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In this Number is presented an article *Feasibility study of the opening of an integral attention center for "Conquering Smiles A.C."* by MARTÍNEZ-ARANDA, María Rebeca, ANCHONDO-CHAVARRÍA, Guadalupe and VILLALOBOS-PIÑÓN, Lidsay with adscription in the Universidad Tecnológica de Chihuahua, in the next section an article *Generation of strategies for the competitive business positioning* by PÉREZ-MEJIA, Salvador, HERNÁNDEZ-HERNÁNDEZ, María Elena y AGUILAR-PÉREZ, Esmeralda with adscription in the Instituto Tecnológico Superior de San Martín in the next article *Process Automation of PEMEX LOGISTICS in Laboratory based on ISO / IEC 17025: 2005 / NMX-EC-17025-IMNC-2006* by CURIOCA-VARELA, Yedid, GARCÍA-PÉREZ, Eleazar, GALICIA-GARCÍA, Christian and SÁNCHEZ-DELGADO, Octavio with adscription in the Universidad Tecnológica de Tehuacán in the next section an article *Risk and entrepreneurship: the case of MSMES* by MARTÍNEZ-HERNÁNDEZ, Rosalba & PASTOR-PÉREZ, María del Pilar

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## **Feasibility study of the opening of an integral attention center for "Conquering Smiles A.C."**

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### **Abstract**

Every day millions of people with cancer are diagnosed of which 3% are children. In Mexico, a total of 3,800 new cases of childhood cancer are registered each year and it is the second cause of death, due to the fact that 70% of cases are detected when the disease is very advanced, and cancer causes disability. That is why a feasibility study was carried out for the creation of a comprehensive center to help children with cancer that allows collaborating with public institutions in the fight against this disease. 88 surveys were applied to parents of children with cancer, which showed that 47% of the patients come from rural areas and need a comprehensive care center that provides psychological support, hospitality, medicines, leisure activities and human development. that the child forgets a moment of his illness and contribute to improving the quality of life of the patient and of the families. In addition children recovering from the disease need support to reintegrate socially without discrimination and families need support to resume their lives.

### **Children with cancer, benefits, quality of life, psychosocial supports**

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## Introduction

Conquistando Sonrisas is a Civil Association responsible for supporting families of children with cancer, which performs the following actions: recreation activities for children, collection of food, visits to hospitals, sponsorship, blood donation, support with medicines, among others

The Association has observed that there are a large number of foreign families who, in the course of the long fight against cancer of their children, face several obstacles, for example: long and expensive treatments, lack of transportation for the transfer of their child to the hospital, do not have adequate guidance, but one of the relevant points is that most families do not have a place to stay and many times in the absence of economic resources these families are left waiting for the end of treatment of their children outside the hospitals. That is why we plan the construction of a Comprehensive Care Center that provides various services such as: lodging, food, transportation to different hospitals, talks and psychosocial supports with the aim of making the treatment with dignity and quality of life. , favoring the recovery process of children and the well-being of their whole family, in a safe and healthy living space.

## Methodology

The feasibility study for the opening of a Comprehensive Care Center was carried out under a cross-sectional descriptive and interpretative design through quantitative and qualitative approaches that allow to provide strong foundations to the project. The technique used to collect the information was a questionnaire structured under the Likert scale applied to parents of children hospitalized during the months of September and December in the following hospitals: Children's Hospital, Hospital Morelos and General Hospital in the City of Chihuahua.

As well as telephone surveys to the total of registered parents in the archives of the Association.

## Review of literature

Currently cancer is one of the diseases that has developed the most and is associated with death, pain and disability is a condition of high incidence in our country and is ranked as the third cause of death, only after diabetes and of hypertensive diseases and during the last two decades mortality has increased in people under 18 so the government in 2005 creates the National Council for the Prevention and Treatment of Cancer in Children and Adolescents that includes prevention , timely detection and control of cancer.

It is important to say that cancer is mostly associated with lifestyles, but also with conditions of poverty, marginalization and deficient equipment of medical units, as well as the insufficiency of trained personnel for the adequate interpretation of results, or to generate timely diagnoses and treatments. Escamilla-Santiago, Narro-Robles (2009) in his study of Cancer mortality trends in children mention that underdeveloped countries have higher mortality from childhood cancer than developed ones and this is due to the lack of access to public services, poor technology that counts and that there are no institutions to care for and support groups of children with cancer. On the other hand they mention that in developed countries like the United States there has been a decrease in mortality due to this disease.

