that allow entrepreneurs to develop well-founded businesses that can count from their birth with certainty that allows greater success during operation and growth. This work is developed based on a business plan integrated by functional market analysis and analysis tools, which includes a comprehensive approach to know the factors and variables that affect this type of business, as well as having located the target or objective market. to offer the products and services that customers expect from a restaurant of this nature. This document will increase the benefits for similar businesses, have current data and statistics on the target market, as well as a current and functional business plan.

#### Model, Entrepreneurs, Analysis

#### Resumen

En la actualidad en Tabasco, existen una infinidad de negocios dedicados a la preparación de alimentos de manera informal. Por lo que es de suma importancia que existan modelos de proyectos de inversión que permitan a emprendedores(as) desarrollar negocios bien fundamentados que puedan contar desde su nacimiento con certidumbre que permita un mayor éxito durante la operación y crecimiento. Este trabajo esta desarrollado basado en un plan de negocios integrado por herramientas de análisis y análisis de mercado funcional, que incluye un enfoque integral para conocer los factores y variables que inciden en este tipo de negocios, así como de tener ubicado el mercado meta u objetivo para ofrecer los productos y servicios que los clientes esperan de un restaurant de esta naturaleza. Este documento permitirá incrementar los beneficios para negocios similares, contar con datos y estadísticas actuales sobre el mercado meta, así como un plan de negocios vigente y funcional.

#### Modelo, Empresarios, Análisis

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**Introduction**

In this article, an investment project of a restaurant "Huevos al gusto" for the preparation of food, the focus of this investment project is to provide customers with food as homemade, with healthy food, different from the options offered by fast food restaurants franchise type.

Here we explain the development of a business plan that includes the steps for a business of this type to be profitable and functional, as it is carried out with a comprehensive approach, which guarantees success.

However, there are currently a large number of small businesses dedicated to the informal preparation of food, so this article aims to help these micro and small businesses to strengthen local economies.

**Methodology**

For this work, this methodology is used that contemplates three phases as shown in the following figure:



**Figure 1** Methodology  
Source: Own elaboration

**Analysis**

The investment required to develop this project is broken down into three parts as shown in the following tables.

**Initial investment**

Initial Investment	Units	Price	Total Price
Cash register	1	\$4,199	\$4,199
Point of sale terminal Point Smart	1	\$2,299	\$2,299
Wifi		\$799	\$799
Kitchen utensils	2	\$1,299	\$2,598
Frying pans	4	\$754	\$3016
Local	1	\$56,000	\$56,000
<b>Total</b>	<b>8</b>	<b>\$9,350</b>	<b>\$68,911</b>

**Table 1** Infrastructure  
Source: Own elaboration

Initial investment	Units	Price	Total price
Tables	7	\$789	\$5,523
Chairs	28	\$296	\$8,288
<b>Total</b>	<b>35</b>	<b>\$1,085</b>	<b>\$13,811</b>

**Table 2** Furniture  
Source: Own elaboration

Initial investment	Units	Price	Total price
Refrigerator	1	\$13,200	\$13,200
Grills	1	\$7,100	\$7,100
Industrial coffee machine	1	\$1,400	\$1,400
Stationary gas tank.	1	\$10,850	\$10,850
<b>Total</b>	<b>4</b>	<b>\$32,550</b>	<b>\$32,550</b>

**Table 3** Equipment  
Source: Own elaboration

The total investment required is \$115,272.00, later in the results stage, we will use the NPV and IRR formulas to determine the profitability of the development of this business plan (Borello, 2000).

**External Analysis**

*PESTEL*

**Political Factors:** The opening process is carried out at the window of the Sistema de Apertura Rápida de Empresas (SARE) module, which consists of the granting of an operating or opening licence for the start-up of operations of low-risk companies or businesses.

**Economic Factors:** According to the Quarterly Indicator of State Economic Activity (ITAE) published by INEGI, Mexico, How Are We Doing? estimated the State Semaphore of Economic Growth. In the second quarter of 2022, ten entities reached the annual economic growth target.

**Socio-Cultural Factors:** The rich world of Tabasco's gastronomy has acquired international fame due to its sophisticated dishes, composed of curious ingredients and condiments that give them a special place in the universe of flavours of our country (Prieto, 2015).

The food of Tabascans is tasty and varied: in soups, stews, roasted pejelagarto, the delicious chipilín tamales and the famous totopostes, in addition to the thousand ways in which plantains are cooked.

In Tabasco you will find an unusual world of flavours, although there is always the opportunity to eat simple, very tasty things and enjoy some delicious eggs prepared in Huevos al gusto.

**Technological Factors:** Food is one of the most profitable businesses in the world, and success can be "relatively easy". However, in recent years it has been seen that it also depends on something else, the use of technology and not only in the preparation of food, but also in the marketing of food places to reach customers. Social media has been central to this revolution, which has undoubtedly benefited both food businesses and diners.

However, the COVID-19 pandemic showed the fragility of the restaurant sector in a scenario where the social encounter, one of the pillars of the industry, was curtailed, but it also showed how technology can offer innovative solutions to continue to bring service to the diner's table.

**Ecological Factors:** Environmental legislation is extensive and dynamic, which in some cases could make it difficult to comply with the obligations applicable to the different economic activities regulated by the authorisations, registrations, licences or permits that derive from it.

**Legal Factors:** The restaurant industry is an important driver of income and growth in Mexico. Mexico's National Chamber of Restaurants and Seasoned Food Industry (CANIRAC) registers some 500,000 formal food businesses.

Food and beverage preparation in our country is one of the strongest business sectors, along with manufacturing industries and retail trade businesses (Coopera,2000). This is because food services is a fast growing industry according to INEGI censuses.

*Target Market*

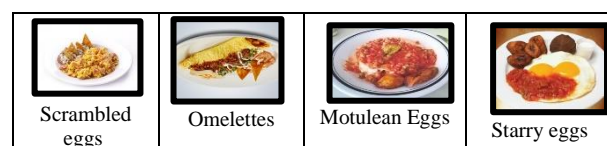
Our dishes are aimed primarily at people between 15 and 35 years of age, mostly according to our market research information are men with single marital status, who have a monthly income of less than \$ 4,000 pesos, are students who enjoy eating these dishes in a schedule of 8:00 am to 11:00 am.



**Figure 2** Preference graph  
*Source: Own elaboration*

*Product*

Among the dishes that Huevos al gusto will offer are: scrambled eggs and omelettes, accompanied with fried beans and fried plantains. We will have: green peppers, ham, spinach, tomato, onion, nopal, chorizo, bacon, for the preparation of our dishes. We will have: red sauce, green sauce, half cream and cheese, so that our guests can enjoy their delicious eggs bathed in our sauces. Also when the client requires it we have the preparation of huevos motuleños and huevos estrellados.



**Table 4** Food menu  
*Source: Own elaboration*

*Price*

The price is an important factor for customers and it is sought that the prices are perceived by consumers as adequate and fair to the quality of the product and service, in addition the price directly affects the profitability of the business.

*Plaza*

The location of the Huevos al gusto restaurant, based on the market study carried out, with 54% of those surveyed, will be located in the Colonia Indeco, Ciudad Industrial Villahermosa, Tabasco, in this area is located the Instituto Tecnológico de Villahermosa, a shopping centre, workplaces and businesses in general, making it a high traffic area. The strategy to be applied is direct distribution without intermediaries, the dishes offered to customers are prepared by the staff on the premises and are delivered directly to the public at the same point of sale.



**Figure 3** Plant layout  
Source: Own elaboration

*Promotion*

With the aim of attracting new potential customers, a communication plan will be developed to publicise the value proposition. The message will be based on the 4 steps of the AIDA framework: Attention, Interest, Desire and Action to obtain the following effects:

- Attention: To get the customer's attention towards our restaurant Huevos al gusto.
- Interest: To generate customer interest in the Huevos al gusto proposal.
- Desire: If the customer's interest is aroused, then the desire to buy the products must be provoked.

- Action: It is to achieve the purchase action and the closing of the sale in the Huevos al gusto store.

