

Volume 3, Issue 4 — January — June — 2019

Journal-Public Economy

ISSN-On line 2524-2016

RINOE®

RINOE-Taiwan

Editor in chief

MIRANDA-GARCIA, Marta. PhD

Executive director

RAMOS-ESCAMILLA, María. PhD

Editorial Director

PERALTA-CASTRO, Enrique. MsC

Web designer

ESCAMILLA-BOUCHAN, Imelda. PhD

Web Diagrammer

LUNA-SOTO, Vladimir. PhD

Editorial Assistants

REYES-VILLAO, Angélica. BsC

Translator

DÍAZ-OCAMPO, Javier. BsC

Philologist

RAMOS-ARANCIBIA, Alejandra. BsC

RINOE Journal-Public Economy, Volume 3, Issue 4, January – June 2019, is a journal edited semestral by RINOE. Taiwan, Taipei. YongHe district, ZhongXin, Street 69. Postcode: 23445: www.rinoe.org, journal@rinoe.org. Editor in Chief: MIRANDA-GARCIA, Marta. PhD. ISSN: 2524-2016. Responsible for the latest update of this number RINOE Computer Unit. ESCAMILLA-BOUCHÁN, Imelda, LUNA SOTO, Vladimir Taiwan, Taipei. YongHe district, ZhongXin, Street 69. Postcode: 23445 last updated June 30, 2019.

The opinions expressed by the authors do not necessarily reflect the views of the editor of the publication.

It is strictly forbidden to reproduce any part of the contents and images of the publication without permission of the National Institute for the Defense of Competition and Protection of Intellectual Property.

RINOE Journal-Public Economy

Definition of the Journal

Scientific Objectives

Support the international scientific community in its written production Science, Technology and Innovation in the Field of Social Sciences, in Subdisciplines of Structure and scope of government; Taxation, Subsidies, and Revenue: Efficiency, Optimal taxation, Incidence, Externalities redistributive effects, Environmental taxes and subsidies, Personal income and other Nonbusiness Taxes and subsidies, Business taxes and subsidies, Tax evasion; Fiscal policies and behavior of Economic Agents: Household, Firm; Publicly provided goods: Public goods, Publicly provided private goods, Project evaluation, Social discount rate; National government expenditures and related policies: Government expenditures and health, Government expenditures and education, Government expenditures and welfare programs, Infrastructures, Social security and public pensions, National security and war, Procurement; National budget, Deficit, and Debt: Budget, Budget systems, Deficit, Surplus, Debt, Debt management; State and local government; Intergovernmental relations: State and local taxation, Subsidies, and Revenue, State and Local budget and expenditures, Interjurisdictional Differentials and their effects, State and Local Borrowing, Intergovernmental relations, Federalism; Miscellaneous issues: Governmental loans and credits, Governmental property, International fiscal issues.

RINOE® is a Scientific and Technological Company in contribution to the Human Resource training focused on the continuity in the critical analysis of International Research and is attached to CONACYT-RENIICYT number 1702902, its commitment is to disseminate research and contributions of the International Scientific Community, academic institutions, agencies and entities of the public and private sectors and contribute to the linking of researchers who carry out scientific activities, technological developments and training of specialized human resources with governments, companies and social organizations.

Encourage the interlocution of the International Scientific Community with other Study Centers in Mexico and abroad and promote a wide incorporation of academics, specialists and researchers to the publication in Science Structures of Autonomous Universities - State Public Universities - Federal IES - Polytechnic Universities - Technological Universities - Federal Technological Institutes - Normal Schools - Decentralized Technological Institutes - Intercultural Universities - S & T Councils - CONACYT Research Centers.

Scope, Coverage and Audience

RINOE Journal-Public Economy is a Journal edited by RINOE® in its Holding with repository in Taiwan, is a scientific publication arbitrated and indexed with semester periods. It supports a wide range of contents that are evaluated by academic peers by the Double-Blind method, around subjects related to the theory and practice of Structure and scope of government; Taxation, Subsidies, and Revenue: Efficiency, Optimal taxation, Incidence, Externalities redistributive effects, Environmental taxes and subsidies, Personal income and other Nonbusiness Taxes and subsidies, Business taxes and subsidies, Tax evasion; Fiscal policies and behavior of Economic Agents: Household, Firm; Publicly provided goods: Public goods, Publicly provided private goods, Project evaluation, Social discount rate; National government expenditures and related policies: Government expenditures and health, Government expenditures and education, Government expenditures and welfare programs, Infrastructures, Social security and public pensions, National security and war, Procurement; National budget, Deficit, and Debt: Budget, Budget systems, Deficit, Surplus, Debt, Debt management; State and local government; Intergovernmental relations: State and local taxation, Subsidies, and Revenue, State and Local budget and expenditures, Interjurisdictional Differentials and their effects, State and Local Borrowing, Intergovernmental relations, Federalism; Miscellaneous issues: Governmental loans and credits, Governmental property, International fiscal issues with diverse approaches and perspectives, That contribute to the diffusion of the development of Science Technology and Innovation that allow the arguments related to the decision making and influence in the formulation of international policies in the Field of Social Sciences. The editorial horizon of RINOE® extends beyond the academy and integrates other segments of research and analysis outside the scope, as long as they meet the requirements of rigorous argumentative and scientific, as well as addressing issues of general and current interest of the International Scientific Society.

Editorial Board

SEGOVIA - VARGAS, María Jesús. PhD
Universidad Complutense de Madrid

YAN - TSAI, Jeng. PhD
Tamkang University

LUO, Yongli. PhD
Universidad de Chongqing

BLANCO - GARCÍA, Susana. PhD
Universidad Complutense de Madrid

VILLASANTE, Sebastián. PhD
Universidad de Santiago de Compostela

BANERJEE, Bidisha. PhD
Amity University

CUBÍAS-MEDINA, Ana Elizabeth. PhD
Universidad Carlos III de Madrid

VARGAS - HERNANDEZ, José G. PhD
Keele University

ALIAGA - LORDEMANN, Francisco Javier. PhD
Universidad de Zaragoza

BLANCO - ENCOMIENDA, Francisco Javier. PhD
Universidad de Granada

Arbitration Committee

LEGORRETA - BARRANCOS, Leydi Elena. PhD
Instituto Humanista de Estudios Superiores

GALICIA - PALACIOS, Alexander. PhD
Instituto Politécnico Nacional

MARTÍNEZ - GARCÍA, Miguel Ángel. PhD
Instituto Politécnico Nacional

MORÁN - CHIQUITO, Diana María, PhD
Universidad Autónoma Metropolitana

OSORIO - GÓMEZ, Ricardo. PhD
Instituto Tecnológico de Puebla

OLIVO - ESTRADA, José Ramón. PhD
Instituto Pedagógico de Estudios de Posgrado

CAPRARO - RODRÍGUEZ, Santiago Gabriel Manuel. PhD
Universidad Nacional Autónoma de México

NOVELO - URDANIVIA, Federico Jesús. PhD
Universidad Autónoma Metropolitana

AZIZ - POSWAL, Bilal. PhD
University of the Punjab Lahore Pakistan

MORAN - BRAVO, Luz del Carmen. PhD
Universidad Tecnológica de Puebla

PELAYO - MACIEL, Jorge. PhD
Universidad de Guadalajara

Assignment of Rights

The sending of an Article to RINOE Journal-Public Economy emanates the commitment of the author not to submit it simultaneously to the consideration of other series publications for it must complement the Originality Format for its Article.

The authors sign the Format of Authorization for their Article to be disseminated by means that RINOE® In its Holding Taiwan considers pertinent for disclosure and diffusion of its Article its Rights of Work.

Declaration of Authorship

Indicate the Name of Author and Coauthors at most in the participation of the Article and indicate in extensive the Institutional Affiliation indicating the Department.

Identify the Name of Author and Coauthors at most with the CVU Scholarship Number-PNPC or SNI-CONACYT- Indicating the Researcher Level and their Google Scholar Profile to verify their Citation Level and H index.

Identify the Name of Author and Coauthors at most in the Science and Technology Profiles widely accepted by the International Scientific Community ORC ID - Researcher ID Thomson - arXiv Author ID - PubMed Author ID - Open ID respectively.

Indicate the contact for correspondence to the Author (Mail and Telephone) and indicate the Researcher who contributes as the first Author of the Article.

Plagiarism Detection

All Articles will be tested by plagiarism software PLAGSCAN if a plagiarism level is detected Positive will not be sent to arbitration and will be rescinded of the reception of the Article notifying the Authors responsible, claiming that academic plagiarism is criminalized in the Penal Code.

Arbitration Process

All Articles will be evaluated by academic peers by the Double Blind method, the Arbitration Approval is a requirement for the Editorial Board to make a final decision that will be final in all cases. MARVID® is a derivative brand of ECORFAN® specialized in providing the expert evaluators all of them with Doctorate degree and distinction of International Researchers in the respective Councils of Science and Technology the counterpart of CONACYT for the chapters of America-Europe-Asia- Africa and Oceania. The identification of the authorship should only appear on a first removable page, in order to ensure that the Arbitration process is anonymous and covers the following stages: Identification of the Journal with its author occupation rate - Identification of Authors and Coauthors - Detection of plagiarism PLAGSCAN - Review of Formats of Authorization and Originality-Allocation to the Editorial Board-Allocation of the pair of Expert Arbitrators-Notification of Arbitration -Declaration of observations to the Author-Verification of Article Modified for Editing-Publication.

Instructions for Scientific, Technological and Innovation Publication

Knowledge Area

The works must be unpublished and refer to topics of Structure and scope of government; Taxation, Subsidies, and Revenue: Efficiency, Optimal taxation, Incidence, Externalities redistributive effects, Environmental taxes and subsidies, Personal income and other Nonbusiness Taxes and subsidies, Business taxes and subsidies, Tax evasion; Fiscal policies and behavior of Economic Agents: Household, Firm; Publicly provided goods: Public goods, Publicly provided private goods, Project evaluation, Social discount rate; National government expenditures and related policies: Government expenditures and health, Government expenditures and education, Government expenditures and welfare programs, Infrastructures, Social security and public pensions, National security and war, Procurement.

National budget, Deficit, and Debt: Budget, Budget systems, Deficit, Surplus, Debt, Debt management; State and local government; Intergovernmental relations: State and local taxation, Subsidies, and Revenue, State and Local budget and expenditures, Interjurisdictional Differentials and their effects, State and Local Borrowing, Intergovernmental relations, Federalism; Miscellaneous issues: Governmental loans and credits, Governmental property, International fiscal issues and other topics related to Social Sciences.