The socio-economic backwardness is a factor so that children do not have an opportune diagnosis that allows them to have an adequate treatment and save their lives. Rivera-Luna (2015) point out that the mortality rate in the population between 15 and 18 years old has increased at that age.

It is observed that at a national level, 4.7% of the patients have abandoned the treatment and they are not given adequate treatment since many are treated in oncological centers for adults.

Given the seriousness of the problem, joint action between the government and civil society is necessary to implement preventive actions and comprehensive care for children suffering from the disease in order to reduce the number of deaths due to this cause. A comprehensive care center is convenient as it would be supported under a psychology program and adequate accompaniment to adolescents and their parents.

According to the Registry of Cancer in Children and Adolescents in Mexico, cases of cancer in children under 20 years of age amount to 3569 patients in the period from 2005 to 2010, being higher in the male sex, with Chihuahua registering a total of 237 cases. In the results presented by Escamilla-Santiago, Narro-Robles (2009) we have that "Among male adolescents mortality increased in six states, so that Guerrero (5.7%), Chihuahua (3.2%) and Oaxaca (3.1%) are those that showed the greatest increase".

According to The Cancer Atlas (2014) p.42 "The proportion of childhood cancers in relation to all types of cancers is higher in countries with low Human Development Index (HDI) with young populations". In 2008, the coverage of the Catastrophic Expenses Protection Fund was added to all types of cancer in a population under 18 years old, so children have Popular Insurance coverage.

Cancer is curable if detected early, early diagnosis, access to adequate treatments, a balanced diet and socio-emotional support are key factors for the success of treatment, however the care centers for these patients is insufficient.

As a consequence, diagnosis and treatment in a timely manner are seriously affected.

## Results

A total of 88 questionnaires were applied to parents who have children with cancer and the results are the following:

Of the total number of cancer patients, the most affected are children with 65.9% and 34.1% are girls whose age ranges from 11 to 18 years.

In the research, the general data of the family was analyzed, which indicates the following: 40.9 of the families are composed of 4 members and 26% of 5 individuals. The academic degree of the parents is of 43% secondary level and only 18% has a university level. 54.5% have a stable job and their income level ranges between \$ 3000 and \$ 5000 pesos per month and 62.5% are married.

Regarding the place of residence, 47% are people who come from rural areas, mainly from Delicias and Cuauhtémoc, with a high percentage of peasants, most of whom travel by truck to the hospital, so that food, lodging and transportation are the most important. items where they spend the most.

The place where they spend the night while their son is in treatment is in the hospital in 48.9%, while 26.1% have their own home, it is worth mentioning that these are the ones who live in the city of Chihuahua.

Medical Service 42% has IMSS while 51% is affiliated with Seguro Popular, which is an indicator that they come from a low socioeconomic level.

60% of respondents had to sell some property or request a loan to pay for their child's treatment.

Families visit the hospital on average twice a month, staying 4 to 6 days for the treatment of their children.

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## Generation of strategies for the competitive business positioning

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### Abstract

The generation of strategies is one of the most important tools in any organization, often it is diverted attention to improve existing processes, however, it reaches the point where it is difficult to improve, and more for automated processes, it is here where The importance of making improvements in methodologies and / or planning, which may be long or short term, between authors vary methodologies for the selection of strategies, but most authors are rigid in their steps to follow, culture Latin America makes the need to think about new trends and / or methodologies, according to the way people work; The present work shows a proposal that has been adapted from several authors and applied to companies in the central region of the country obtaining good results to be discussed at the end of it. This methodology seeks to implement strategies at the corporate level seeking to generate competitive advantages, with the aim of better positioning, financial benefits, and welfare of the personnel involved, in an internal and external analysis considering 100% the factors involved in the operation Of an organization and with a correct synergy its global positioning.

### Strategy, competitiveness, methodology, planning

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**Introduction**

The selection of the ideal strategy in any organization provides security and reliability as long as all the factors involved are considered, the very culture of the people is a little explored factor and of great importance in our region, some companies choose to establish methodologies for the implementation of strategies, it is true that there is no standard methodology, but that they adapt to the needs of the organization, consequently with the actions taken, a competitive advantage is generated that undoubtedly must be reflected in the benefits of processes, economic, and social.