*SWOT tool*

Opportunities	Threats
<ul style="list-style-type: none"> <li>- Ease of reaching customers through social networks.</li> <li>- Expand the menu.</li> <li>- Use organic ingredients to attract new customers.</li> </ul>	<ul style="list-style-type: none"> <li>- Opening of strong competitors in the area.</li> <li>- Foreseeable changes in consumer tastes.</li> <li>- Increase in taxes.</li> <li>- Increase in the cost of raw materials for the restaurant.</li> <li>- Inflation.</li> </ul>
Strengths	Weaknesses
<ul style="list-style-type: none"> <li>- Menus or dishes different from those of the competition.</li> <li>- Good location on a busy road.</li> <li>- Business owner with cooking experience.</li> <li>- Own premises</li> <li>- Varied promotions.</li> </ul>	<ul style="list-style-type: none"> <li>- Inexperienced staff.</li> <li>- No home delivery service.</li> <li>- Employee turnover.</li> </ul>

**Table 5** SWOT analysis  
Source: Own elaboration

*Production process*

Nom.	Process	Description of the process
1		Customer: Arrival at the restaurant.
2		Barista: Generates the customer's order and delivers it to the Chef.
3		Chef: Prepares the customer's order, according to the selected dish:
4		Barista: Delivers the customer's order.
5		Cleaning staff: When the customer leaves the restaurant, the table is cleaned.

**Table 6** Production process  
Source: Own elaboration

**Results**

We will carry out the financial evaluation based on the values mentioned in Table 1, 2 and 3 where the initial investment is detailed.

DATA	INV INICIAL	\$ 115,272.00		
	TASA DESC	8.07%		
YEAR	INCOME	DISCHARGE	CASH FLOWS	PRES VALUE
0			-\$115,272.00	-\$115,272.00
1	\$140,400.00	\$98,280.00	\$42,120.00	\$38,974.74
2	\$161,460.00	\$113,022.00	\$48,438.00	\$41,474.00
3	\$185,679.00	\$129,975.30	\$55,703.70	\$44,133.52
			SUM OF FLOWS	\$124,582.26

**Table 7** Cash flows  
Source: Own elaboration

We will substitute the values, taking first an IRR value with 10%, we will take the cash flows obtained in table 1.- Year 1: \$42,120.00; Year 2: \$48,438.00 and for Year 3: \$55,703.70 respectively.

$$0 = -115,272 + \frac{42120}{(1 + .10)} + \frac{48438}{(1 + .10)^2} + \frac{55703.70}{(1 + .10)^3}$$

$$0 = -115,272 + 38,290.91 + 40,031.40 + 41,851.01 = 4,091.33$$

Now, we will use an IRR of 14% to observe the results obtained:

$$0 = -115,272 + \frac{42120}{(1 + .10)} + \frac{48438}{(1 + .10)^2} + \frac{55703.70}{(1 + .10)^3}$$

$$0 = -115,272 + 36,947.37 + 37,271.47 + 37,598.41 = -3,454.75$$

Having these values, we will perform an interpolation to find the IRR closest to zero, for this we will do a simple linear interpolation:

$$y = y_1 + \frac{(y_2 - y_1)}{(x_2 - x_1)}(x - x_1)$$

We place the data,

$$VAN = -1458.15 + \frac{4091.33 - (-1458.15)}{(.13 - .10)}(.122 - .13)$$

$$VAN = -1458.15 + \frac{5549.48}{(.03)} + (.008) = 21.71$$

As can be seen, the IRR found is 12.20%, which is the closest to 0 in the NPV.

With which we can observe that the investment project according to the business plan is feasible since the resulting IRR is positive (Jiménez, 2007).

**Conclusions**

The development of the business plan will serve as a guide for the future creation of an egg-based food business, thus fulfilling the objective of this document.

In conclusion, this business plan development proves to be a very useful tool to generate a business, the planning helps to determine the weaknesses and strengths of the project, opening the field for future considerations, in order to be able to develop the business in the most appropriate and efficient way possible.

In sum, a business plan is a very complex topic, during the development of the work it was possible to define key aspects for the realisation of the project, such as: the location, our target market, customer preferences and the marketing to be implemented, the document presents the foundation of the business, considering all the dimensions necessary to establish and develop it at some point.

In conclusion, a well-structured, detailed business plan is of great importance, otherwise there is a risk that the business will not be successful, as well as to obtain approval for external financing.

**Recommendations**

In addition, agreements should be made with the main input suppliers to ensure continuous supply and adequate costs to the market, seeking mutually beneficial agreements between the parties involved. Apply a process of continuous improvement in customer service, implementing a dynamic and digital suggestion process to consider the recommendations and opinions of customers regarding the service offered and make the necessary corrections for customer satisfaction (Vallejos, 2021).

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## Proposal of a business plan for the optimization of the services of a laundry through multiplatforms

### Propuesta de un plan de negocios para la optimización de los servicios de una lavandería a través de multiplataformas

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#### Abstract

The use of applications and purchases online have become a topic of global interest, due to how dynamic it is, as well as the optimization of payment times and facilities through electronic means. The lack of practicality of the laundry service has been detected, since it is not innovated and continues to work in a traditional way by neighborhood laundries which have deficiencies in terms of delivery times and schedules, attributes highly valued by customers. This project presents the elaboration of the implementation of a technological system for laundries that provides service through a web and virtual platform. This project not only seeks to provide high quality, but also to innovate with processes that reduce service time, as well as stable demands throughout the work life. It seeks to evaluate the technical, economic and financial viability of the pre-feasibility of the implementation of this business model.

#### Business plan, Laundry service, Application

#### Resumen

El uso de las aplicaciones y compras por internet se han convertido en un tema de interés mundial, debido a lo dinámico que resulta, así como la optimización de tiempos y facilidades de pago a través de medios electrónicos. Se ha detectado la falta de practicidad del servicio de lavandería, al no verse innovada y seguir trabajando de manera tradicional por lavanderías de barrios las cuales tienen deficiencias en cuanto a tiempos de entrega y horarios, atributos altamente valorados por los clientes. Este proyecto presenta la elaboración de la puesta en marcha de un sistema tecnológico de lavanderías que brinde servicio a través de una plataforma web y virtual. Este proyecto no solo buscar brindar una alta calidad, sino también innovar con procesos que disminuyan el tiempo de los servicios, así como demandas estables a lo largo de la vida del trabajo. Se busca evaluar la viabilidad técnica, económica y financiera de la prefactibilidad de la implementación de este modelo de negocio.

#### Plan de negocio, Servicio de lavandería, Aplicaciones

**Citation:** RAMOS-PARDO, Osiris Cecilia, MOREJON-SÁNCHEZ, Juana María, LÓPEZ-VALDIVIESO, Leticia and ALEJO-VAZQUEZ, Laura Edith. Proposal of a business plan for the optimization of the services of a laundry through multiplatforms. *Journal of Business Development Strategies*. 2022. 8-21:15-19.

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**Introduction**

The objective of this project is to optimise the current laundry system and create strategic alliances with existing laundries that adapt to our business idea, which is reflected in time savings. An analysis of the micro and macro environment is developed, and then market research is carried out in order to obtain relevant data that will help us to adapt our business idea to the market, obtaining information from the price to offer to the types of service to offer.

It explains how the application works through mobile phones, as well as how to connect with laundries through strategic alliances, guaranteeing demand and ensuring the quality of the service in terms of time, type of wash and speed. Finally, each of the investments to be made is quantified and then evaluated using economic indicators such as: IRR and NPV.

*General Objective*

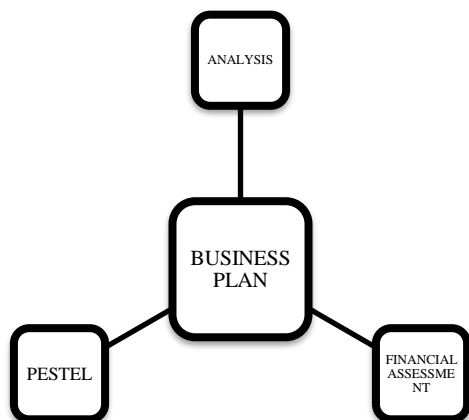
To propose a Business Plan for the Optimisation of the Services of a Laundry through Multiplatforms.

*Specific Objectives*

- To carry out a market study.
- Design a business plan.

**Methodology**

The methodology is developed as follows and contemplates three phases as shown in the following figure:



**Figure 1** Methodology

Source: Own elaboration, 2022

*Analysis*

The investment required to develop this project is broken down into three parts as shown in the following tables.