Presentation of the content

In the first article we present, *Innovation in micro enterprises: Mérida, Yucatán*, by GONZÁLEZ-HERRERA, Karina Concepción, CASTILLO-GALLEGOS, Aurea Licet and GAMBOA-LEÓN, Roque Humberto Martín, with adscription in the, Universidad Tecnológica Metropolitana, in the next article we present, *Comparative Analysis between the Integrating Company model and the Export Consortium in Mexico*, by ARREDONDO-HIDALGO, María Guadalupe, CONRAUD-KOELLNER, Eva, ALCOCER-LUQUE María Clementina and MORENO-ÁVILA, Fátima de la Purísima, with adscription in the Universidad de Guanajuato, in the next article we present, *Study of the context variables for the design of a sustainable economic model in gas service stations in Villahermosa, Tabasco*, by ANGELES-GUZMÁN, Casandra, MENESES HERNÁNDEZ, José Luis, JAVIER-GERÓNIMO, Zinath and ARIAS-RODRÍGUEZ, Nancy Estela, with adscription in the Instituto Tecnológico de Villahermosa, in the next article we present, *Factors for measuring knowledge management and intellectual capital in the public sector of Jalisco*, by HUERTA-CHÁVEZ, Irma Alicia & CASTRO-VALENCIA, Alberto Merced, with adscription in the Universidad Autónoma de Guadalajara.

Content

Article	Page
Innovation in micro enterprises: Mérida, Yucatán GONZÁLEZ-HERRERA, Karina Concepción, CASTILLO-GALLEGOS, Aurea Licet and GAMBOA-LEÓN, Roque Humberto Martín <i>Universidad Tecnológica Metropolitana</i>	1-9
Comparative Analysis between the Integrating Company model and the Export Consortium in Mexico ARREDONDO-HIDALGO, María Guadalupe, CONRAUD-KOELLNER, Eva, ALCOCER-LUQUE María Clementina and MORENO-ÁVILA, Fátima de la Purísima <i>Universidad de Guanajuato</i>	10-20
Study of the context variables for the design of a sustainable economic model in gas service stations in Villahermosa, Tabasco ANGELES-GUZMÁN, Casandra, MENESES HERNÁNDEZ, José Luis, JAVIER-GERÓNIMO, Zinath and ARIAS-RODRÍGUEZ, Nancy Estela <i>Instituto Tecnológico de Villahermosa</i>	21-26
Factors for measuring knowledge management and intellectual capital in the public sector of Jalisco HUERTA-CHÁVEZ, Irma Alicia & CASTRO-VALENCIA, Alberto Merced <i>Universidad Autónoma de Guadalajara</i>	27-42

Innovation in micro enterprises: Mérida, Yucatán

La innovación en las micro empresas: Mérida, Yucatán

GONZÁLEZ-HERRERA, Karina Concepción*†, CASTILLO-GALLEGOS, Aurea Licet and GAMBOA-LEÓN, Roque Humberto Martín

Universidad Tecnológica Metropolitana

ID 1st Author: Karina Concepción, González-Herrera / ORC ID: 0000-0002-1743-2614, CVU CONACYT ID: 256147

ID 1st Coauthor: Aurea Licet, Castillo-Gallegos / ORC ID: 0000-0003-4545-4957, CVU CONACYT ID: 162527

ID 2nd Coauthor: Roque Humberto Martín, Gamboa-León / ORC ID: 0000-0002-8316-8436

DOI: 10.35429/JPE.2019.4.3.1.9

Received March 30, 2019; Accepted June 30, 2019

Abstract

This document records the results of the project called technological profile of the micro enterprise, from which one of the elements of the study is broken down, innovation, from which the information associated with the factor is analyzed, in relation to the activities carried out by companies such as corner stores, consulting, construction, manufacturing, among others. Information that was classified into three variants: destination of the investment made by entrepreneurs in the same company to innovate, activities to attract customers and ways of positioning the company. The purpose of the study is to analyze the behavior of the actions carried out by companies based on innovation. The methodology used was considered with a sample size of 384 questionnaires applied to the owners and / or managers of the economic units, registered in the national statistical directory of economic units (DENUE), from which 340 were directed to micro companies. The main results are related to a precarious investment for the promotion of employee participation in proposals to make changes in the products or services offered, as well as the low consideration of customer suggestions for the creation or sale of new. However, the entrepreneur directs his effort to differentiate himself from the competition, but there is no culture of investing in the improvement of his processes and distribution, as well as in the development of new products. The type of business turnaround does not always allow participation in events to position the brand and / or the products they handle.

Resumen

El presente documento registra los resultados generados del proyecto de nombre perfil tecnológico de la micro empresa, a partir del cual se desglosa uno de los elementos del estudio, la innovación, del cual, se analiza la información que se asocia al factor, con relación a las actividades que llevan a cabo empresas como son tiendas de la esquina, de consultoría, de la construcción, manufactura, entre otras. Información que se clasificó en tres variantes: destino de la inversión que realizan los empresarios en la misma empresa para innovar, actividades para atraer a los clientes y formas de posicionamiento de la empresa. El objeto del estudio es analizar el comportamiento de las acciones que realizan las empresas a partir de la innovación. La metodología utilizada fue considerada con un tamaño muestral de 384 cuestionarios aplicados a los dueños y/o encargados de las unidades económicas, registradas en el directorio estadístico nacional de unidades económicas (DENUE), de los cuales se extrajeron 340 dirigidos a las micro empresas. Los principales resultados se relacionan con un inversión precaria para la promoción de la participación de los empleados en propuestas para realizar cambios en los productos o servicios que se ofrecen, así como la escasa consideración de las sugerencias de los clientes para la creación o venta de nuevos productos, sin embargo el empresario dirige su esfuerzo en diferenciarse de la competencia, pero no existe la cultura de invertir en el mejoramiento de sus procesos y distribución, así como en el desarrollo de nuevos productos. El tipo de giro de las empresas no siempre permite la participación en eventos para posicionar la marca y/o los productos que manejan.

Innovación, Nuevos productos

Innovation, New Products

Citation: GONZÁLEZ-HERRERA, Karina Concepción, CASTILLO-GALLEGOS, Aurea Licet and GAMBOA-LEÓN, Roque Humberto Martín. Innovation in micro enterprises: Mérida, Yucatán. Journal-Public Economy. 2019. 3-4: 1-9

* Correspondence to the Author (karina.gonzalez@utmetropolitana.edu.mx)

† Researcher contributing as first author.

Introduction

The purpose of this work is to describe the behavior of innovation in Micro Enterprises in the City of Mérida, Yucatán. The study of micro (Mipes) has become a relevant issue in recent years, derived from the importance in the generation of jobs and self-employment in most of the States of the Mexican Republic.

At present, SMEs constitute an important sector for the development of most countries, given the key role they play in the economy, especially in generating employment and in the development and well-being of the community where they are located (Valencia , 2015, p. 298)

However, despite their significant presence in the Gross Domestic Product (GDP) and as a generator of jobs, they are the most vulnerable to changes in the economy and the presence and opening of large companies such as supermarkets, franchises, etc.

The Mipes of all economic sectors from small stores around the corner, consultants, producers and marketers of footwear, construction, hardware stores, tlapalerías, etc., face every day with a changing and competitive market, so they have been forced to make efforts to maintain their presence in the market, as well as their and growth through innovation actions from their experience and knowledge of the market that they have acquired over the years and that has allowed them to survive the demands of the market as mentioned by Valencia (2015) "Structural weaknesses of SMEs decrease their competitiveness and condition their survival capacity" (p.298) is why they seek to offer products and services that meet the needs of their current customers through innovation of their products and services to the best of their ability, because the investment they make to innovate, may Most of the time is usually scarce, a situation that intensifies in micro-enterprises given their characteristics and lack of resources and infrastructure.

However, some authors differ in this view as mentioned by Jiménez, et. to the. (as mentioned in González, Castillo and Canto) "innovation is not considered within survival strategies, but within advancement strategies, as a way to improve the strategies of any functional department".

For this reason, according to (Arango, Bentacourt, and Martínez, 2015, p.311) "today innovation processes are key factors within organizations, since regardless of the productive sector to which they belong, these are the ones that allow to achieve high levels of competitiveness and a stay in the environment "

That is why the need arises to know the activities they carry out to attract new customers to the company, where the investment they make is directed: promotion, packaging design of their products, advertising, etc., if they attend to fairs, congresses and other business-related activities to learn about current market trends.

General objective

Analyze the activities inherent to the behavior of the microenterprise to carry out the innovation process in the products and / or services offered in the city of Merida of the Yucatecan entity.

Problem Statement

The problem identified in the present study is the permanence that micro companies have in the market, due to the competitive advantages that medium and large companies such as supermarkets represent, the opening of different points of sale of these businesses, usually significantly affects the Mipes demand, because they offer a diversity of products and services of various kinds, together with the availability of their schedules, trained personnel, infrastructure, prices, etc., represent in most cases a decrease in the sale of their products. products and therefore their income.

The main problems currently faced by the Mipesy that affect their survival are the lack of knowledge to carry out a planning, they generally start in the business by family inheritance, because they like to do or because they see the opportunity to generate a short-term income, but without the knowledge of the market, of the needs of the consumer and previous interest of the need to reinvest and innovate, but what do companies do to continue in the market, as they face a changing and competitive market That is why there is a concern to know what are the actions carried out by the Mipes to innovate and attract current customers? What types of actions do they take to update themselves in relation to the products and services they currently offer?

A problem that companies face is the lack of capacity of their staff and the same entrepreneur to carry out their work efficiently and practically, having the solution with the use of information and communications technologies, something that is already taken as a framework of an information society and the new global economy. From there it can be questioned: Is at least the use of multimedia technologies known to recover, verify, process, store, present and exchange data in a timely manner to generate knowledge and information in the company? The solution to the problems of updating microenterprises is to make regular use of available technological resources to solve real problems efficiently.

Literature review

Organizations throughout their life cycle microenterprises face the different changes of economic, technological, political and social nature, "The increasingly frequent changes that occur in the technological context constitute a source of opportunities for organizations, while generating new challenges for their survival." (Hidalgo, León and Pavón, 2013, p. 15). Among these challenges are innovation, defining lines of action that allow them to be competitive in the market, considering aspects of innovation, planning, organization, management, control, improvement in their processes, advertising, positioning, financing, development of new products seeking to satisfy the demands of its consumers.

The role that planning plays in relation to innovation is as follows: organizations need conditions that allow it to be carried out; Among them, strategic planning plays a critical role, since it allows an external analysis in which the economic environment, competence, sociodemographic trends, the current state and the evolution of technology are known, among other things (Tarapuez, Guzmán and Parra, 2016).