**Justification**

At present they do not consider work strategies in organizations, they are rather "put out fires", as soon as a problem arises, the solution is sought at all costs, often involving costs that could have been avoided, not to justify the business actions, but often the importance and methodology of establishing previous strategies is unknown, during and after the activities developed by an organization, even among expert authors vary the steps to follow, the truth is that each company has particular characteristics and is for that reason it is complicated to follow steps, nevertheless, some steps are proposed to consider most of the factors that intervene in the performance of the activities of an organization, putting in front the fact that it is not obligatory to cover all the steps, but rather it can be tropicalized depending on the company itself.

**Problem**

The main problem lies in the immediate adaptation to changes, globalization requires that the response time to the growing and changing requirements of the clients be as short as possible.

This immediate response provokes the problematic of losing Market in a gradual way, in more accelerated times than in others but in frank decrease as well, that is why thinking about positioning strategies in a constant way as a business habit encourages us to be thinking about changes of improvement, in customer analysis, in internal improvements and consequently in a global positioning.

**Objectives****General objective**

Establish a methodology for generating strategies that can be used continuously in organizations in order to establish a system of continuous improvement for the positioning and improvement of organizational productivity.

**Specific objectives**

Identify a positioning that is intended to reach an organization through the establishment of a strategic essence.

Establish a compendium with a proposed methodology based on several strategic management theories.

Develop the methodology based on the appreciative inquiry for the involvement of all the employees of an organization.

Establish productivity results when implemented in a small company.

**Research Methodology**

The study will be based on a mixture of methodologies since a field investigation will be used, to investigate through appreciative inquiry and then an exploration will be carried out - application of the proposed techniques to check if the productivity increases according to the generated strategies and selected.

## Contextual Framework

Today there are many terms that help the establishment of corporate strategies such as the "strategic essence" that is a statement that confirms the differentiation strategy of a company, such as the one used by Starbucks Coffee, which says: "We are the third place where you would most like to be, after the home and your office ", considering this essence the starting point, now should be given the task of establishing the way to achieve it through strategies, being empathetic with consumers and their habits, provide in their spaces comfort, pleasant environment, good music, good screens, attractive visual content, personalization of services, unlimited stay times, etc., the procedure is interesting and the results are the global competitive advantage that has positioned this franchise Worldwide.

## Referential Framework

For the application of this tool, where strategies for improvement and competitive positioning will be generated, 2 small companies located in the central region of Mexico will be selected, specifically, we will talk about the city of San Martín Texmelucan in the state of Puebla, a city that is strategically located located for the commercial sector between the states of Puebla, Tlaxcala and Estado de Mexico, where the predominant business turn is commercial, so it will seek to move forward in terms of productivity and position in the city the products and names of the selected organizations.

## Development

It is important to mention that for purposes of application in this case it will be sought that companies apply all the proposed sections for the generation of strategies, however, it is not necessary, we must not lose sight of the fact that the strategies arise from very different problems and both the solution is also variable, and sometimes it does not need as much procedure for its development and application.

The steps for the optimal development of a proposal are mentioned below:

### *Procedure for the formulation and implementation of strategies*

a) Establishment of Strategists, usually people at the strategic apex of the organization, are the people who know and dominate the processes, whether productive and / or administrative, with greater expertise, the leader of the strategic business process, are responsible for the design and the execution of the entire strategy generation process. (Torres 2014).

b) Establishment of Vision and mission, understanding by vision as the desired definition of its future, it is common to find it by asking the question: What do we want to become? implies a long approach based on a precise evaluation of the current and future situation of the organization, in terms of the characteristics of a vision is that it should be as simple, clear and understandable for all involved in its achievement, should be delimited in a time horizon for the changes to be reached and, of course, it must be known by all; On the other hand, the Mission is usually an impeller of the organization towards the desired future situation and answers the question: What is our business and to whom do we owe?

Some authors say that it is the catalyst that will allow us to achieve the trajectory of change for the organization and what should be done well to succeed, it is important that the mission generates credibility of the organization in all those who read it and know the product or service provided to customers (Robbins, 2005).

c) Establishment of values, understanding these as the principles that guide the generation and operational activity of the organization. They must be known, accepted and followed by all, they are nothing more than a moral judgment on certain issues, whether real or not. They will determine certain tendencies or inclinations of behavior.

d) Generation of a code of ethics, for many people nowadays ethics is considered a little considered factor since, being principles of good or bad moral conduct that guides the members of an organization, the concept turns into something subjective, however in this methodology is considered important and even an essential tool for the creation of a solid organizational culture, being an essential requirement for a successful strategic execution.

e) Knowledge of the Market, Torres (2014) defines it as the set of customers and / or consumers within a sector that must be served by the organization, even the market may have competitive characteristics, it is important to recognize the present and future characteristics of the market in which you intend to participate or you already participate as an organization, to consider them in the successful formulation of strategies.

f) Identification of Competitors, competitors are those organizations that dispute the markets in the same industry.