*Initial investment*

Quantity	Description	Price per unit	Total
6	Desks	14,000.00	84,000.00
6	Chairs	7,000.00	42,000.00

**Table 1** Infrastructure

Source: Own elaboration, 2022

Quantity	Description	Price per unit	Total
6	HP Desktop Computers with 8gb Ram, 1tb solid disk, Intel i5 processor	20,000.00	120,000.00
1	50 mb internet service	1,000.00	1,000.00
1	Web domain and hosting services	1,500.00	1,500.00
3	SmartPhone with Android operating system, 128gb of Ram and 32gb of storage	10,000.00	30,000.00
1	HP printer with WIFI connection	5,000.00	5,000.00

**Table 2** Furniture

Source: Own elaboration, 2022

The total investment required is \$157,500.00, later in the results stage. The formulas of the NPV and IRR indicators will be used to find out if this business plan is profitable.

*External Analysis*

PESTEL

Political Factors: Mexico is in a political moment, after the last events, more importance is given to legal news than to investment, but the continuous help of social capital to solve poverty makes it prevail that the laundry sector will remain without major variation, due to the customs of use. Political turbulence seems to be one of the characteristics of recent times, which has had a negative impact on the economy due to political noise.



**Economic Factors:** Closely related to the political environment, economic activity will always be a good indicator of the purchasing power of the target market. The growth of the economy shows a positive scenario for investment and development. In addition, fiscal soundness and the predictability of policy makers project a promising scenario for the coming years. Thus, the purchasing power of the average citizen tends to improve.

**Social Factors:** Currently the population of Tabasco is growing steadily, because of the cones it has been seen that there is an emerging market where investments will have to be made in order to supply the demand, although in the environment there is not much citizen security which is a threat to any businessman. Additionally, the urban population pyramid is progressive, which reveals a great future demand for laundry services, which in Tabasco translates into the proliferation of a young public that settles in the new and large apartment complexes, where the residences are small and have very little space to have their own laundry and drying services for family laundry.

**Technological Factors:** The world market is growing, so the commercial barriers are more accessible, but not yet in a fluid way, so that the development of the Internet and the business that can be done are great, even in our country it is in development, so that all the technological advances that can be given are already known throughout the world in a matter of minutes, what still cannot be done is a fluid exchange of technology by the treaties between the countries.

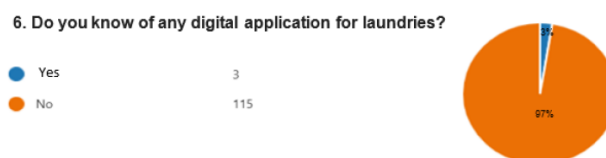
The internet is mainly used through mobile phones and home computers. The main uses of the internet are: to communicate, to obtain information and for entertainment. E-banking and purchasing products/services are less used, but have become more important.

**Ecological Factors:** Currently, environmental and animal protection laws have been given greater impetus, allowing the population to be more conscious in caring for them, and there has also been greater regulation of energy consumption and waste recycling. More companies are now including social and environmental responsibility in their policies as a competitive strength.

**Legal Factors:** The constitutional and legal framework opens the economy to private investment, which is practised in a social market economy. It also promotes competition and guarantees foreign investment in any type of enterprise. It provides that prices are regulated by the law of supply and demand, indicating that the only prices that are administratively regulated are the tariffs for public services in accordance with what is established by Law of the Congress of the Republic.

### Target market

According to the market research carried out, this service is basically focused on single people, or couples, who work and have a very busy schedule, it is assumed for the design that men and women between 20 and 30 years of age are targeted. It is considered relevant that the segmentation variable is adapted to this service in the socio-economic level, understanding socio-economic level as a significant group of people who share economic and social conditions that make them similar to each other and above all that they are interested in multi-platform applications to be able to acquire the laundry service.



**Figure 2** Preference graphic

Source: Own elaboration, 2022

### Marketing

#### Product

The aim is to provide a multiplatform service for the laundry service, seeking to give added value and thus differentiate itself from traditional laundries, where in most cases the delivery time of the garments is a value that the customer feels unsatisfied at the time of accessing this service, as are the means of payment and prices.

These added values will be reflected in offering a delivery service in a short period of time, an accessible price, and a personalised attention to each customer.



**Table 4**

Source: Own elaboration, 2022

### Price

After deciding what the laundry application will look like and having a clear concept, it is time to allocate resources. Depending on the features, the budget may vary. The pricing strategy for the Laundry App launch will be product differentiation.

### Plaza

Residents of the centre of Villahermosa Tabasco Considering that these areas have a higher socio-economic structure compared to other areas. They have access, preference and familiarity with mobile applications; for better and faster communication and attention. The location based on the market study conducted, with 40% of respondents will be located in the Colonia with strategic point for its early location in Villahermosa, Tabasco in this area where schools are located, shopping plaza, workplaces and businesses in general, making it a high traffic area.

### Promotion

The promotion campaign will use social networks, website and field advertising. The following activities will be carried out in order to generate penetration capacity directly to our target audience.

**Social Media:** The Laundry App pages will have all the information and step-by-step procedure on how to use the mobile application. The aim is to convey the brand and differential advantages of our services to gain market share. **Website:** On our website, our customers and target audience will be able to find detailed information about the company.

**Brochures:** Within the campaigns, visits will be made to shopping centres and places of greater affluence by the target audience; delivering information brochures to publicise our company.

### SWOT tool

Opportunities	Threats
1. Make yourself known in the market.	1. Imitatable business model.
2. Growth in internet applications.	2. Preference for physical contact.
3. Time saving for our customers.	3. Poor internet coverage.
4. Growth in demand.	4. Economic crisis.
5. Offer related services.	
Strengths	Weaknesses
1. Fast delivery service.	1. Being a new company in the market.
2. High technology.	2. Lack of experience in the service.
3. Automated processes.	3. Not having its own premises.
4. Reliable real-time tracking system.	
5. To be the only multiplatform for laundry services in the state.	

**Table 5** SWOT analysis

Source: Own elaboration.

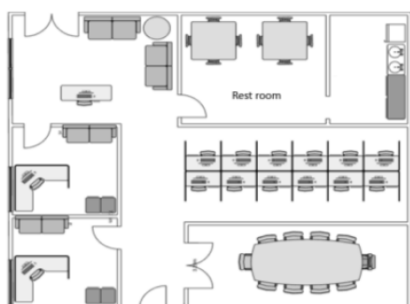
### Production process

The application will be developed with the following characteristics:

1. The client accesses the application from any mobile or desktop device, it can be pinned to their desktop as a shortcut.
2. Before entering the main menu, the application asks for a personal data registration.
3. In the main menu the customer will see the services offered and will be able to choose the one of his preference. The cost will be determined depending on the laundry selected and the type of service. In the case of a home laundry collection service, the application will request location data for the collection and delivery of clothes.
4. A chat will be included within the application to maintain communication with the client in real time about the requested service or any doubt or clarification.

5. Promotions will be sent to the e-mail and the application depending on the laundries' promotions.

### Plant layout



**Figure 3** Plant layout

Source: Own elaboration, 2022

### Financial evaluation

We will carry out the financial evaluation based on the values mentioned in Table 1, 2 and 3 where the initial investment is detailed.