At present, global, dynamic and highly competitive markets have caused companies, mainly smaller ones, to rethink their strategies in order to achieve better levels of business performance, among which innovation stands out as an important strategy that improves performance business can generate (Estrada, Cuevas and Cortés, 2015, p. 2447).

Innovation is "the process in which, from an idea, invention or recognition of a need, a useful product, technique or service is developed until it is commercially accepted" Escrosa and Valls (as cited in Hernández and Arraut, 2016)

Innovating implies that companies introduce changes in their products, in their production processes, in the way they organize and manage their resources or in the means used to reach the market and their customers. These changes occur among other factors, due to the existence of a very intense competition, the increase in the demand of markets and / or consumers and technological progress; factors that force companies to innovate continuously to maintain their competitiveness. (Torres, Santa María, Giner and Fuster, 2016. 13)

To this end, there is the management of innovation that allows planning the lines of action to be taken in terms of innovation, the distribution of tasks and responsibilities, as well as the supervision and control so that they are carried out efficiently.

The management of innovation has become a relevant factor in the business world, mainly in the field of those organizations that are immersed in the knowledge-driven economy. Frequently, small and medium-sized companies feel disconcerted when referring to innovation: most think that they must modify the way they manage their businesses and that their organization is not optimal to compete in today's markets, in particular questions such as Can anyone innovate? Or is that process reserved for a few? What is needed to manage the change? (Hidalgo, et.al., 2013, p. 16)

Any company can innovate, the degree of innovation that it performs will be determined by the turn, size, capital, skills and abilities that they develop and the internal and external sources that affect each of them. Table 1 shows the description and examples of internal and external sources of innovation..

Internal sources	External sources
The sources within the company or industry are: unexpected events, such as the success or failure of a product or service, inconsistencies (which assumptions or expectations that the company of the sector or industry where it operates is the opposite of the real condition), Process needs (improvements in processes as part of the needs and demands of the market) and change in the market and industry (An example would be rapid growth of the industry by the entry of new companies or, conversely, slow growth in the industry for the closure of companies)	The sources outside the company are: demographic changes (population size, birth rate, mortality, age, gender of the population are external aspects that drive companies to develop changes in their products and / or services), changes in perception (tastes and preferences of current and potential customers) and new knowledge (in relation to the business, such as new trends, updates, new processes, etc.) with elements that contribute to companies being driven to innovate

Note: Proper elaboration based on information from Drucker (1985) (as cited in Álvarez, 2013, p.5)

Table 1
Sources of Innovation

“In this way, the sources of innovation will allow companies to have a greater chance of innovating to generate benefits that guarantee the success of their business model” (Álvarez, 2013, p.5).

Once the sources of innovation have been identified, it is important to define the types of innovation. The Oslo Manual has defined as its own characteristics of innovation: the association of uncertainty about the results; implies investment in material and non-material goods; which is subject to technological overflows; which implies the use of new knowledge or a combination of existing ones; and it is to increase the competitive capacity of the company (Hernández and Arraut, 2016, p. 37)

According to Schumpeter (1934) recorded in the Oslo Manual (2006) (as cited in González, et.al., 2016):

It proposes a list of five types of innovation: 1. Introduction of new products, 2. Introduction of new production methods, 3. Opening of new markets, 4. Development of new sources of supply of raw materials or other inputs and 5. Creation of new market structures in a sector of activity (p.208)

The Frascati manual divides them into two: “according to their impact, in radical innovations and incremental innovations” (Hernández and Arraut, 2016, p. 38).

Incremental innovation consists in making modifications to the products that companies offer to the market. For some executives, since the product works in the market, the company must limit itself to making small modifications to the product over time. However, these innovations have a limit to market penetration and the growth rate, which is stagnant. Disruptive innovation implies that the company offers a new market product, whether due to the development of a new technology, because Game rules are broken or by the business model. (Álvarez, 2013, p.5).

“Several researchers and academics suggest that MSMEs that want to improve their level of growth should formulate strategies that consider increasing their innovation activities” Simpson, Siguaw and Enz, (As cited in García, Gálvez and Maldonado, 2016).

Salvato (as cited in Valencia, 2015) notes that:

The type of process followed by the company to develop new products will evolve over time. In recent years, the idea has been progressing that the source of a company's long-term competitive is increasingly dependent on its ability to build, coordinate and integrate unique sets of technological and commercial resources, through the development of new products (p. 300)

However, when the term innovation is used in relation to the development of new products, it is not always done from an internal perspective, that is, to refer to the novelties or changes that the company introduces in its products or product line Munuera and Rodríguez and García y Calantone , 2002 (as cited in Jiménez and Sanz, 2012, p. 324)

But what causes companies to decide to invest in the development of new products or services? "The continuous changes that occur in the needs of customers force companies to develop new products to maintain their results and competitive assumption in the markets" Brown and Eisenhard, Schewe, Ali .; Zhou, (as cited in Jiménez and Sanz, 2012).

Innovative companies have the ability to develop ideas, implement improvements to differentiate products and processes that make business practices successful. They are companies that have developed a culture of innovation and learning, valued by their collaborators, customers and suppliers. They respond to market changes, adapt intelligently, anticipate demands, offer new products, redesign existing ones (Barrionuevo, Albán and Rivera, 2017, p. 9)

Innovation is considered, today, as one of the most important resources for the development of economics, as it promotes the creation of new technologies and knowledge by companies. It allows improving existing products and processes, adopting them from other economic units or creating new goods and services, but although not all companies have an innovative behavior and / or culture that allows them to respond to changing market needs (...) there is an effort coordinated to achieve it. According to a study carried out in the city of Cali, it confirms the need for this; the results show that innovation in products and processes exerts a positive influence on the performance of the SME.

These findings reinforce the postulates that show innovative capacity as a sustainable competitive advantage; Likewise, they can be useful for entrepreneurs, when they see the need to innovate to improve their competitiveness and for public administration, in their role as promoter of innovation through financial and non-financial support programs. (Mejía, Mendieta and Bravo, 2015, p.288)

"Innovation is the specific tool of entrepreneurial entrepreneurs, the means by which to exploit the exchange as an opportunity for a different business" Drucker (as cited in Méndez, 2001). This allows and contributes to companies becoming competitive in the market.

Methodology

The information analyzed was extracted from the database of the project "the technological profile of micro and small businesses" by the Latin American Network of Administration and Business (Posada, Aguilar and Peña, 2018),

The compilation was carried out through a questionnaire applied to the owners or direct managers of the economic units of the different economic sectors by 10 groups of students of the Administration Division of the Metropolitan Technological University. The finite population formula with a 95% confidence interval and a maximum error of 5% was used to determine the sample size. The population size was 50, 942 economic units of which 47,174 are micro enterprises. The sample used for this study is 384 micro and small businesses, located in the City of Mérida, Yucatán, according to DENU. 340 formally constituted microphones were interviewed.

Results

When analyzing the database that is generated from the application of the instrument, it is related to all the people who work in the company in a fixed way and the one that uses the computer equipment for daily activities and it was obtained that 57.2 % has a direct relationship for the use of the equipment. With respect to people who use the telephone for work activities, 61% meet the aforementioned condition.

The predominant economic activity is activity 72 dedicated to (Other retail activities not carried out in stores, by mail, online, in stalls or in markets), the year of creation of the companies is between 2011 and 2015 (3 to 7 years old). In that sense, 11.6% is related between the work activity to which it is dedicated and the age of the micro. 31% of them are companies with only one owner without registration in the hacienda.

For micro companies studied, it is important to promote changes in products, services and production processes among employees (59% agree and strongly agree), however, the offer of employees does not always relate to the proposals of the employees. products and / or services, since it goes hand in hand with the options that the suppliers offer, however 72% mention that this offer is generated from the customers request. That is to say, when covering the demand this will generate a collateral effect of new clients or the return with greater number of occasions of the same clients (increase of sales).

		promote that employees propose changes in my products, service and process					
Data		ND	I don't know / Does not apply	Strongly disagree	In disagreement	In agreement	Strongly agree
Size of the company	Micro	3%	13%	7%	18%	37%	22%
Total							100%
		I frequently offer new products or services based on suggestions from my clients					
Data		ND	No se aplica	Strongly disagree	In disagreement	In agreement	Strongly agree
Size of the company	Micro	2%	8%	4%	14%	42%	30%
Total							100%

Table 1 Linking the offer of products / services to customers according to the promotion of employees
Source: Self Made

On the other hand, suggestions for changes in processes, products and processes are generated by 51% of companies based on customer suggestions, and 48% also stimulate proposals for improvement in employees, see Table 2.

		focus a lot on offering innovative products or services that distinguish the company					
Data		ND	I don't know / Does not apply	Strongly disagree	In disagreement	In agreement	Strongly agree
I promote that employees propose changes in my products, service and process	ND	1%	0%	0%	0%	1%	3%
	I don't know / Does not apply	0%	5%	1%	3%	2%	13%
	Strongly disagree	0%	1%	2%	1%	2%	7%
	In disagreement	0%	1%	1%	5%	7%	18%
	In agreement	0%	1%	2%	5%	19%	37%
	Strongly agree	0%	1%	0%	1%	4%	22%
Total		2%	9%	5%	16%	36%	33%
		I frequently offer new products or services based on suggestions from my clients					
Data		ND	I don't know / Does not apply	Strongly disagree	In disagreement	In agreement	Strongly agree
I promote that employees propose changes in my products, service and process	ND	2%	0%	0%	0%	0%	1%
	I don't know / Does not apply	0%	6%	1%	1%	5%	1%
	Strongly disagree	0%	1%	1%	1%	2%	2%
	In disagreement	0%	0%	1%	8%	6%	3%
	In agreement	0%	1%	1%	4%	23%	7%
	Strongly agree	0%	0%	0%	1%	5%	16%
Total		2%	8%	4%	14%	42%	30%

Table 2 Promotion of changes according to employee offers and client proposals
Source: Self Made

For the activities related to the development or payment to innovate my production or distribution processes, it is positively correlated with 81.4% with the development or payment to innovate the products or services that I offer. There is a positive correlation of 77.7% for development or payment to innovate the way I sell my product or service. (Design, packaging, promotion, form of quotation, etc.), presented a difference of 3.6%. Similarly, a correlation of 79.1% of the development or payment is presented to innovate the products or services that I offer with respect to the development or payment to innovate the way in which I sell my product or service. (Design, packaging, promotion, form of quotation, etc.). This means that when there is no internal response to the results to improve, external services are sought that complement the activities carried out by the company. It is worth noting that these changes do not always receive a representative remuneration, considering the resources that micro companies manage.