These are organizations that are currently competing with the same products, goods or services can be incoming organizations ie those with the intention of entering the same market and with the possibility of developing substitute products that serve the same need of consumers under a different scheme (Robbins, 2005).

g) Identification of Buyers and suppliers, the former constitute the consumer market when buying and / or using products, goods or services (customers and consumers may be synonymous, or in some cases the customer may only be the distribution channel); and the suppliers are the suppliers of inputs (direct and indirect) and these can even submit to competition in the industry. (González, 2005)

h) Very few strategists consider the analysis of complementers, that is, those organizations that produce goods or services that complement the products of our organization and make them more attractive for buyers. The complementers are always reciprocal.

i) Transformation of SWOT to SOAR. In the study of market or business development is known as an analysis of the environment, refers to the environment (near or far) that is out of control of the organization when talking about opportunities and threats and its influence can be given in the organization at global, regional, country or sector level; while when we speak of strengths and weaknesses, it refers to the internal environment, that is, to the aspects that can be controlled and that often serve as measures of organizational performance.

Adapting them from SWOT to SOAR is said to be the adaptation in which solutions are sought for problems, for this the weaknesses are modified and become aspirations and threats in results, generating a matrix is the starting point for the generation of strategies (Miranda, 2005).

j) Analysis of business interests, are those achievements that the organization aims to achieve guided by the established vision and the driving mission, and of course, must contrast with those of competitors; a clear example can be the same business objectives.

k) Generation of long-term objectives. These are the future results that the organization expects to achieve in order to achieve its vision, allowing to provide a direction for the organization towards the established vision, create synergies within the organization, reveal priorities in the allocation of resources, among others (Buckingham and Coffman 2000).

l) Generation of strategies, David (2003) says that strategies are the paths that lead the organization to the expected vision, are also defined as courses of action to turn the organization into what you want to be; that is, paths that allow you to achieve long-term objectives. They can be generic, alternative, or specific.

m) Establishment of short-term objectives, necessary to achieve long-term objectives and whose importance is explained because it constitutes the basis for the generation of resources and are established at corporate, division, function and / or process levels, these are expressed in terms of achievements to be achieved by general management and functional managers, it is important to mention that they require indicators to evaluate their compliance.

n) Organization and structure, considered a critical element to successfully implement the strategies, it is essential to develop an organizational structure that is relevant to the achievement of the selected strategies. The organization favors the change and the management of the strategies, and finally, ensures the viability of the same

o) Selection of resources, Miranda (2005), explains that they are capacities that the organization needs for operational purposes to implement the strategies, assigning these to short-term objectives such as organizational culture (mentality, paradigms), assets (machines, technology), people (labor, knowledge, skills), systems (methods, procedures), internal climate (environment, work climate), working capital (money), materials (direct and indirect).

p) Establish control and evaluation systems, Drucker (2005) says that it is an interactive process that requires the implementation of continuous review mechanisms that help the strategic process.

### **Competitive Management Strategies**

Robbins (2005) mentions that there are four stages for the formulation of competitive strategies:

I. The analysis of the market structure, stage in which the company must ask itself what is the structure of the market object of study (competitive, geopolitical or monopoly).

II. Evaluation of competitive advantages, this implies that the company or organization must consider their strengths, evaluate their competitive advantages.

III. Definition of generic strategies, here the company should define on which basis it will compete (cost or value).

IV. Establish what actions the organization should take to face its competitors; both for current market conditions and for those expected to exist in the future.



## Conclusion

The implementation of these administrative tools of course detonate in a competitive advantage, but goes further, as a result great personal, social benefits are derived that are reflected in customer satisfaction, and directly in the increase of profits and index of organizational productivity, implementing strategies may be the easiest, but the formulation entails great teamwork and executive support to achieve the objectives, but it is clear that the benefits are considerable for all.