DATA	INV INITIAL	\$157,500.00
	DESC RATE	8.67%

Period	Income	Exit	Cash flows	PRE-S values
0			-\$ 157,500.00	-\$ 157,500.00
1	\$ 144,000.00	\$ 100,800.00	\$ 43,200.00	\$ 39,753.38
2	\$ 165,600.00	\$ 115,920.00	\$ 49,680.00	\$ 42,069.01
3	\$ 190,440.00	\$ 133,308.00	\$ 57,132.00	\$ 44,519.52
4	\$ 219,006.00	\$ 153,304.20	\$ 65,701.80	\$ 47,112.77
5	\$ 251,856.90	\$ 176,299.83	\$ 75,557.07	\$ 49,857.07

**Table 7** Cash flows

Source: Own elaboration, 2022

We will substitute the values, taking first an IRR value, we will take the cash flows obtained in table 1.- Year 1: \$43,200.00; Year 2: \$49,680.00 and for Year 3: \$57,132.00 respectively.

$$VAN = -157,500 + \frac{43,200}{(1 + 8.67)^1} + \frac{49,680}{(1 + 8.67)^2} + \frac{57,132}{(1 + 8.67)^3}$$

$$VAN = -157,500.00 + 39,753.38 + 42,069.01 + 44,519.52 = \$ 31,158.09$$

Now, we will use an IRR of 14% to observe the results obtained:

$$0 = -115,272 + \frac{43200}{(1 + .14)} + \frac{49680}{(1 + .14)^2} + \frac{57132}{(1 + .14)^3}$$

$$0 = -157,500 + 37,894.73 + 43,578.94 + 50,115.78 = -25910.55$$

### Results

The Business Plan for the creation of a multiplatform for laundries, aimed at the public of the city of Villahermosa Tabasco, "Laundry App", 2022, is viable according to the financial and economic projections made; obtaining an internal rate of return (IRR) even generating value for the company, by obtaining a net present value greater than zero.

Having precisely defined and segmented the market, it was finally possible to find potential customers. Laundry App is aware that the customer will coexist with other alternatives, the market is alive and there is a shortage of competitors. The projections reflect positive results and financial viability which will lead to success in the Tabasco market. It is an innovative company that, with quality and speed, as well as being the most economical option, will be a leader in the market.

### Conclusions

According to the study carried out in this research work, we can affirm that the laundry services sector is in constant growth. This can be seen in the rise of medium-sized companies and new ventures focused on laundry, car and home washing services, including the use of mobile applications under the franchise format.

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**Intellectual property in business units****Propiedad intelectual en unidades de negocios**

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**Abstract**

A brand is not just a simple name, it represents an entire identity for the company, business or product. Considering all the legal aspects that allow its protection is a vitally important step for new business units or entrepreneurs. This article focuses on the management of legal procedures for the trademark registration of a new product, a mixed methodology is used. For the recovery of information in the management of the trademark process, a simulation was carried out on the Mexican Institute of Industrial Property's platform. The main results obtained were the capture of the application for trademark registration on the IMPI's platform, obtaining as evidence an electronic document that supports the procedure, from this simulation the proposal of the process to be carried out is made starting from the information obtained. The survey confirms and supports the main objective of this work, highlighting the importance of trademark registration since the preference for products with trademark and patent registration was detected by the respondents, which concludes in the value generated by this procedure. for new business units.

**Brand, Patent, Industrial property registration, Legal procedures, Business Unit****Resumen**

Una marca no solo es un simple nombre, representa toda una identidad para la empresa, negocio o producto, considerar todos los aspectos legales que permitan la protección de la misma es un paso de vital importancia para las nuevas unidades de negocio o emprendedores. El presente artículo se centra en la gestión de los trámites legales para el registro de marca de un nuevo producto, se utiliza una metodología mixta. Para la recuperación de información en la gestión del trámite de marca se realizó una simulación en la plataforma del Instituto Mexicano de la Propiedad Industrial (IMPI). Los principales resultados que se obtuvieron fueron la captura de la solicitud del registro de marca en la plataforma del IMPI obteniendo como evidencia un documento electrónico que avala el trámite, a partir de esta simulación se hace la propuesta del proceso a realizar partiendo de la información obtenida. La encuesta confirma y sustenta el objetivo principal de este trabajo, resaltar la importancia del registro de marca ya que se detectó la preferencia por los productos con registro de marca y patente por parte de los encuestados, lo que concluye en el valor que genera este trámite para las nuevas unidades de negocio.

**Marca, Patente, Registro de la propiedad industrial, Trámites legales, Unidad de negocio****Citation:** ANTONIO-VIDAÑA Paula Rosalinda & RUIZ-LÓPEZ, Carlos Alberto. Intellectual property in business units. *Journal of Business Development Strategies*. 2022. 8-21:20-32.

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## Introduction

González (2018) points out that, in times of so much piracy of brands and logos, the registration of intellectual property represents an asset of greater importance for companies, "We live in a society where brands mean everything to businesses, they give certainty to the consumer, they mean quality and trust".

Trademark registration in Mexico can be applied for at the Mexican Institute of Industrial Property (IMPI) and provides protection throughout the country for 10 years; after this period, renewal is required. This organism warns that, before starting the procedure, it is necessary to make sure that the trademark to be registered is totally unique. To support these actions, the Federal Law for the Protection of Industrial Property establishes that trademarks similar or equal to those that have been previously applied for or registered may not be registered. To do this, it is necessary to consult the Marcanet database and review the list of applications for registration of non-traditional trademarks and the registrations granted (Mexican Institute of Industrial Property, 2019).

The problem lies in the absence of intellectual property registration in its different meanings in the education sector, such as patent, trademark, utility model, utility design, franchises, among other services granted by the IMPI in order to protect intellectual property, because although the academy is one of the fundamental pillars for the generation of knowledge and the link with the productive sector, It allows students to participate in strengthening the organisation's management, one of them being the protection of their ideas or products, but also as part of the implementation of student projects, which are followed up at this stage when they are not registered.

According to statistics published in the newspaper *El Financiero* by Sánchez (2018) show that Mexico closed 2017 with one million 91 thousand 549 registered and valid trademarks, which reflects an increase of 13 percent over what was reported in 2016, with which the country is placed as the fifth nation with the most registrations worldwide, and in the case of patents, the country had a registration in 2017 of 11 thousand 711 formulas or ideas, 2.6 percent higher than what was reported a year earlier, data published by the Mexican Institute for Industrial Property (IMPI). "By historical results, in Mexico the sector that registers the most patents is education, which among universities and research centres are the ones that dispute the first place" (Mi Patente, 2019).

The importance of trademark registration lies in the fact that, from the moment the procedure is completed, it will be protected through civil and criminal actions to prevent third parties from infringing on its use, according to the IMPI. This is why the article aims to describe the process for registering a trademark for a new business unit, based on research carried out in the generation of a new product, which serves as a basis for the reader who wishes to know what steps are necessary to carry out this whole process, The main objective of this paper is to assess the importance of the registration process for business units in the generation of new products and its impact on consumers. To this end, the article is organised starting with a review of the literature that will serve as a theoretical contribution, followed by the presentation of the methods and materials that were used; the third part contains the results obtained, followed by the discussion and, finally, the main conclusions.

## Literature review

A study by Sánchez, Valdés, & Carlos (2011) points out that a trademark is a sign belonging to a natural or legal person that distinguishes goods or services from another person and that the registration of a trademark reflects the intellectual creativity of a person. In this study, research was carried out on the laws that regulate national and international trademark procedures and the positive aspects that arise from the creation of a trademark registration.

ANTONIO-VIDAÑA Paula Rosalinda & RUIZ-LÓPEZ, Carlos Alberto. Intellectual property in business units. *Journal of Business Development Strategies*. 2022

The authors highlight the importance of this issue by mentioning that traders with a registered trademark are more likely to sell their goods or services because their products are recognised by their customers due to the identification of the goods or services offered.

On the other hand, the author Schmitz (2012) mentions that a trademark possesses distinctive capacity, since it is this that allows the consumer to identify the business origin of the product or service. In his research he shows how the use of the trademark, its distinctiveness and trademark registration are linked, referring to the fact that a key legal element of trademarks is distinctiveness, to such an extent that it is a characteristic, function and requirement for trademark registration.

One way to measure the innovation of a region or company is through the registration of trademarks and patents, as Perea (2009) points out, most of the organisations that register patents and trademarks have an innovative character, as these two elements are so important for a company, it is understood that they seek the protection of these, for which the intellectual property system plays a significant role in helping companies to obtain and preserve an advantage based on their innovations. This highlights the importance of patents in the field of innovation.

In a research conducted by Orozco (2017) compiles information about Mexico's position in relation to industrial property, he argues that consideration should be given to fostering an environment in which piracy is not one of the most common commercial activities carried out in the country, as most people see this action as commonplace; However, Orozco (2017) proposes as a measure to inform society about this practice, highlighting that it is a serious crime and the implications it can have, and also points out that another alternative is to "simplify the processes of industrial property registrations, so that people will also gain more confidence in carrying out their procedures" (Orozco, 2017).