On the other hand, 39% agree and strongly agree to pay development to innovate production or distribution processes for innovation in what is offered by the company. 36% also agree to develop or pay for innovation in the way of selling the products or services offered by the company (see Table 3).

		Development or payment to innovate my production or distribution processes					
Data		ND	I don't know / Does not apply	Strongly disagree	In disagreement	In agreement	Strongly agree
Desarrollo o pago para innovar productos o servicios que ofrezco	ND	4%	0%	0%	0%	0%	0%
	I don't know / Does not apply	0%	17%	0%	1%	0%	0%
	Strongly disagree	0%	0%	6%	1%	1%	0%
	In disagreement	1%	0%	0%	14%	6%	1%
	In agreement	0%	2%	0%	2%	21%	3%
	Strongly agree	0%	1%	0%	1%	5%	10%
Total		5%	21%	7%	19%	34%	15%
		Development or payment to innovate the way I sell my product or service.					
Data		ND	I don't know / Does not apply	Strongly disagree	In disagreement	In agreement	Strongly agree
Development or payment to innovate the products or services I offer	ND	5%	0%	0%	0%	0%	0%
	I don't know / Does not apply	0%	17%	1%	1%	1%	0%
	Strongly disagree	0%	1%	5%	1%	1%	0%
	In disagreement	0%	1%	1%	15%	4%	2%
	In agreement	0%	3%	1%	5%	17%	4%
	Strongly agree	0%	1%	0%	1%	3%	12%
Total		6%	21%	8%	23%	25%	18%

Table 3 Development or payment to innovate in the production or distribution processes according to what the companies offer and the way of sale
Source: Self Made

It is identified that there is a positive correlation of just over 50% (63.1%) with respect to development or payment to innovate the way in which I organize the company according to the attendance at fairs, courses, congresses, or other activities related to the business. In such a way that 33% of the study subjects indicated that they agree and agree with the attendance at fairs, courses, congresses or others according to the development or payment for organizing the activities of the company (see Table 4).

		I attend fairs, courses, congresses, or other business-related activities					
Data		ND	I don't know / Does not apply	Strongly disagree	In disagreement	In agreement	Strongly agree
Development or payment to innovate the way in which I organize the company	ND	4%	0%	0%	1%	0%	1%
	I don't know / Does not apply	0%	15%	0%	1%	1%	1%
	Strongly disagree	0%	1%	4%	1%	0%	1%
	In disagreement	1%	1%	2%	10%	5%	2%
	In agreement	0%	3%	1%	6%	14%	6%
	Strongly agree	0%	0%	0%	2%	3%	10%
Total		5%	21%	7%	21%	24%	22%

Table 4 Assistance to activities such as fairs, courses, congresses and others according to the development or payment to innovate in the way of organizing the company
Source: Self Made

Conclusions

It can be concluded by pointing out that the innovation activities in processes, products and services are not completely outside of the activities carried out by micro companies, however it is necessary to provide more guidance to micro companies on these terms to be part of the daily vocabulary regardless of the level of academic preparation of the owners, businessmen or responsible for the companies.

It is considered that an arithmetic average of less than 50% of the people generates a favorable response, this influences the amount of resources generated by from the products and services offered by micro enterprises, as well as the time spent on preparation and / or advice on issues associated with innovation. However, the term change is usual, constant and necessary and before them the interviewees are prepared considering inflation, demand, production processes and other relevant aspects that generate the increase in sales and directly profits of the Economic Units.

Another of the problems that are latent in companies and that will be a regular part of them, is the identification of basic components and the elementary use of information and communications technologies, to perform their work, both the employee who has been hired as the entrepreneur, they must master specific languages, as well as the application of the mimes in situations and contexts of the various sources of information, the sources, possibilities and location, process, properly manage abundant and complex information, solve real problems, make decisions, work in collaborative environments and generate reasonable and creative ideas.

In conclusion, it is recommended to link with a greater number of suppliers, image design with respect to the use of social networks to position the logo and the products and services that companies manage or offer. As well as anticipating the increase in the prices of non-edible products and services to invest in the acquisition of them, and to be able to take advantage of that difference in favor of the same company (higher profit). Do not forget that customers become more demanding every day, and this is associated with quality, since where quality is offered there is a return of the same customers and others that are generated through the word of mouth or social network to other social networks and among other people.

It is also suggested that there be training in the use of information and communications technologies, first, in order to be included in a competitive market, to be updated in all the innovations that are presented daily in our economic sector. At the same time, both employees and entrepreneurs will have the ability to understand, know, design and implement information and communication technologies at the expert level.

All Mipes must be at the same level as their competence, both in internal control and external projection, the personnel of their functional areas must be able to document, support, process ideas, innovations, adjustments, modifications of all activities and decision making, facing the challenges that arise daily. In addition to being trained in the use of information and communications technologies, the entrepreneur must have the interest to learn and specialize constantly and with it all his work team and will result in the different proposals by the employees in charge, in services, processes and products in general.

References

- Álvarez F. C. (2013). Innovación, competitividad y nuevos modelos de negocio. *Sinergia E Innovación*, 1(08)1-15. Consultado el 01 de Agosto de 2018 de <http://revistas.upc.edu.pe/index.php/sinergia/article/view/89>
- Arango A. B., Betancourt H, J., & Martínez L, L. F. (2015). Implementación de herramientas para el diagnóstico de innovación en una empresa del sector calzado en Colombia. *RAI - Revista de Administração e Inovação*, 12(3), 310-329. Recuperado el 05 de Agosto de 2018 de: <https://www.revistas.usp.br/rai/article/view/100946>
- Barrionuevo B. S. Albán T. P. y Rivera P. D.(2017): Estrategia de marketing y innovación empresarial de la quesera comunal Pímbalo en la comunidad de Pímbalo, Simiatug – Guaranda. *Observatorio de la Economía Latinoamericana*, Ecuador, (enero 2017). Consultado el 15 de Julio de 2018 de: <http://www.eumed.net/cursecon/ecolat/ec/2017/pimbalo.html>
- Directorio Estadístico Nacional de Unidades Económicas (DENUE). Consultado el 25 de Julio de 2018 de <http://www.beta.inegi.org.mx/app/mapa/denue/default.aspx>

Estrada S, Cuevas V. H, Cortés H.A. (2018). El rendimiento de las Mipymes industriales de Guanajuato a través de la innovación. Presentado en el XVI Congreso Latino-Iberoamericano de Gestión Tecnológica ALTEC, 2015. Innovación más allá de la tecnología. *Porto Alegre*, 19-22 de octubre. Recuperado el 14 de Agosto de 2018 de https://s3.amazonaws.com/academia.edu/documents/45630859/782_Estrada__Cuevas__Cortes

- Palacios.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1534329222&Signature=UdjTueWLn7wQFRGkP%2B6eusVLS0k%3D&response-content-disposition=inline%3B%20filename%3DEI_RENDIMIENTO_DE_LAS_MIPYMES_INDUSTRIAL.pdf

García, D., Gálvez, E. J. & Maldonado, G. (2016). Efecto de la innovación en el crecimiento y el desempeño de las Mipymes de la Alianza del Pacífico. Un estudio empírico. *Estudios Gerenciales*, (32), 326-335. Recuperado el 03 de Agosto de 2018 de <https://www.sciencedirect.com/science/article/pii/S0123592316300444>

González, H. K., Castillo G.A. y Canto M. J. (2016). La dinámica de la innovación como estrategia principal de las micro empresas en Kanasín, Yucatán. En N. Reyes, R. Olivares, N. Rodríguez y E. Ceh. (Ed.), *Avances y perspectivas de la innovación, investigación y vinculación* (pp. 203-219. Mérida, México: Universidad Tecnológica Metropolitana.

Hernández, B. E.; Arraut C, L. C. (2016), Modelo conceptual de innovación de productos eco-eficientes con fundamento en el design thinking para pequeñas y medianas industrias colombianas: Caso de aplicación Provisell Ltda., *Revista Ingeniería, Innovación y Desarrollo Sostenible*, 1(1), 36-50. Consultado el 10 de Agosto de 2018 de <https://revistas.cecarr.edu.co/ingenieria/article/view/180/169>

Hidalgo, A., León, G. y Pavón, J. (2013) *La gestión de la innovación y la tecnología en las organizaciones*. Ediciones Pirámide. Madrid. Recuperado el 31 de Julio de 2018 de <https://books.google.es/books?hl=es&lr=&id=y s-UBQAAQBAJ&oi=fnd&pg=PA1&dq=cambios+en+los+productos+y+procesos++%2Binnovaci%C3%B3n&ots=vDzY2y9m0p&sig=Gc12y6OF-jLLoXtDjRrc1xkc2c4#v=onepage&q=cambios%20en%20los%20productos%20y%20procesos%20%20%2Binnovaci%C3%B3n&f=false>

Jiménez, J. D. y Sanz, V. R. (2012), Efectos de la estrategia de innovación en el éxito de los nuevos productos: el papel moderador del entorno. *Revista Europea de Dirección y Economía de la Empresa*, 21 (2012), 323–332. Recuperado el 31 de Julio de 2018 de <https://www.sciencedirect.com/science/article/pii/S1019683812000121>

Mejía, A., Mendieta, C. P. y Bravo, M. (2015). Estrategias de innovación y capital social en la pequeña y mediana empresa. *Ingeniería Industrial*, 36 (3), 286-296. Recuperado el 29 de Julio de 2018 de http://scielo.sld.cu/scielo.php?pid=S1815-59362015000300006&script=sci_arttext&tlng=en

Méndez, R. (2001). Innovación y redes de cooperación para el desarrollo local. *Interações*. 2 (3), 37-44. Recuperado el de Agosto de 2018 de <http://www.interacoes.ucdb.br/article/viewFile/585/622>

Posada, R., Aguilar, O. C & Peña, N. B. (2018). *Perfil tecnológico de la micro y pequeña empresa*. Ciudad de México: Pearson Educación.

Tarapuez, E., Guzmán, B. E. & Parra, R. (2016). Estrategia e innovación en las Mipymes colombianas ganadoras del premio Innova 2010-2013. *Estudios Gerenciales*, (32), 170-180. Recuperado el 28 de Julio de 2018 de: <https://www.sciencedirect.com/science/article/pii/S012359231630002X>

Valencia, R. M. (2015). Capacidades dinámicas, innovación de producto e aprendizaje organizacional en pymes del sector cárnico. *Ingeniería Industrial*, 36(3), 287-305. Recuperado en 01 de agosto de 2018, de http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1815-59362015000300007&lng=es&tlng=es.