As mentioned at the beginning is to establish a universal methodology is impossible since each organization has specific variables, which make it unique and different, that is why you can not generalize any methodology, the proposed contemplates what should generally be done, but There may be points that do not apply or that are irrelevant.

Effectively the establishment of strategies is basic for the positioning of organizations, and when applying it, one realizes that practically all the points depend on each other, and have a direct relationship, we can say that it is based on a future vision of the conditions desired and from there the mission is established, complementing the objectives that should cover the real and potencial compliance of the previous aspects, that is why the characteristics of the strategists must comply in their entirety, be leaders, be very observant, researchers , planners, ordered, disciplined and with great power of influence to make things done efficiently and effectively.

For the case of study in the two organizations where this strategy generation study was implemented, there were very varied proposals, according to the needs of each of them, some focused on the need of a correct marketing, some referring to training by part of human resources and others with respect to the production processes, however its adaptation and application have brought benefits in the staff (better working environment and higher productivity) and better economic performance.

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**Process Automation of PEMEX LOGISTICS in Laboratory based on ISO / IEC 17025: 2005 / NMX-EC-17025-IMNC-2006**

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**Abstract**

The project its in focus at strengthening of the Standard processes of ISO / IEC 17025: 2005 (NMX-EC-17025-IMNC-2006) carried out within the activities carried out by the Laboratory of the Operation Area of the Storage and Dispatch Terminal Miahuatlán, which is in charge of the administration, control of the tests of quality verification of the petroleum products received for its respective distribution to the clients of the region. Based on Information Technologies, of software prototype was developed which serves as an administrative support that allows automation of all the Laboratory activities established by the Standard processes. Among the obtained results are the administration of the measuring equipment / instruments, the control of the sampling to the different products for the validation of the quality specifications and the monitoring of the maintenance and calibration of the measuring equipment / instruments used for the realization of tests. Likewise, queries and quality formats required by the Standard can be generated.

**Automation, petroleum products processes, Quality, ISO / IEC 17025: 2005 (NMX-EC-17025-IMNC-2006)**

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## Introduction

The Miahuatlán Storage and Dispatch Terminal belonging to Pemex Logística, is a Government Institution in charge of the Storage and Distribution of hydrocarbons. Within which there are different processes of which highlight those of the Operation Area in which the laboratory in this area is responsible for quality control where their testing and calibration activities are carried out to verify compliance with the requirements of the standard ISO / IEC 17025: 2005 (NMX-EC-17025-IMNC-2006) and satisfy the customer's product quality.

In this area, a project was developed to automate the processes of Product Validation by the different equipment / measuring instruments by means of a transparent record of the different tests carried out as well as the control in the calibration of said equipment / instruments to guarantee the correct quality verification required based on the standard.

## Justification

This project will support the administration and control carried out by the Quality Laboratory of the operation area to the different measuring equipment / instruments which in turn are responsible for carrying out the sampling to determine quality parameters and the registration of the results that these show all based on the requirements of ISO / IEC 17025: 2005 (NMX-EC-17025-IMNC-2006) establishes.

## Problem

The Miahuatlán Storage and Dispatch Terminal (Pemex Logística). Based on its multiple activities of Administration, Operation, Maintenance and Security.

Each of its activities is based on different control and quality standards that guarantee the quality of its product (s) (Magna Gas, Premium and Diesel) and services provided to its customers.

The Laboratory belonging to the Operation area is responsible for validating that the product that will be sent to its customers for sale complies with the guidelines established by ISO / IEC 17025: 2005 (NMX-EC-17025-IMNC-2006) . For this they carry a series of processes, which are managed by various software applications; but there are other activities that are validated through different formats and logs (all in paper). It is in the latter that areas of opportunity for the development of Software Prototypes that streamline processes are opened.

## Objectives

### General objective

Design and Development of a Software Prototype for the Automation of the Management System in the Quality Control Laboratories in the Miahuatlán Storage and Dispatch Terminal, under the ISO / IEC 17025: 2005 / NMX-EC-17025-IMNC-2006.

### Specific objectives

- Analyze the requirements and understand the needs of the Miahuatlán Storage and Dispatch Terminal client.
- Make a design that pleases the client and that has a positive impact of interest on the users.
- Design the Database Structure based on the requirements survey.
- Program and code each of the designed modules.

- Design reports and generate quality formats required by the standard Generation of quality formats required by the standard.
- Generate performance and quality tests, guaranteeing the satisfaction of the users and the client.
- Grant training in the use and Asministración of the Software Prototype.
- Deliver the finished project and according to the client's requirements.