The Mexican Institute of Industrial Property is the decentralised public body, with legal personality and its own assets, and the administrative authority in matters of industrial property; the main function of this body is to grant protection by means of trademarks, patents, trade names, utility models, commercial notices, industrial designs, designations of origin and industrial secrets.

The Institute was created by decree published in the Official Journal of the Federation on 10 December 1993, in response to the need to adapt and strengthen the technological information collections and the function of high quality assistance and consultancy of public institutions, according to Narváez (2007).

On the other hand, in order to expose the relationship between industrial property and the creation of a new company, in this case an SME, Marín-Flaquina (2014) in his publication, points out that when innovating with a new business, but not protecting it with the registration of its trademark or a patent, the talent, the competitive advantage and the benefits that this procedure brings to the new company are discarded.

This project was carried out in response to the need to register and protect the idea of a research project by the academic body, which is why the first phase involved the collection of information from the research carried out on the plant; after this, a survey was carried out to detect the need and possibility of consuming it according to its attributes and demand, as well as the consumer's preference for branded or unbranded products. Once the results were obtained, the strategy was designed in such a way as to provide an overview of the registration and the procedures involved in obtaining the document, with the simulator being of great use in establishing and defining not only the procedures but also the context of the preliminaries.

## Methods and materials

The methodology used for this research is mixed, as the qualitative part allows the necessary knowledge to be acquired through the analysis of texts previously implemented on the subject, and the quantitative part allowed the variables proposed to be analysed through numerical data.

### Research techniques and methods:

The techniques used to carry out the research were, as a primary source, observation, and as secondary sources, qualitative documentation and that of digital materials, as well as audiovisual materials from the IMPI platform since, due to the purpose of the research, these techniques and methods will allow us to know the work already carried out and the relevant information already published, for its implementation in the study.

For the quantitative part, a survey was used as a technique with the aim of collecting the necessary data to verify the acceptance of the project and thus be able to sustain its objective.

### Instruments to be used:

For the observation technique a checklist was used as an instrument where all the requirements that are necessary for the trademark registration process were captured, this document served to check that each step is carried out efficiently. In the case of the documentation method, the scientific and bibliographic dissemination platforms were used to consult previously completed works or guides that can help to capture the process to be carried out, as well as the laws on the subject (Federal Law for the Protection of Mexican Industrial Property) were also of great help, for the method of digital and audiovisual materials the use of official dissemination platforms on the subject, these are, for example, the official IMPI website, Mexican government websites and forums where the subject of trademark registration is discussed.

The instrument used for the collection of information through the survey was a questionnaire in which a key question was added to obtain the necessary data, which was also disseminated through an online platform.

## Development

Before registering a trademark, the first step to be taken is to identify the type of trademark to be registered. This is so that any entrepreneur or person wishing to register their trademark must consider it, deciding whether it will be nominative, unnamed, three-dimensional or mixed according to the nature of the product and business line of the company.

As with any proposal, the use of design will be necessary. Strategically, market research is carried out for the launch of a new product and this may include proposals for the presentation of the product for consumer acceptance.

Once the proposal is ready, the process begins with the IMPI (Mexican Institute of Industrial Property), which is the public body in charge of the process.

There are several ways to carry out the process, either online or in person, as well as through a mailbox provided by the Institute and can also be requested by mail or courier.

Online process: Obtain FIEL as an individual, register to obtain a username and password, fill in the application, attach the corresponding annexes in PDF format, make the payment at the bank window or by electronic transfer, sign with the FIEL, download the electronic acknowledgement, periodically consult MARCANET to know the status of the file, wait for the response from the Institute as you can be notified through the Electronic Board in Marca en Línea.

**In-person process:** Fill in the application, attach the corresponding annexes, make the payment at the bank window or by electronic transfer, go to the offices authorised to receive applications and promotions, submit the application and its annexes, save your acknowledgement of receipt, periodically consult MARCANET to know the status of your file, wait for the response from the Institute as you can be notified at the address you indicate to hear and receive notifications or through the Industrial Property Gazette if so indicated in the application.

**Process through the online mailbox:** Go to <https://buzonenlinea.impi.gob.mx/>, send the application in PDF format, send the necessary attachments in PDF format, make the payment at the bank window or by electronic transfer and attach proof of payment in PDF format, send it through the online mailbox, go to the offices authorised to receive applications and promotions the next working day after sending it, present the application, its attachments and the acknowledgement of receipt from the online mailbox, save the acknowledgement of receipt, wait for the response from the Institute.

**Mail or courier:** Fill in the application, attach the necessary annexes, make the payment at the bank window or by electronic transfer, go to the post office or specialised parcel service closest to your address, send the application and its annexes, save the receipt, periodically consult MARCANET to know the status of the file, wait for the response from the Institute since you can be notified at the address indicated to hear and receive notifications or through the Industrial Property Gazette if so indicated in the application.

**Costs:** The costs involved in obtaining registration are approximately \$2,457.79 mxn excluding VAT, they may vary depending on whether corrections are needed.

**Documents required:** The documents that are required to initiate the procedure at the window, mailbox or post office are as follows: Application for the Protection of Distinctive Signs A (Trademarks, Collective Marks, Certification Marks, Commercial Notice or Trade Name) or Application for the Protection of Distinctive Signs B (Holographic Mark, Sound Mark, Olfactory Mark, Commercial Image or the combination of the above) (In duplicate) Original -see Annex 1. Additional sheet complementary to the item "General details of the person(s) Original - see Annex 1, Proof of payment Original and Copy, Document accrediting the representative's personality (this document may be submitted in certified copy and its submission is optional) Original, Proof of registration in the General Register of Powers of Attorney of IMPI (optional) Original and Copy, Rules of use, only if the distinctive sign is filed by more than one applicant (co-ownership) Original, Additional sheet complementing the item "Goods or services in case of Trademark or Commercial Notice/Predominant line of business \*\*\* Original, Additional sheet complementing the item "Non-reservable legends or figures \*\*\* Original, Translation of the documents filed in a language other than Spanish, if applicable Original, Legalization or apostille of the attached documents coming from abroad, if applicable Original, others, e.g. letter of consent or documents proving the acquisition of a distinctive character derived from the use in commerce. Original or certified copy Original. \* This document is to be submitted only in case of 2 or more applicants. \*\* This document is submitted in case there is insufficient space in the corresponding section (IMPI, 2020).

Trademark registration process for a new trademark.

In order to adequately protect the idea of a new product, which in the case of the project was considered for the registration of a product called Glucocharantia, the registration of the trademark and its logo was carried out through the following process.

1. The first step was to have a well-defined product idea, brand name and logo.



2. Search for name and logo: The name chosen for the product is "Glucoscharantia", in order to verify that it is unique and has not been registered before, a search was carried out on the IMPI platform, accessing the PASE account (Portal of Access to Electronic Services) where various activities related to the protection of the intellectual and industrial property of a product can be carried out, as well as making available to users and the public certain tools that facilitate the consultation of trademark registration files, general information and tutorials for learning the most required processes.

There is also an advanced search option where you can add more criteria for a higher level of matching results.



Figure 3 Name search  
Source: IMPI, (2019)

As can be seen in Figure 3, there is no result equal to the name of the product to be registered (Glucoscharantia), which is favourable for continuing with the process.

By using only the word "Charantia" the result showed that there is already a registration of a product based on the same plant, but under the name "Bio Charantia", as shown in the following illustration, the product was registered by "Alberto Mares Soto", this information was taken into account to avoid the use of the same name or commercial notice.

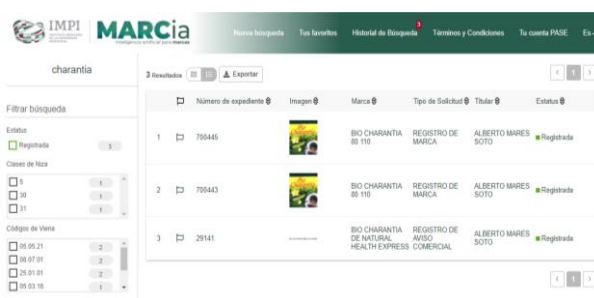


Figure 4 Trademark registration  
Source: IMPI, (2019)

However, in order to test the exclusivity, another search for the logo was carried out to ensure its originality, as shown in Figure 4 below, the isologo that will be used for the new product.