Comparative Analysis between the Integrating Company model and the Export Consortium in Mexico

Análisis Comparativo entre el modelo de Empresa Integradora y Consorcio de Exportación en México

ARREDONDO-HIDALGO, María Guadalupe†, CONRAUD-KOELLNER, Eva, ALCOCER-LUQUE María Clementina and MORENO-ÁVILA, Fátima de la Purísima

Universidad de Guanajuato. Fraccionamiento El Establo

ID 1st Author: *María Guadalupe, Arredondo-Hidalgo* / ORC ID: 0000-0002-4971-4069

ID 1st Coauthor: *Eva, Conraud-Koellner* / ORC ID: 0000-0002-9121-1641

ID 2nd Coauthor: *María Clementina, Alcocer-Luque* / ORC ID: 0000-0002-1212-6132

ID 3rd Coauthor: *Fátima de la Purísima, Moreno-Ávila* / ORC ID: 0000-0003-3037-1606

DOI: 10.35429/JPE.2019.4.3.10.20

Received March 10, 2019; Accepted June 18, 2019

Abstract

Globalization has forced entrepreneurs of all types of companies to orient their steps of commercial leadership, to search for new forms of internationalization in order to be at the forefront of business transcendence. In Mexico, about 98% are small and medium-sized companies who seek to consolidate their exportable offer through different forms of international commercial collaboration. These figures involve substantive benefits such as: fair trade, specialization and the consolidation of the exportable supply. This research will address the figures of Integrative Company and the Export Consortium to make a comparison between both forms of international business cooperation. This qualitative research with a grounded theory research design had an extensive review of the literature that was carried out. It is concluded that although both figures have similar characteristics, the Integrating Company model offers more fiscal support to microenterprises, while the Export Consortium focuses on the work of small and medium enterprises.

Resumen

La globalización ha obligado a los empresarios, de todo tipo de empresas, a orientar sus pasos de liderazgo comercial, para buscar nuevas formas de internacionalización, a fin de estar a la vanguardia en materia de transcendencia empresarial. En México, alrededor del 98% de las empresas son pequeñas y medianas, quienes buscan consolidar su oferta exportable a través de diferentes formas de colaboración comercial internacional. Estas figuras involucran beneficios sustantivos tales como: comercio justo, especialización y la consolidación de la oferta exportable. La presente investigación, abordará las figuras de: Empresa Integradora y la de Consorcio de Exportación para realizar una comparativa entre ambas formas de cooperación de negocios internacionales. Se trata de una investigación cualitativa con diseño de la investigación de teoría fundamentada, en la que se llevó a cabo una extensa revisión de la literatura. Se concluye que a pesar de que ambas figuras poseen características similares, el modelo de Empresa Integradora ofrece más apoyo fiscal a las microempresas, mientras que el Consorcio de Exportación se centra en el trabajo de las pequeñas y medianas empresas.

Integrative Company, Export Consortium, Fair trade

Empresa Integradora, Consorcio de Exportación, Comercio justo

Citation: ARREDONDO-HIDALGO, María Guadalupe, CONRAUD-KOELLNER, Eva, ALCOCER-LUQUE María Clementina and MORENO-ÁVILA, Fátima de la Purísima. Comparative Analysis between the Integrating Company model and the Export Consortium in Mexico. Journal-Public Economy. 2019. 3-4: 10-20

† Researcher contributing as first author

Introduction

The commercial opening of Mexico dates from its accession to the GATT (General Agreement for Tariffs and Trade), in the year 1986, and particularly later in 1994, with the signing of the North American Free Trade Agreement (NAFTA). From this period, commercial promotion models emerge, which the Mexican government incorporated as policies, in order to encourage the growth of micro, small and medium enterprises, evaluating and promoting the competitive advantages of the country's products. For the rest of the world, particularly in Europe, the antecedents of the figures related to business association for export, are born under the scheme, both of integrating companies, and of export consortia shortly after the Second World War where economic instability, It was the common denominator for companies that were born that moment of world crisis.

This research is divided into two sections: the first one addresses the concept of an integrating exporting company; The second section explains the export consortium model. The qualitative approach of this research is based on the objective of performing a descriptive analysis of the characteristics of each figure. For this purpose, a thorough review of the literature was made from various sources where information was found that supports everything that an integrating export company and an export consortium must have in order to comply with said model.

Integrating Company

According to the Decree that promotes the organization of integrating companies, published in the Official Gazette of the Federation (1993), the integrating company is defined as a business organization that associates natural or legal persons of micro, small and medium scale in branches and regions With export potential. Its corporate purpose is to provide specialized services to its partners, such as: managing financing, buying materials and supplies together, and selling production in a consolidated manner. To understand the importance of this figure in our country, the evolution of this concept in the world will be analyzed below.

International historical background of Integrative Companies

From the seventies, the context of the economy presents changes in the forms of business organization. An increase in cooperation between companies is observed nationally and internationally. Table 1 shows this chronology in countries such as Italy, Germany and Japan (Ministry of Economy, s.f.).

Period	Country	Process
Postwar period	Italy	Its creation favored the ability to adapt to the structural changes of a new economic system that was evolving. The companies grew and gave the space to more units for the consolidation of the model.
The 80's	Germany	Especially in some regions of the country, the industry is articulated as a network that links both large and SMEs, who maintain total autonomy with respect to large companies, since they are related to several contractors, which differentiates them from the traditional model of small businesses dedicated to outsourcing where they depend on a single contractor.
From 1936	Japan	The government created laws and measures of technological development, focused on SMEs to form cooperatives and strengthen their activity: improvement of human resources, dissemination and orientation, development of basic technology and incentives for technological development.
Start of the 60s	Korea	Government promotion of large companies with business groups, developing economies of scale to develop these alliances.

Table 1 Chronology of the integrating companies in the world
Source: Own elaboration with data from the Ministry of Economy (s.f.).

Historical background of the Integrating Company in Mexico

Just as the integrating companies have taken place in different continents, in Mexico, they arise from a need to give competitiveness to rural businesses given the signing of NAFTA, in order to face the challenges ahead, since among the main problems was the low productivity, lack of organization, ignorance of economic integration (Marín, 2017). The economic environment itself, which was understood as globalized, produced in companies the need to become competitive.

Thus, the then Secretary of Commerce and Industrial Development (SECOFI), gave rise to the Decree that promoted the organization of Integrating Companies, published in the Official Gazette of the Federation (1993). This scheme of integration of companies pursues the efficiency in the production process on the basis of small productive scales of horizontal integration, in order to obtain goods and services of quality and competitive price, which favors the concurrence to the export market. This legal system establishes that due to the growing competition, integrative companies must be given operational flexibility so that they can buy and sell on behalf of their associates, thereby achieving a better negotiating position in the market. Likewise, it indicates that it is essential to obtain the maximum yield of the productive capacity that agglutinates the society, so it is convenient to allow the integrating company to market a proportion of its goods and services among third parties.

Objectives of the Integrating Company

Like all strategic alliances, the Integrating Company has specific objectives that seek the growth of MSMEs. Based on data from the National Entrepreneur Institute (s.f.) below, the objectives of an integrating company are listed:

1. Raise your bargaining power in the supply, marketing, financial and technological markets, among others.
2. Consolidate its presence in the domestic market and increase its participation in the export market.
3. Promote the specialization of the associated companies in products and processes that have comparative advantages.

Functions developed and services provided by the Integrating Company

Reyes (2011) analyzes the functions and services that the decrees of creation and modification of integrating companies incorporate:

- a. Technological: Acquisition, adaptation, assimilation and technological innovation. Modernization of machinery and equipment. Planning of the productive process. Installation of laboratories for research and technological development.

- b. Marketing: Search for national and export markets. Application of marketing and advertising techniques for the sale of their products, promotional catalogs and participation in fairs.
- c. Design: Access to specialized services, development of better designs that meet the needs of the consumer, to achieve greater market penetration. Information services on fashion trends, both at home and abroad.
- d. Subcontracting: Achieve the articulation and complementation of productive chains, coordinate smaller companies with larger ones, to avoid excessive vertical integrations. Develop outsourcing profiles required by other companies.
- e. Financing: Manage on behalf of the partners, obtaining bank credits. Specialized advice to improve your financial position. Promotion and formation of co-investments of strategic alliances.
- f. Common activities: Sell the production on behalf of the partners. Placement of consolidated offers. Consolidated purchases. Acquire technology and technical assistance. Promote the renovation and innovation of machinery and equipment. Implement programs to improve quality and increase productivity.
- g. Use of industrial waste: Advice to achieve greater use of recyclable materials, in order to contribute to the preservation of the environment. Promote the development of recycling technologies.
- h. Administrative procedures: Advice on accounting, legal, tax and credit procedures for the operation of companies.

Benefits granted by the Integrating Company

According to the National Entrepreneur Institute (sf), the integrating company offers benefits to its participants: It increases competitiveness, economies of scale are created for its associates, access to specialized services is facilitated at low cost, avoids duplication of investments, promotes the specialization of the partners in certain processes and products.

The essential thing is that it maintains the individuality of entrepreneurs in the internal decisions of their companies. Flexibility to adapt to any economic activity.

Supports

Based on data from the Ministry of Economy (s.f.), there are a number of supports designed for integrating companies:

- Fiscal Support: you can benefit from the Simplified Taxation Regime for a period of 10 years with no income limit.
- Financial Support: through the SME Fund, you can support in lines such as: training, studies, and productive projects.
- Export Support: when the partners have an export vocation, the integrating companies also have facilities to access programs for the promotion of exports such as:
 - a. Registry of Foreign Trade Companies (Ecex). Trading companies will be able to access international markets with administrative facilities and financial support from the Development Bank.
 - b. Highly Exporting Companies (Altex): Export promotion instrument, supports its operation through administrative and fiscal facilities.
 - c. Export Maquila Producers of merchandise destined for export are allowed to temporarily import the goods necessary to be used in the processing, processing and / or repair of export products.

Training stages

The incorporated process for the formation of an integrating company is identified in the following Table 2.