### Software Development Methodology

Due to the complexity of the processes, and the sudden changes in the contexts of the Standard. As well as modifications to the client's requirements, a methodology will be required where planning, development, administration and control allow to generate decisions and quick results.

Among the software development methodologies that fulfill these characteristics is Scrum, which was applied for the first time by Ken Schwaber and Jeff Sutherland, who documented it in detail in their work "Agile Software Development with Scrum" [1]. This methodology focuses its attention based mainly on an adaptive planning and the incremental development of software with functional deliveries in brief periods of time.

### Schedule of activities

For the realization of the project, the main phases of the life cycle of a project were determined, disaggregating it from the following activities.

<b>Task name / Activities</b>
Prototype of Laboratory Automation Software to comply with the requirements of ISO / IEC 17025: 2005 / NMX-EC-17025-IMNC-2006
<b>Phase 1 - Start</b>
Procedures Study
Interview with the user (s)
Evaluate the vision of the project
Evaluate potential risks and benefits
<b>Phase 2 - Planning</b>
Define the broken work structure (WBS)
Identify the materials and supplies needed
<b>Phase 3 - Execution</b>
Analysis and Design (System dynamics and Information structure)
<b>Phase 4 - Control</b>
Prototype installation and Configuration of the Software Prototype Database
Prototype Documentation
Documentation of the Database
<b>Phase 5- Project Release</b>

**Table 1** Work Breakdown Structure

## Modeling and administration of the Software

### Database

Based on the requirements of the Standard and the user, the Relational Database normalized to the Third Normal Form was designed; using the SQL Server Database Manager Microsoft 2008 Express.

### Coding

The construction of the Prototype is based on Object Oriented Programming, based on the SAP PowerBuilder Technologies. Which offers a graphic programming environment that is composed of different tools that allow the rapid development of applications.

With these tools you can develop Client / Server applications through ODBC (Open DataBase Connectivity) or Native Drivers for the Database.

This application is Client / Server which puts in communication a workstation with a Central Database Server.

This model consists in using a Database that resides in a separate machine called Server. The Database Management Software is located in the remote work stations (Clients). The applications that are executed in the client stations, access to the data that are in the server. [2]

### Communication Interfaces

The protocols that should be used is TCP / IP or NetBios, in addition to this it must be indicated that the connection to the Database will be through the protocol conexión.ini.

### Results

The results of the Software Prototype are presented below as a result of all the requirements made and validated by the Operation Manager and the Laboratory Manager.

- Analysis, design, coding and implementation of three main processes:
  - oEquipment Management / Measurement Instruments.
  - Quality Control of Laboratory Sampling and
  - Control of Maintenance and Calibration of Measuring Equipment / Instruments with which the processes of the standard is administered, controlled and validated in a more effective way.



**Figure 1** Equipment Management Screen / Measuring Instruments



**Figure 2** Screen of Control of Maintenance and / or Calibration of Equipment / Measuring Instruments



**Figure 3** Generate Sampling Tests.



**Figure 4** Verification of the Sampling and the detail of the Result.

- Generation of quality formats required by the standard.



**Figure 5** Generation of Worksheet Formats.



**Figure 6** Reports Product Quality Report.

- Security in the access to each one of the modules of the system.

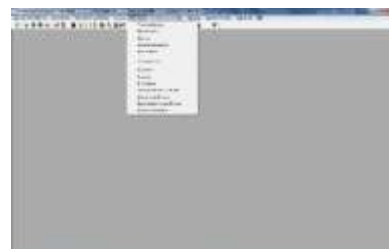


**Figure 7** Login



**Figure 8** Main Screen

- Generation of Catalogs 100% self-managed by users.



**Figure 9** Available catalogs

- Generation of different reports printed in PDF or export to Excel.



**Figure 10** Filter for reporting and / or consulting Measurement Equipment / Instruments



**Figure 11** Filter for reporting and / or consulting the Maintenance Calendar of the Equipment / Measuring Instruments

- Administration and maintenance of users and Generation of Backup by the user.