Figure 5 Product isologue

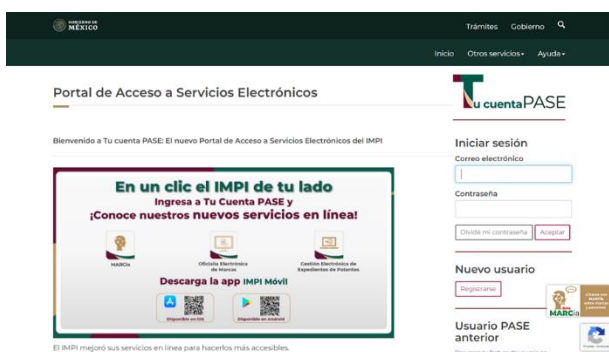


Figure 1 PASE IMPI account  
Source: IMPI Services, (2019)

To access the account, it is necessary to register, only an email address and the CURP of the person who will carry out the procedure are required, as shown in Figure 1.



Figure 2 Search tool Marcia  
Source: IMPI, (2019)

This process can also be carried out on the Marcanet website, however, it was necessary to have total certainty of the originality of the logo and for this it was necessary to use the "Marcia" section, a tool that uses artificial intelligence to search for brand names and logos that have already been registered or are in the process of being registered and could be the same or similar to the one to be registered, as shown in Figure 2.

Figure 5 below shows the results of the search carried out with artificial intelligence on the IMPI platform, where it can be seen that there is no registration that is exactly the same, but there are some that could be similar due to the purpose of the product and its characteristics in terms of its origin (natural) and the slogan that is intended to be implemented.

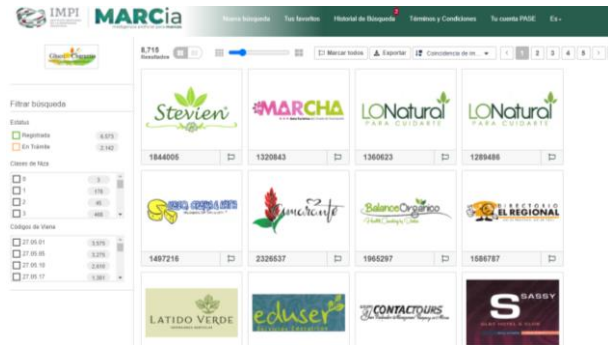


Figure 6 Search for a logo  
Source: IMPI, (2019)

Selection of the NICE registration class: The Nice classification, named after the Nice Agreement in 1957, is the international classification of goods and services used in the registration of trademarks. The importance of this step lies in the fact that the class in which the trademark is registered will be how clients and consumers will differentiate it from the competition, and that if a class is chosen that is not suitable for the product, it could be registered but would not have legal protection and would generate problems for the trademark. Since the product will be a tea, the ClasNiza tool provided by IMPI was used to consult the correct class in which the new trademark will be registered.

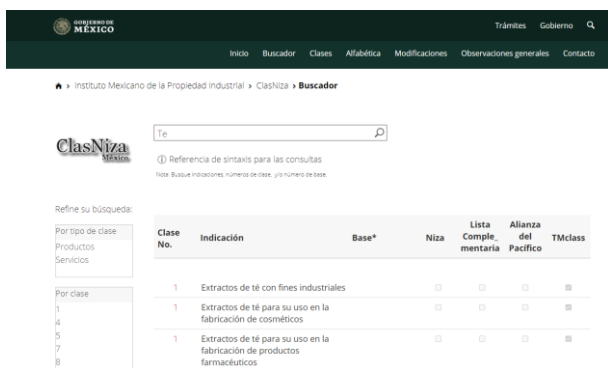


Figure 7 ClasNiza search tool  
Source: IMPI (2019)

The results showed that the product could belong to several classes, but the descriptions were carefully analysed to find the correct one that really adapted to the characteristics of the new product.



Figure 8 Nice Class 30  
Source: IMPI, (2019)

As can be seen in Illustration 8, the chosen class is number 30, which refers to non-medicinal tea-based beverages.

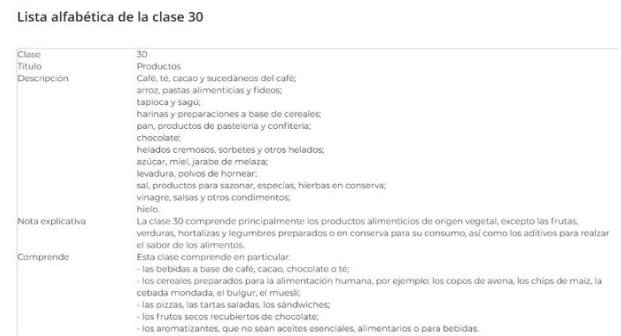


Figure 9 Description of Nice Class 30  
Source: IMPI, (2019)

Figure 9 shows the class description, where it specifies which goods are allowed under this heading, and according to this, it is justified that the new trademark can be registered under this classification, as it includes non-medicinal teas.

Capture of application.

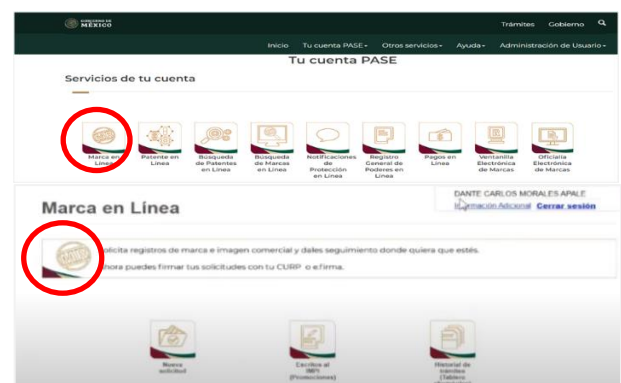


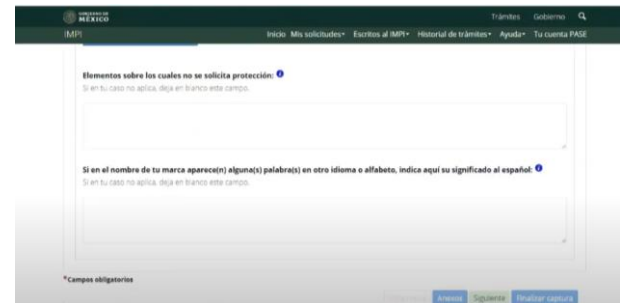
Figure 10 Trademark online service  
Source: IMPI, (2019)

Once the previous steps have been taken to ensure the correct protection of the new trademark, the next step is to fill in the application, in this case we chose to do it online, due to the ease of the process and the versatility that the IMPI website provides to the user. To do so, access the "online trademark" section within the IMPI Pass account, then select "new application", as shown in Figure 10.



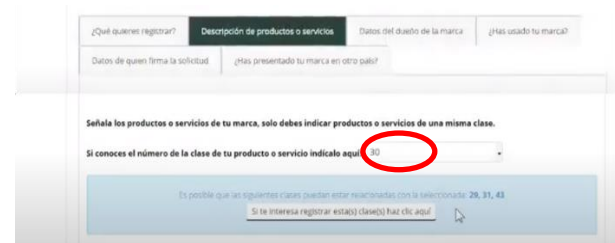
**Figure 11** Application for new trademark registration  
Source: IMPI, (2019)

The filling of the application is divided into three steps as shown in Figure 11, number 1, all the data of the trademark is entered, the first requirement is to identify what you want to register, it can be the trademark, commercial notice or other options, in this case only the registration of "Trademark" will be done, so this option was selected, In automatic other sections are displayed where you are asked to specify how the trademark is formed and the name of the same, as shown in illustration 10, the mark is formed by "words with design" so that option was chosen, then the name and logo or design by which the mark is formed is requested. By clicking on the blue button, the design file can be uploaded, for this it is necessary that it is in Gif format, the maximum weight is 1 MB and that the name only contains alphanumeric characters, dots and underscores, as this is required by the platform.