Stage	Description
Sensitization	Companies see the business association as a key to achieving competitiveness, to be part of specialized services, to market in a consolidated manner and thus adapt and innovate assets and technology.
Preliminary planning	They identify the opportunity of a business that is profitable. They know the risks they have to face. They define the ability to meet future commitments.
Detailed planning stage	Start of work for a more complex and deep planning.
Formation and constitution	Request a free writing to the Ministry of Economy to register the integrating company in the National Registry, attached a copy of the charter and the feasibility project. For its constitution it is required: Minimum of 4 members and there is no maximum number of members. Have a minimum capital of \$ 50,000. The shareholding of each partner must not exceed 30% of the share capital. Present to the Ministry of Economy: Draft constitutive act in accordance with the General Law of Commercial Companies and Article 4. of the Decree that promotes the organization of Integrating Companies published in the Official Gazette of the Federation on May 7, 1993 and its modifications on May 30, 1995. Economic-financial feasibility project that supports integration. Obtain the registration card in the National Registry of Integrating Companies.
Execution	The implementation of what is embodied in the project.

Table 2 Stages to form the integrating companies
Source: Prepared by the author based on the Ministry of Economy (s.f.)

Limitations that exist for the Integrating Company

It is important to mention the limitations that this type of model presents in order to take them into account, to minimize the risk of its operation:

1. Individuals or legal entities that are not formally constituted may not be members of an integrating company.
2. You cannot carry out any part of the production process that involves the activity of your associates.
3. Unfair practices are not allowed or have monopolistic activities.

4. The assets acquired for the productive process of the members cannot be part of the integrator.
5. The integrating company acts exclusively on behalf of its partners.

A common denominator in the concepts of both an integrating company and an export consortium is that of a strategic alliance, given that both schemes are configured based on these business interests. Renart (1999, p.3) states that “it is a voluntary, medium or long-term collaboration agreement between two or more independent companies, in order to carry out certain actions in a coordinated manner to achieve certain results”.

Export Consortium

The United Nations Industrial Development Organization (UNIDO, 2004), defines the export consortium as a voluntary alliance of companies with the objective of promoting the goods and services of its members abroad and facilitating the export of its products through joint actions. Renart (1999) conceptualizes this figure as a voluntary cooperation agreement between two or more companies with the objective of jointly developing their foreign markets. An export consortium is a particular case within the types of strategic alliances between companies.

Barrera (2015) indicates that the consortium is the meeting of two or more natural or legal persons, who carry out the same or similar economic activities, with the purpose of regulating their market concurrence with respect to the goods they produce or produce, or services they provide. Likewise, Espejo, Fuentes and Núñez (2015) affirm that the joint cooperation that SMEs carry out allows them to be competitive because they take advantage of commercial opportunities that are global.

International historical background of the Export Consortium

Gordiola (1975) performs an evolutionary analysis of export consortia based on the neoclassical approach of international trade theories, where the international division of labor begins, which allows each country to specialize and export those goods that can produce cheaper. The first antecedent with the characteristics of an export consortium arises in the British economy between 1850 and 1875.

On the other hand, Levin (1960) analyzed and concluded that for more than four centuries the export industry did not provide an important boost to economic development of the countries. In addition, he stressed the importance of export fluctuations in them.

Finally, Madhok (1996) affirms that in the business context the strategic decisions of a company are the basis of its internationalization.

Historical background of the Export Consortium in Mexico

During the mid-1980s, Mexico was one of the most closed economies in the world, imposing high tariffs on import products, as part of the import substitution strategy aimed at generating internal economic development (Malaga and Williams, 2010).

As the first antecedent of the export consortia in the country, there is the entry of Mexico to the General Agreement on Tariffs and Trade (GATT) in 1986, which opened the international markets, giving way, among others, to the signature and subsequent entry into force of NAFTA. Subsequently, Mexico decided to diversify its export markets through other bilateral trade agreements, such as the Economic Complementation Agreement with Chile, which opened the door to Latin American trade. Then, being within all these trade agreements, small and medium-sized companies that did not have sufficient capacity to export were forced to seek new strategic business alliances and, having as an international reference the export consortia, said figure began to be implemented in Mexico.

Types of Export Consortiums

Export consortia have differences in the services they provide, that is, the activities that each company develops gives rise to the specialization of each type of consortium. A different type of consortium.

According to the United Nations Industrial Development Organization (2004), two main types of consortium can be distinguished:

- a. Promotion consortiums: an alliance created to explore export markets determined by sharing promotion and logistics costs, the latter constitute an entity that channels member exports. In this way, promotional consortiums are limited to promoting the products of their members and helping them to have access to foreign markets.
- b. Sales consortia: they carry out commercial promotion activities and organize the sale of the products of the participating companies. To ensure a certain image, these types of consortiums usually control the quality of the products marketed. While the number of participating companies is generally limited in a sales consortium, promotion consortiums usually have a significant number of members.

These, in turn, are divided into two subtypes: A. Trade consortia: those that acquire the products of the participating companies to resell them. B. Consortia that act as export agents: the participating companies that send their own receipts and try to obtain payment from their customers. Also, within this categorization, several export consortium variables can be determined, which are found in Table 3.

Variables	Description
Consortia of a sector and multisectoral	For those in a single sector, they allow activities to focus on the most efficient product of companies. The partners know each other better, allowing effective cooperation. For multisectoral consortia, they include participating companies with different money orders and products, which avoids competition between members.
Consortia that group competitors and non-competitors	When created from those who are direct competitors, activities can be directed to the specific product, which can lead to economies of scale.
Regional consortia and those comprising members from various regions	They usually have a specific local objective, while those from more regions contact companies at different geographical points.
Consortia oriented to a specific region and those that carry out activities worldwide	If the markets to which a specific consortium is oriented are within the same area, transportation, operating and information and advertising expenses can be reduced. However, when the activities of this consortium grow worldwide, the diversification of export markets also increases.

Table 3 Variables of export consortia
Source: Own elaboration with data from UNIDO (2004)

Castro and Moneu (1993) offer another classification of export consortia: a. Export consortia at source and destination; b. Commercial promotion and sale consortiums; c. Monosectorial or multisectoral consortia; and d. Consortia depending on the geographical scope of their partner companies or their commercial activities.

Characteristics of the participating companies

UNIDO (2004) clarifies that participants in the export consortium model must meet the following characteristics:

- Have the objective of developing foreign markets and their investment mentality.
- Willingness to cooperate with other companies to achieve the objectives.
- Trust among the members to achieve the effective functioning of the consortium.
- Pre-existing relationships between members and transparent consortium operations to facilitate trust.
- Products and services that adapt to the markets in which the consortium will have a presence.
- Commitment to manage financial resources.

One of the most important services provided by export consortia is the organization of the participation of partner companies in exhibitions and industrial fairs abroad (UNIDO, 2008). However, the size of a consortium influences the offer of services that it can offer. There is no specific number of participating companies to establish an export consortium, but it does depend largely on the objective, obviously the more companies the consortium has, the more benefits can be obtained.

Benefits or advantages granted by the Export Consortiums

Every entrepreneur who wants to increase or start exports seeks to obtain benefits and advantages that allow his company to be more competitive both in the national and international markets.

Renart (1999), identifies the following benefits and advantages offered by export consortia, classifying them into two types: a. economic benefits: increase in exports, international sales with a wide profit margin, diversification of commercial risk, government support from governments through the export consortium program, savings in administrative and logistic expenses (go to international fairs as a team, export several partner-companies in the same container Creation of a collection of different ranges of products to be exported that is more attractive and complete that increases the bargaining power with end customers abroad B. Learning benefits: in export operations, operational learning on issues of negotiations with banks, application of collective agreements, location of a good supplier of a raw material, implementation of standards Learning in the participation of strategic alliances, selection of potential partners, terms of agreements.

Main disadvantages when participating in an Export Consortium

This section will briefly explain the challenges that a consortium may face during its existence, according to three sources. UNIDO (2004) classifies the challenges into two types:

c) Internal: they refer to the problems that could arise due to the organization or management of the consortium and possible conflicts between the members.

d) External: they concern the difficulties of the environment in which the consortium operates.

The following Table shows the main challenges according to their classification

Interns	External
Competition between members and lack of trust.	The inexperience of financial and support institutions with respect to consortia that complicates operations and hinders the obtaining of assistance from public bodies.
Members may be reluctant to participate without reservation in a consortium.	Unfavorable macroeconomic and political environment, export orders may not increase even though the promotion activities of the consortium are adequate.
Conflicts regarding financial contributions to be made. Emergence of tensions if members obtain different export results.	Customers can accuse participating companies of complicity and unilateral pricing.
Customers can accuse participating companies of collusion and pricing. It is more likely that the price increases of the products of the participating companies are due to improvements in quality and design and not to collusion.	
Differences in the volume of intangible benefits derived from the consortium, such as the learning of certain activities, which may cause the consortium to leave to continue with individual exports.	

Table 4 Internal and external drawbacks of export consortia
Source: Own elaboration with data from UNIDO (2004)

Financial support to the Export Consortiums

The Mexican government has a support program for the formation of export consortia, in this section there are two programs that small and medium entrepreneurs can use if they want financing. The first corresponds to the advice for the formation of export consortia (ReDex). This program has been in effect since June 18, 2018. It offers advisory services to start, guide and organize a formal business association preferably with the same channel of distribution abroad to promote their products and services jointly. The amount of support is reimbursed in up to two installments, it is not subject to VAT. The amount must be requested by the company representing at least five companies or individuals with business activity.

You can request it¹ Mexican SMEs and individuals with business activity with export potential or already exporters. For the prospecting and preparation stage, the report on the realization of the sensitization seminar that includes minutes is presented; attendance list and photographic memory; market study; export diagnostic application results (Export Check Up); Report on training and technical assistance activities that include minutes, attendance list and photographic memory; RedEx international promotion program that includes an international marketing plan with promotional actions to be carried out.

Implementation stage: Charter of the RedEx; Rules of Procedure; Organic structure of the RedEx; Fund of contributions.

The second is that of the Institutional Fund for Regional Development for Scientific, Technological and Innovation Development (FORDECYT), which is an instrument whose purpose is to promote scientific, technological and innovation actions, as well as the training of specialized human resources that contribute to regional development, to the collaboration and integration of the regions of the country, and to the strengthening of local, state and regional systems of science, technology and innovation.

Third, there is the Regional Development Program for Scientific, Technological and Innovation Capabilities (National Council of Science and Technology CONACYT, 2014). The benefits offered by the National Fund are: It focuses attention to regional demands, with projects or interventions of science, technology and innovation of high relevance and social sense. It operates through a process of consultation, consensus and consultation with key people and opinion sectors of regional development. It generates participatory environments consistent with the challenge of regional integration and definition of development problems that can be addressed with science, technology and innovation. It distributes the Stock Exchange in an equitable manner according to the 6 CONACYT regions and a global Stock Exchange to projects with relevance and high technical quality of any of the 6 regions.