**Figure 12** Manage users



**Figure 13** Generate Backups

## Conclusions

This project fulfilled the objective established in the implementation of a software in the Laboratory that would comply with the ISO / IEC 17025: 2005 (NMX-EC-17025-IMNC-2006) processes since the results shown were liked and satisfaction for the client. This software improved quality processes by having a tool that automates your information and having it available to take better control of the activities carried out and to be carried out. Likewise, the times for the filling of quality formats established by the standard were optimized, since they are now carried out automatically presenting real information at the moment. On the other hand, the competences in the development of Software, Management of Professional Project Management and the generation of a circle of confidence for the detection of areas of opportunity in the participation of future projects of the oil sector and with this to generate agreements were strengthened and relations with other interdisciplinary bodies and dissemination of some popular science articles.

## Acknowledgement

To thank the Miahuatlán Storage and Dispatch Terminal for the trust and support shown for the development of this project.

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- [2]<http://alfa.facyt.uc.edu.ve/computacion/pensum/cs0347/Laborat/ManualPB.pdf>

**Risk and entrepreneurship: the case of MSMES**

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**Abstract**

In the current environment it is common to hear that there is talk about an uncertain environment, a risk environment, even talk about a society of risk. Micro and small companies are much more vulnerable to different types of risk. How have entrepreneurs faced these risks?. In order to contribute with the answer to this question, this paper proposes to offer an exploratory analysis of the risk management practices in small and medium enterprises (MSMEs ). The results obtained from the cases studied in the potosinian context indicate that the lack of security in the country is mentioned as part of internal risks, those related to human resources and as external risks. Simple or intuitive methods are used to manage risk. The main contribution is to provide reference elements to promote institutionalization in MSMEs.

**Risk Management, Entrepreneurship SMES**

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## Introduction

In the face of current business circumstances, the dynamic and turbulent environment poses greater challenges for organizations, and therefore greater risk events. All types of profit or non-profit organizations, large or small, involve risks (ISO, 2009, COSO, 2004).

Entrepreneurship is not the exception, if understood, as the process by which an individual accesses a business idea, organizes the necessary resources to take advantage of it, and assumes an economic risk with the purpose of obtaining benefits (García Cabrera, 2013). So in the literature it has been identified that the term entrepreneur describes the people who take risks.

## Justification

There is literature on risks and risk management linked to entrepreneurial orientation and to large companies that already exist. Nevertheless, there is an area of opportunity regarding research related to small and medium-sized companies (Verbano and Venturini, 2013). Little is known about risk management practices in companies that have survived (Kim and Vonortas, 2014). Therefore, the field of analysis in the exploration of the role played by entrepreneur risk perception and risk management in the internal processes of newly created MSMESs is evident..

## Problem

Micro, small and medium enterprises are much more vulnerable to different types of risk (Street and Cameron, 2007) and have a much higher probability of breaking than their larger and more consolidated counterparts (OECD, 2001).

## Objectives

### General objectives

Offer elements of reflection to support the development of SMESS professionalization in relation to internal control and risk management based on the exploration of risk management practices.

### Specific objectives

Identify the risks that MSMESS perceive with greater probability and impact.

### Theoretical framework

Risk is defined as the effect of uncertainty on the objectives, a deviation from the expected either positive and / or negative (ISO 31000: 2009). Risks can affect the attainment of strategic, operational information and compliance objectives (COSO, 2004). Likewise, the risk can be caused by external factors (economic, environmental, social, political) or by internal factors (human resources, processes, technology).

Organizations manage risk through the identification, analysis, evaluation and treatment of risk. Throughout this process, they communicate and consult with interested parties, supervise and review risk and controls to ensure that no additional risk treatment is required (ISO 31000: 2009).

Newly created companies, small and young, face major challenges in terms of access to resources such as human talent or financial capital and other complementary resources for technological development, commercialization and access to markets (Kim and Vonortas, 2014).

In addition, new and small companies are much more vulnerable to different types of risk and have much higher chances of breaking than their larger and more consolidated counterparts (OECD, 2001).

In this context, research has been carried out that analyzes the trinomial entrepreneurship, risks and MSMESs. Gómez-Araujo et al (2015) show that young people are more likely to be entrepreneurs, given their greater likelihood of taking on business challenges than in older people. Well, individuals, the more they grow older, the less desirable they are to open a new company, because their risk capacity decreases over the years. That is, the younger they are, the more they are able to take risks and, therefore, the more likely they are to be entrepreneurs.

On the other hand, Sepulveda and Bonilla (2014) agree that age affects risk quadratically (first positively, but after a certain point, negatively). In the case of a previous experience of closing a business, aversion to risk increases, that is, increases the probability of feeling fear of failure, which reduces the probability of becoming an entrepreneur.