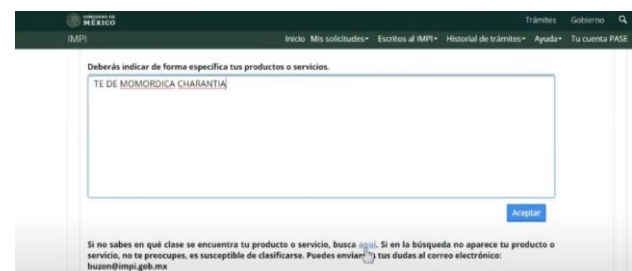
**Figure 12** Additional application fields  
Source: IMPI, (2021)

According to Figure 12, it is necessary to fill in the elements that are not required to protect the added image, in this case no element was indicated, because the image of the brand is an isologue and all its elements that make it up work together and cannot be separated, it is also indicated to add the meaning in Spanish of the words in another language or alphabet that the brand may contain.



**Figure 13** Product description  
Source: IMPI (2019)

In the tab description of products or services it is required to specify the class to which the product belongs and other characteristics, in this case the class number to which the new trademark will be registered was already obtained in the first steps of the process and as shown in the following image class 30 is the appropriate one, however the system automatically associates it to other classes to which it could also belong, but as it is not desired to be registered in any other class it is only omitted, according to Figure 13.



**Figure 14** Product specification  
Source: IMPI, (2019)



As shown in Figure 14, a description of the product is then requested, in this section a broad definition is not necessary, it should only be clear and very specific, it should be emphasised that it does not refer to the activities that the company will carry out, it only refers to the product. As can be seen in the following illustration, the product has been described as "Momordica Charantia tea", which clearly identifies that it is a tea from this plant in question.

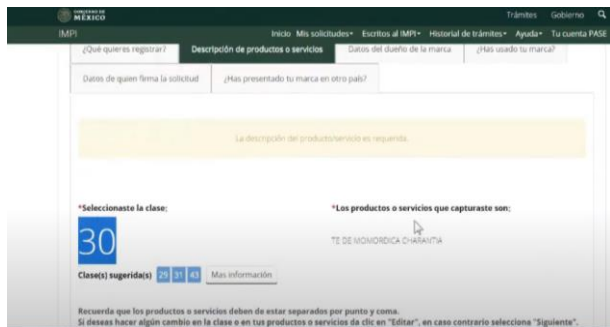


Figure 15 Summary of product characteristics.  
Source: IMPI, (2019)

According to Figure 15, once the fields have been filled in, the platform makes a summary of the data that has just been entered in order to verify that the information is correct.



Figure 16 Brand owner  
Source: IMPI, (2019)

The third section corresponds to the brand owner data, here you can enter the information of a natural person or a company, in this case, "company" was chosen and the data of the Universidad Tecnológica del Centro de Veracruz was used. When selecting that the owner of the company will be a company, the RFC, name, nationality, telephone, a contact email and when entering the information, the platform automatically displays a summary of the information entered.

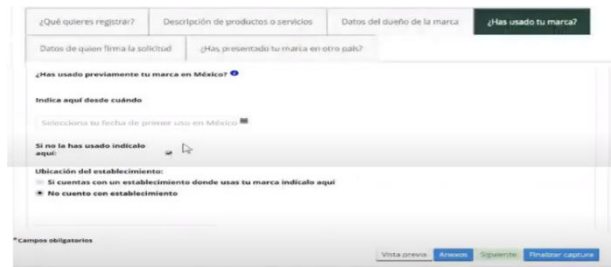


Figure 17 Background of use  
Source: IMPI, (2019)

According to Figure 17, in the section Have you used the trademark? requests that you indicate since when the trademark has been used within the Mexican Republic, and that you add a document proving that date, or if you have not yet made use of it, it is sufficient to indicate in the option, likewise it is requested whether you have an establishment or not. For the registration of the Glucocharantia trademark, it has not been used and it does not yet have an establishment.



Figure 18 Details of the person carrying out the procedure  
Source: IMPI, (2019)

The next tab shows the data of the person who is carrying out the registration procedure, which must match the data of the payment portal provided to the IMPI pass account, as shown in Figure 18, which shows the information of the person who carried out the procedure for the Glucocharantia trademark.

The last tab asks you to indicate whether the trademark has been applied for registration in any other country, in order to establish the right of priority, which refers to the preference given to the first application filed, in this case there is no other registration.

Once all the application data has been completed, click on the "finalise capture" button, which will automatically lead to the next step of the process, which is the payment.

N°	Concepto	Artículo	Tarifa (pesos sin IVA)	Cantidad	Descuento	Importe
1	Por el estudio de una solicitud nacional para el registro de una marca, aviso comercial o nombre comercial hasta la conclusión del trámite o, en su caso, la expedición del título	14a	\$2,425.66	1	\$269.52	\$2,156.14

Resumen de tarifa	
Total tarifa	\$2,425.66
IVA	\$388.11
Subtotal	\$2,813.77
Recargos	\$0.00
Actualización	\$0.00
Descuento	\$269.52
<b>Total a pagar</b>	<b>\$2,544.25</b>

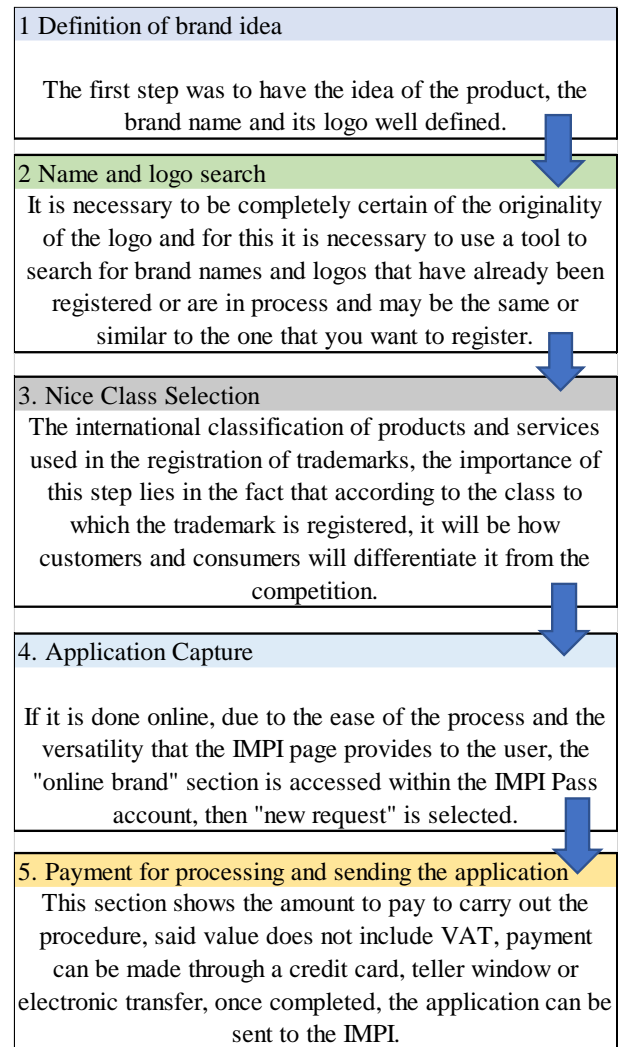
**Figure 19** Payment description  
Source: IMPI, (2019)

**Payment of the application:** in this section appears the amount to be paid to carry out the procedure, next, the image shows the description of the concepts, the total to be paid for the procedure normally is \$2,695.18 without VAT, for having carried out the process online the system grants a discount of 10%, leaving the amount of \$2,425.66, in the last table the final amount to be paid with VAT included is \$2,813.77. Subsequently, a window appears to confirm the payment and invoicing details if required, in this case it was necessary as it was requested in the name of the university. To make the payment there are three options, by credit card which is reflected in maximum one hour as well as electronic payment and there is also the option to generate a line of capture to pay at the window.

**Send application:** as the last step of the process, after payment has been made and validated, the application can be sent so that it can be dealt with by the IMPI. It should be noted that to carry out this action, the application must be signed beforehand, either by the CURP or the electronic signature of the person who carried out the procedure.