They can participate: Institutions, public universities and / or individuals. Public and private centers, laboratories and companies dedicated to scientific research, technological development and innovation, which are registered in the National Registry of Institutions and Scientific and Technological Companies (RENIECyT).

Exportable Offer

The concept of exportable supply is essential for consortia and integrating companies to generate opportunities that will be directed abroad. Huaytalla (2016, p.30) defines this term based on its purpose, which aims to “develop actions to reach a strategically diversified offer, with significant added value, quality and volumes that allow a competitive presence in the markets international”. This is based on 3 aspects: 1. Product availability, 2. Economic and financial capacity of the company and 3. Management capacity. (Ministry of Agriculture and Irrigation of Peru, 2018).

Fair trade and compensatory trade

Likewise, the Fair Trade practice, as an alternative activity in international trade, also underlies the operations of the integrating companies and export consortia. One of the clearest definitions of this term is established by the World Fair Trade Organization (2018), who defines it as a global social movement that promotes other types of trade, based on dialogue, transparency, respect and equity. This practice contributes to the assurance of the rights of micro and small entrepreneurs, in addition to small producers and workers who are disadvantaged before large companies.

"Fair Trade organizations are committed to supporting producers, raising awareness and developing campaigns to achieve changes in the rules and practices of conventional international trade" (World Fair Trade Organization, 2018). For this reason, both the concept of fair trade and exportable supply have been considered as part of the conceptual framework in this investigation.

¹ Se describen todos los requisitos puntuales, tal y como se enlistan originalmente en el Decreto correspondiente.

In parallel, the compensatory trade has its most graphic description in the *sogo shosha* that began in Japan, which began simply and then transcended in large firms that use their collaboration networks to sell the products through compensatory businesses. (Hill, 2015).

Methodology

The methodology used in this research refers to qualitative research, with an exploratory approach and secondary sources. (Hernández et al., 2014). The design applied to this research is a grounded theory, given that the categories of the two models of international trade association have been analyzed: consortium and integrating export company, comparing benefits, challenges and elements of each one and that are applied to a Mexican context specifically, that is to say for SMEs.

Results

In Mexico, according to the data available to the Ministry of Economy (2019), there are a total of 1,197 integrating companies that are distributed as follows: agricultural sector 435, manufacturing 184, mining 3, construction 99, commerce 99 communications and transportation 45 and services 276.

For export consortia, the numbers indicate that in Mexico, 31 consortiums have been created in the States of Jalisco, Federal District and Zacatecas. The following Table concentrates the data in specific.

State – number	Sectors
Jalisco (20)	Auto parts, fashion, footwear, tequila, graphic arts, veterinary medicine, 3D animation, ICT, digital arts, painting and sculpture, performing arts, art and sculpture, crafts and jewelry.
Zacatecas (7)	Greenhouse vegetables
Mexico City (4)	Food and mechanical metal industry.

Table 5 Export consortia in Mexico
Source: own elaboration with data from Cerdan and UNIDO (2012)

Also, in the following comparative table presented below, the characteristics of both the exporting integrating company and the export consortium are shown.

Model	Integrative Exporting Company	Export Consortium
Concept		
Objective	Raise the bargaining power of MSMEs and consolidate their presence in the internal and external market.	Promote the goods and services of its members abroad to facilitate the export of its products through joint actions.
Function that develops	Acquisition, adaptation, assimilation and technological innovation, national and international market search, access to specialized design services, achieve greater market penetration.	Planning, coordination and implementation of internationalization strategies, financing management for partners. Development of improvements in product quality and services.
Characteristics	Operational flexibility, better negotiating position in the national and international market. Acquisition, adaptation, assimilation and innovation in technology. Specialized financial advice. It includes MSMEs.	Reach in foreign markets and attract investment. Partner companies have access to capital from other companies that help them. The consortium directors are responsible for developing internationalization plans for members.
Benefits	Raise competitiveness. Create economies of scale for your associates. It favors the concurrence to new national or international markets. Flexibility to adapt to any economic activity.	Increase in exports. International sales with good profit margin. Diversification of commercial risk. Subsidies from governments through the export consortium program. Distribution of expenses not covered by possible subsidies among the partner companies of the consortium.
Partners	It starts with a minimum of 4 partners, however, it is recommended that it does not exceed 50 in its first stage of operation.	Minimum number of 3 partners. There is no maximum number of partner companies.
Economic capacity of the partners	Medium	Medium
Expectations to improve the competitiveness of partner companies	High	All
Financial support	Yes	Yes
Propitiate economies of scale	Yes	Yes
Productive activities	All	All

Table 7 Comparison of figures of integrating company and export consortiums
Source: Prepared by the author with data from the Ministry of Economy, National Entrepreneur Institute, ProMéxico, United Nations Industrial Development Organization

Through the analysis and diagnosis of the information collected, the concept of the integrating exporting company and the export consortium was announced, both figures were created in order to increase the competitiveness of companies that have an export potential, but present some differences:

- The integrating exporting company is the one born with the integration of the mypes.
- The export consortium is made up of small and medium-sized companies, as well as other larger or commercial operations.
- The integrating company has a series of fiscal support and specialized advice from its training stages and at any time it requires it, this will depend on the doubts, problems or situations that arise.
- The integrating company gives much greater ease of access to those micro businesses that want to be part of it, since they may or may not register with the Ministry of Economy, a disadvantage of this would be that, if the registration was not made, no They will be able to access programs for export promotion. In the case of consortiums destined for sale, the main challenge is how to organize export operations between the various members and the consortium.

Finally, the results of this investigation showed that both the figure of the exporting integrating company and the export consortium have many similar characteristics, however, it depends on the type of sector in which the partners are going to associate. If a company is micro scale, it is best to associate under the scheme of integrating company. In this context, it will be the decision of the entrepreneur under which scheme you want to integrate following the process of formation and / or constitution of this.

Conclusions

Based on these results, the research suggests that the figure of an integrating exporting company is ideal for small entrepreneurs to enjoy the series of benefits and supports it provides.

This will depend on the size of the company you have and the international expansion strategies that are related to the strategic planning of the companies.

One of the most frequent problems among MSMEs is that they do not have the necessary resources to carry out foreign trade operations, this includes export and import, international marketing, technology, design, etc. Given the international background presented, it is known that the creation of strategic alliances such as those presented in the document is of paramount importance for the economic growth of a country.

It is concluded that, broadly speaking, there are no substantial differences between the figure of the exporting integrating company and the export consortium since both have practically the same characteristics and offer the same benefits, however, among the small differences, it was found that Integrative companies give more support to microenterprises, while the export consortium focuses on small and medium-sized enterprises. Therefore, the interested entrepreneur should carefully review both figures to determine which one is most beneficial depending on the characteristics of your company.

In addition, the continuous creation and implementation of export networks that allow MSMEs the growth necessary for their internationalization regardless of their sector is important. Another key point is that the Mexican government has implemented several export support programs, which represents an advantage for interested parties to access financial resources.

Acknowledgments

The authors of this paper express their gratitude to the University of Guanajuato for the support and financing provided for its publication.

References

- Barrera, J. (s.f.). Consorcio en México. Recuperado el 22 de noviembre de 2018, de https://mexico.leyderecho.org/consorcio/#Consorcio_en_la_Legislacion_Mexicana.
- Castro, M. y Moneu, I. (1993). Los consorcios de exportación. (718), 63-78.

Consejo Nacional de Ciencia y Tecnología [CONACYT] (2014). Fondo Institucional de Fomento Regional para el Desarrollo Científico, Tecnológico y de Innovación (FORDECYT). Recuperado el 22 de noviembre de 2018, de <https://www.conacyt.gob.mx/index.php/fondo-institucional-de-fomento-regional-para-el-desarrollo-cientifico-tecnologico-y-de-innovacion-fordecyt>.

Diario Oficial de la Federación [DOF]. (1993). Decreto que promueve la organización de Empresas Integradoras. Recuperado de http://www.dof.gob.mx/nota_detalle.php?codigo=4735831&fecha=07/05/19.

Espejo, A., Fuentes, F. y Núñez, J. (2015). Los consorcios de exportación: revisión conceptual y factores determinantes de éxito. *Revista de Estudios Empresariales*. 2(2015). Págs. 118 – 144

Gordiola, A. (1975). Consorcios de Exportación. (Tesis doctoral) Universidad de Buenos Aires-Facultad de Ciencias Económicas.

Hernández, R., Fernández, C. y Baptista, P. (2014). Metodología de la investigación (6ª Ed.). México, D.F., México: McGraw Hill Interamericana.

Huaytalla, C. (2016). Generación de oferta exportable mediante la sustitución de cultivos de papa hacia la producción de quinua en la cooperativa virgen del Carmen-Ayacucho para su comercialización en el mercado de Toronto-Canadá. (Tesis de licenciatura). Facultad de Ciencias Administrativas y Recursos Humanos.

Hill, C. (2015). *International Business. Competing on the Global Marketplace*. McGraw Education: USA.

Instituto Nacional del Emprendedor. (s.f.). Empresas Integradoras. Recuperado el 19 de noviembre de 2018, de <https://www.inadem.gob.mx/empresas-integradoras/>.

Málaga, J. y Williams, G. (2010). La competitividad de México en la exportación de productos agrícolas. vol. 27, 295-309.

Madhok, A. (1996). The Organization of Economic Activity: Transaction Costs, Firm Capabilities, and the Nature of Governance. Recuperado el 24 de noviembre, de https://www.researchgate.net/publication/238337511_The_Organization_of_Economic_Activity_and_Transaction_Costs_Firm_Capabilities_and_the_Nature_of_Governance.

Marín, C. (2017). Papel que Desempeñan las Empresas Integradoras. (Licenciatura). Universidad Autónoma Agraria Antonio Narro.

Ministerio de Agricultura y Riego. (s.f.). Definición de Oferta Exportable. Recuperado el 18 de noviembre de 2018, de <http://minagri.gob.pe/portal/objetivos/181-exportaciones/que-podemos-exportar/532-definicion-de-oferta-exportable>.

Organización de las Naciones Unidas para el Desarrollo Industrial [ONUDI]. (2004). Guía de los consorcios de exportación. Recuperado el 21 de noviembre de 2018, de https://www.unido.org/sites/default/files/2008-09/Guia_de_los_consorcios_de_exportacion-Spanish_guide_0.pdf.

Organización Mundial del Comercio [OMC]. (s.f.). Comercio justo. Recuperado el 12 de noviembre de 2018, de <http://www.wfto-la.org/comercio-justo/que-es/>.