Meanwhile, Herranz et al (2015) conclude that entrepreneurs more risk-averse lead smaller and more leveraged firms, with more negative capital than their less risk-averse counterparts. Less risk-averse entrepreneurs are willing to give up current consumption to expand their businesses in the hope of future rewards. In the distribution of the returns of small businesses, the actual gross return of the assets can be negative, the owners tend to invest substantial personal funds in their companies and work in them, which aggravates the risk.

## Methodology

This work uses an exploratory approach and specifically analyzes three cases of companies that are classified as micro and small local entrepreneurs, enrolled in the Puro Potosino Program coordinated by the Secretary of Economy of the State of San Luis Potosí. This is part of an initial phase within the framework of a broader research project.

As a data collection technique, the structured interview is used considering the founder's voice information on the perception of risks.

## Results

**Case 1.** Honey Production and Marketing Company, 58 employees, family business.

Informant. Woman, 31 years old, with a background in entrepreneurial family, high school education (Business as a lifestyle, 3rd generation). It is recognized as a risk taker.

Identification of Risks. Among the different internal and external risk events, the risks inherent to gender, the fact of playing different roles simultaneously and their repercussions in the business (women, breast, wife), in the second place, social risks are highlighted. , highlighting among them the insecurity of the country, which led to the decision to close outlets in other states and thirdly the risks related to human resources, including ant stealing, problems arising from having hired in key positions to relatives.

Risk management. Intuition is considered as a method of risk management.

**Case 2.** Company producing food products, 11 employees, 25 different products.

Informant: Woman, 45 years old, with a history of entrepreneurial family, forerunner of business by necessity. "I do not consider that there are risks ... if you want to start a business you just have to do it".

Identification of Risks: First of all, it highlights risks inherent in regulation, such as permits, requirements, forms, paperwork, procedures, etc. Secondly, it considers the risks related to the logistics and distribution of its products, including the place to offer its products and, thirdly, the risk events related to human resources.

Risk management. As a method of risk management, intuition is considered, advice from external.

*Case 3. Company producing and marketing coffee, 18 employees family business.*

*Informant. Man, 62 years old, with a family background in the line, coffee farmers in Tamazunchale. "You have to do things and put fears aside."*

*Among the risk events that are more likely and impact are perceived, the risks inherent to the training, high costs, are observed, despite this being assumed and the necessary is expended as an opportunity to continue growing. In the second place, risk events related to insecurity are identified, among them the trips to promote the product. Third, the risks related to human resources are identified.*

*Risk management. As a method of risk management is considered the intuition and consensus in the family, the Intuition, the founder and the training and advice of the network of coffee growers at the national level of which they are part.*

## Conclusions

In today's environment, it is common to hear that there is talk of an uncertain environment, a risk environment, and even a risk society. Hence the need for entrepreneurs, managers not only of PIMES know, understand and rely on risk management.

In the analyzed cases it is observed that the concept of risks is linked to a negative connotation based on intuition to analyze the risks, which is a point of reference to promote professionalization, training and training, in relation to a program or system of Risk management inscribed in strategic management.

Among the risks that the founders perceive to be most likely and impact, risks related to human resources are considered as part of the internal risks, which is a starting point to apply the strategic management processes linked to risk management based on in internal processes.

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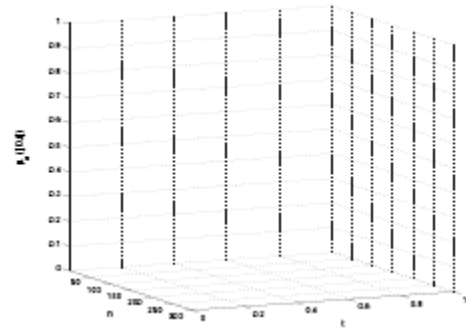
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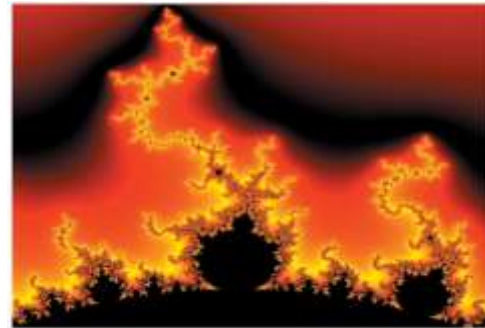
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