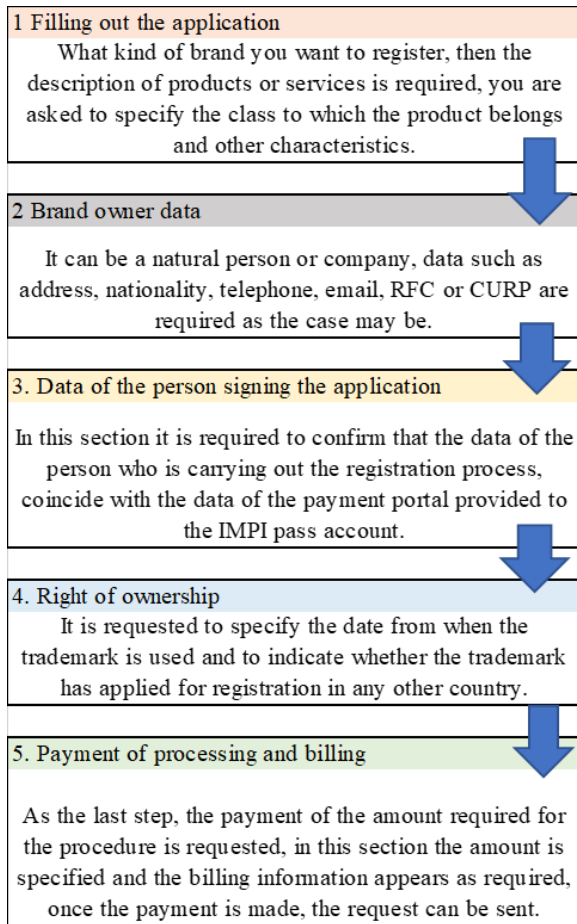
**Results**

The main result is the following diagram containing the process followed to obtain the trademark registration application for a new product, the main purpose of which is to provide the necessary protection to the new trademark in question.



**Figure 20** Process for trademark registration  
Source: Own elaboration based on the IMPI platform

Figure 20 shows an image of the process carried out on the IMPI platform to simulate the registration of the application. This was possible once the step-by-step information on each of the requirements requested for registration had been compiled.



**Figure 21** Trademark registration simulation process  
Source: Own elaboration based on the IMPI platform

As evidence of the simulation, a screen print of the document that proves the capture of the application is shown below.

gob mx  
Instituto Mexicano de la Propiedad Industrial

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Fecha de solicitud del trámite:  
19 / 09 / 2021  
DD MM AAAA

Datos generales del o de los solicitante(s)

Personas físicas		Personas morales	
CURP (obligatorio)		RFC (obligatorio) UTL041109704	
Nombres		Denominación o razón social	
Primer apellido		UNIVERSIDAD TECNOLÓGICA DEL CENTRO DE VERACRUZ	
Segundo apellido			
Nacionalidad		Nacionalidad MEXICO	
Teléfono (calle, número, extensión)		Teléfono (calle, número, extensión) 2777322050	
Correo electrónico		Correo electrónico INCLUBADO@UTCV.EDU.MX	

Domicilio del solicitante

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Número interior

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**Figure 22** Simulator in the generation of the trademark application form  
Source: IMPI (2019)



**Figure 23** Survey results

In order to confirm the viability and importance of this trademark registration procedure for companies and consumers, a key question was asked, which was included in a survey of 423 people, This refers to the value that this procedure represents for consumers and in turn the influence it has on companies, as it can be confirmed that it is one of the 6 most important factors in achieving a better positioning in the market and that it has a significant influence on consumer choice. The graph below shows the data from the responses obtained.

In the results obtained as part of the application of the quantitative research, 44.7% of those surveyed prefer a product to have a patent and trademark registration because it provides them with greater security for its acquisition, which rectifies what was mentioned above in terms of the importance that these procedures should have for companies and the generation of new business units, as can be seen in Figure 23.

**Discussion**

By carrying out the protection process for this business unit, the possibilities of increasing its potential value will increase, given that a registered trademark is more attractive and obtains greater commercial value, and if the product is protected, it will contribute to obtaining greater economic retribution and ensure the correct investment in the business idea. As mentioned by the authors Sánchez, Valdés, & Carlos (2011) "a business can grow with the protection of a trademark because its customers will recognise its products or services due to a name, drawing or the combination of both, which form a trademark" and it will also lead to better promotion, and by carrying out the corresponding procedures in this phase of the management of the business unit, small details that may arise during the process can be fine-tuned.

Due to the lack of information on these intellectual and industrial property issues in Mexico, these requirements are ignored or postponed by the owners and cause inconveniences to arise, one of the most common is that the brand names are already registered by someone else, so it is vital to check if the name that is intended for the business is already registered and avoid such mistakes that could end up in lawsuits for trademark plagiarism. Unfortunately, if someone else registers the trademark or obtains the patent before; it will not matter if the original idea does not belong to that person, as he/she will have the legal registration of it and will be able to use it for any purpose, as it will legally belong to him/her.

Another of the most recurrent problems among entrepreneurs is that they proceed to register their trademark months after starting their business, which endangers their company and the product they intend to market because they will not have the legal backing of their brand name. In the same way, it is necessary that this process is carried out correctly and properly, as many entrepreneurs, being unaware of this procedure, make mistakes that endanger the most important asset of their company and the brand name, although it is not a very complex procedure, the lack of information regarding its generation causes problems that delay the registration.

Finally, in order to provide a solution to the problem described above, this research is proposed as a response that aims to help guide future entrepreneurs or people who are interested in carrying out this process, as it can provide extensive benefits and contribute to the growth of the business and the brand.

The scope of the presentation of the results is to enable entrepreneurs to protect their projects, and to be prepared with the information that must be considered for compliance, the relevance of the design and consumer acceptance of the logo, design and presentation of the product to start the registration process.

## **Conclusion**

The main procedure that must be carried out, and which is of great importance, is the registration of the trademark, as this process provides protection to the business units and legally ensures its creation. In order to achieve the objective, a simulation of the process was carried out on the IMPI platform, and thus the correct way of carrying out the process and filling out the forms was verified. Another of the conclusions reached was that, although in theory any person can carry out this process, it is recommended that a professional in the field be consulted, in order to correctly respond to the request, as each one of them has a cost and to be able to respond, formal language must be used that is in accordance with the subject matter.

Finally, after having carried out this research, it can be concluded that the relevance of trademark registration for business units is highly significant, since it forms part of one of the requirements that are currently necessary for a better functioning of the business, this procedure allows companies to protect their business ideas and products, as well as generating a more harmonious relationship with consumers, since for them the fact that a trademark is registered or patented gives them greater security to be able to purchase the product in question, as could be seen from the survey carried out, most people prefer this type of recognition.

## **Acknowledgement**

Nimsi Pimentel Meneses for her dedication and dedication to the realization of the proposal as part of the stay carried out and linked to research, as well as the information and unconditional support of Daniel Cruz Lagunes, who collaborated in the department of Business Incubator of the Technological University of Central Veracruz, for the realization of the simulator of the registration of the mark allowing to establish the diagram in the registration process, and finally our thanks to the UTCV for their institutional support.

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*Institutional Affiliation of Author including Dependency (No.10 Times New Roman and Italic)*

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Objectives  
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Clearly focus each of its features

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Explanation of sections Article.

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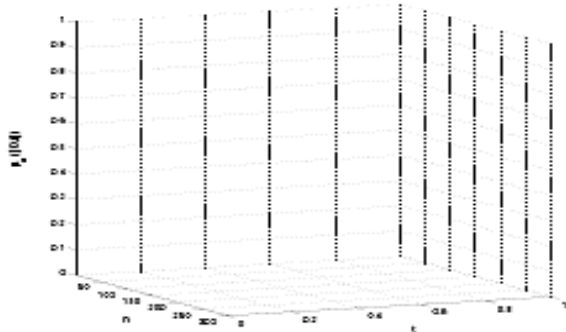
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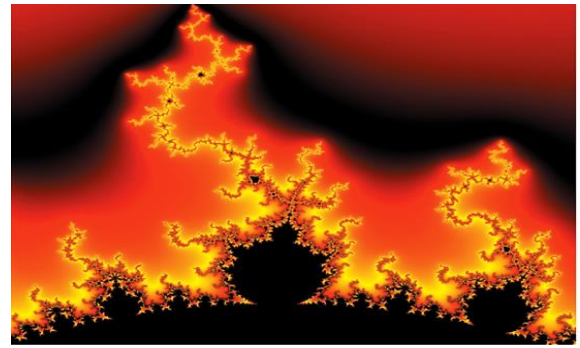
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$$Y_{ij} = \alpha + \sum_{h=1}^r \beta_h X_{hij} + u_j + e_{ij} \quad (1)$$

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

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