PROMEXICO. (s.f.). Asesoría para la formación de consorcios de exportación. Recuperado el 21 de noviembre de 2018, de <http://www.promexico.mx/es/mx/asesoria-formacion-consorcios-exportacion-redex>.

Renart, Ll. (1999). Consorcios de Exportación y otros tipos de Alianzas Estratégicas entre Empresas. (2627), 1-18.

Reyes, O. (2011). Empresas integradoras para el beneficio del agro. (47), 111-128.

Secretaría de Economía [SE]. (s.f.). Guía para la formación de una empresa integradora. Recuperado el 18 de noviembre de 2018, de http://www.contactopyme.gob.mx/integradoras/h_guias.html.

Secretaría de Economía. (2019). Programa de Empresas Integradoras. Recuperado el día 9 de septiembre de 2019, de <http://www.contactopyme.gob.mx/integradoras/directorio.asc>

ARREDONDO-HIDALGO, María Guadalupe, CONRAUD-KOELLNER, Eva, ALCOCER-LUQUE María Clementina and MORENO-ÁVILA, Fátima de la Purísima. Comparative Analysis between the Integrating Company model and the Export Consortium in Mexico. *Journal-Public Economy*. 2019

Study of the context variables for the design of a sustainable economic model in gas service stations in Villahermosa, Tabasco

Estudio de las variables del contexto para el diseño de un modelo económico sostenible en estaciones de servicio de gasolina en Villahermosa, Tabasco

ANGELES-GUZMÁN, Casandra, MENESES HERNÁNDEZ, José Luis, JAVIER-GERÓNIMO, Zinath and ARIAS-RODRÍGUEZ, Nancy Estela

Instituto Tecnológico de Villahermosa / Tecnológico Nacional de México

ID 1st Author: Casandra, Ángeles-Guzmán / ORC ID: 0000-0002-2902-6285, CVU CONACYT ID: 914529

ID 1st Coauthor: José Luis, Meneses Hernández / ORC ID: 0000-0001-6097-4817, CVU CONACYT ID: 309388

ID 2nd Coauthor: Zinath, Javier-Geronimo / ORC ID: 0000-0002-0008, CVU CONACYT ID: 902663

ID 3rd Coauthor: Nancy Estela, Arias-Rodríguez / ORC ID: 0000-0002-7297-9153, CVU CONACYT ID: 921506

DOI: 10.35429/JPE.2019.4.3.21.26

Received March 11, 2019; Accepted June 12, 2019

Abstract

Objectives: To study the context variables, for the design of a sustainable economic model such as improvement to companies with service stations in Villahermosa, Tabasco. Methodology: Describe the most appropriate strategies to reach the target group: people who have vehicles for family use, shall apply where a survey to a sample of the population seeking to identify characteristics as habits of consumption, frequency of use, additional services and budget to invest. Contribution: The design of a sustainable economic model.

Resumen

Objetivos: Estudiar las variables de contexto, para el diseño de un modelo económico sostenible como propuesta de mejora a empresas con estaciones de servicio en Villahermosa, Tabasco. Metodología: Describir las estrategias más adecuadas para llegar al grupo objetivo: personas que tienen vehículos para uso familiar, donde se aplicará una encuesta a una muestra de la población que buscará identificar características como hábitos de consumo, frecuencia de uso, servicios adicionales y presupuesto a invertir. Contribución: El diseño de un modelo económico sostenible.

Model, Sustainable, Gas Stations

Modelo, Sostenible, Gasolineras

Citation: ANGELES-GUZMÁN, Casandra, MENESES HERNÁNDEZ, José Luis, JAVIER-GERÓNIMO, Zinath and ARIAS-RODRÍGUEZ, Nancy Estela. Study of the context variables for the design of a sustainable economic model in gas service stations in Villahermosa, Tabasco. Journal-Public Economy. 2019. 3-4: 21-26

* Correspondence to the Author (angeles_cachy@hotmail.com)

† Researcher contributing as first author

Introduction

The present research work entitled "Study of the context variables for the design of a sustainable economic model in gas service stations in Villahermosa, Tabasco", stems from the interest of solving the problem that is currently being lived in Mexico, due to the low utility of the fuel distribution sector, because of the constant variations in prices, so it is proposed, to establish a model that allows to visualize the scenario in an integral way, particularly analyzing the City of Villahermosa.

The bases for a sustainable economic model are: Generation of employment sources that contribute to the welfare of society, use of clean energy sources in the operation of service stations, Care and protection of the environment, and sustainability in urbanized areas. through a rigorous control of atmospheric emissions generated by companies and solution to problems of waste of organic matter in rural areas.

It is suggested to the entrepreneur to visualize different aspects, which are important to consider so that they facilitate decision making and that allow to know in an integral way the current scenario, creating a sustainable economic model that considers the variables: cultural, social, political, economic, Environmental and technological Since through its analysis you can apply specific tools and programs that contribute to the improvement of the entire sector.

Objectives

Course objective: Design a sustainable economic model that facilitates decision making for gas service stations in Villahermosa, Tabasco.

Specific Objective 1: Carry out a comprehensive situational analysis at petrol service stations in Villahermosa, Tabasco.

Specific Objective 2: Design a sustainable economic model applicable to gas service stations.

Methodology to be developed

Kind of investigation:

The research is of a simple transversal descriptive type since it seeks to describe the most appropriate strategies to reach the target group: people who have vehicles for family use, where a survey will be applied to a sample of the population that will seek to identify characteristics such as consumption habits, frequency of use, additional services and budget to invest.

Population:

To fulfill the purpose of the investigation it is necessary to apply the survey instrument:

Elements	Private vehicles
Sampling Units	People who live in Villahermosa, Tabasco and own vehicles for family transportation, do not apply to heavy duty vehicles.
Time	August 2019

Table 1 Sampling units
Own Source

Sample size:

To establish the sample size, the number of households and population per dwelling was based on the 2017 demographic indicators report of the State of Tabasco in the central municipality, where 177, 328 private cars were registered in the municipality Tabasco Center, according to INEGI data in 2017.

The following formula was used to calculate the sample size:

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

Where:
n, is the sample size.
N, is the population
p, is the probability of success
q, is 1 - p
Z, is the level of confidence expressed in standard deviations
e, is the sample error.

Substituting the values to find the sample size that we require for this investigation is:

$$n = \frac{177,328 \cdot 0.5 \cdot 0.5 \cdot 1.96^2}{177,328 - 1 \cdot 0.05^2 + 1.96^2 \cdot 0.5 \cdot 0.5}$$

$$n = 383.33 \approx 383$$

Sources and techniques for information gathering:

The methodology for collecting information is quantitative, the technique used is a structured survey and the instrument is a questionnaire which will be applied to the target audience defined in the population.

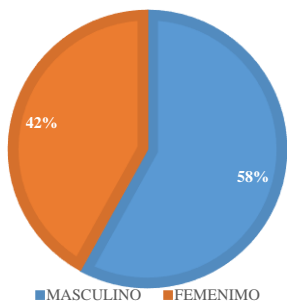
Results

50 people were surveyed (this being a representative sample), who came to load gasoline with a vehicle, in the city of Villahermosa, Tabasco. During the descriptive statistical analysis, it was identified that 29 people (58%) were men and 21 people (42%) women, with main interest in those who had some type of own means of transportation; of which 38 people (76%) answered yes and 12 people (24%) answered no, since they only occupied a borrowed vehicle eventually. The percentage of respondents is 64% in ages between 20 and 30 years and, secondly, with 18% in ages between 30 and 40 (see Table 2, graph 2).

Gender		Frequency	Percentage
Valid	Male	29	58.0
	Female	21	42.0
	Total	50	100.0

Table 2 Percentage of people according to sex
Source: Own

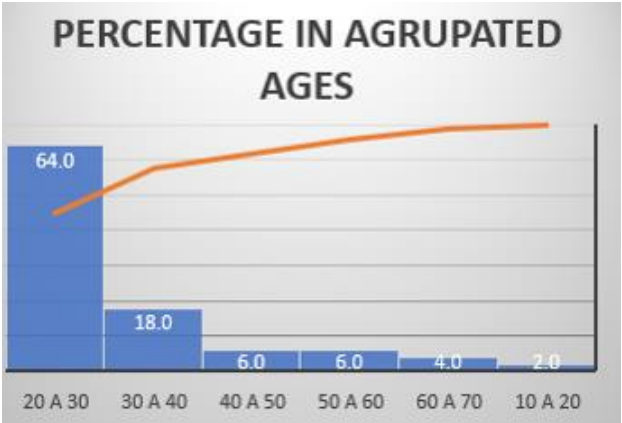
% OF PEOPLE ACCORDING TO SEX



Graphic 1 Percentage of people according to sex
Source: Own

AGE (grouped)	Frequency	Percentage
Valid 10 TO 20	1	2.0
20 TO 30	32	64.0
30 TO 40	9	18.0
40 TO 50	3	6.0
50 TO 60	3	6.0
60 TO 70	2	4.0
Total	50	100.0

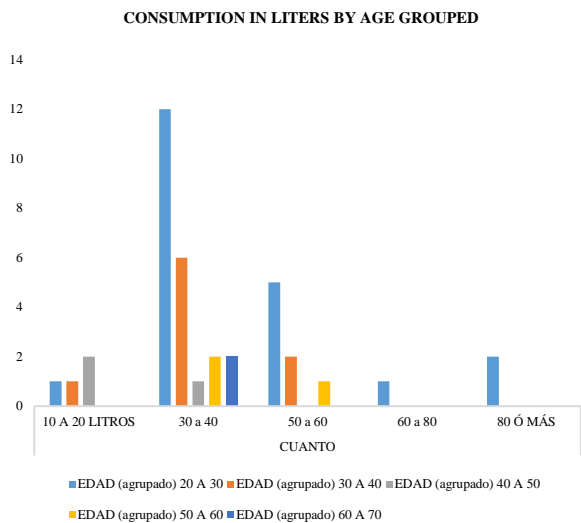
Table 3
Own Source



Graphic 2 Percentage of people in grouped ages
Own source

Cross-table data analyzes were performed to know the relationship between age, occupation, degree of study, weekly gasoline consumption, and to know the opinion regarding the price. The results obtained are presented below: With respect to consumption in liters by grouped age, in the cross tables it was found that 12 people indicated that their consumption is 30 to 40 liters per week with ages between 20 and 30 years; On the other hand, people who consume more liters of gasoline with a frequency of 5 people who indicated that their consumption is 50 to 60 liters per week, are between the ages of 40 and 50, since they are people with luxury vehicles with a stable job, so they consider it necessary to have a full tank to avoid wasting time when charging if you run out of fuel.

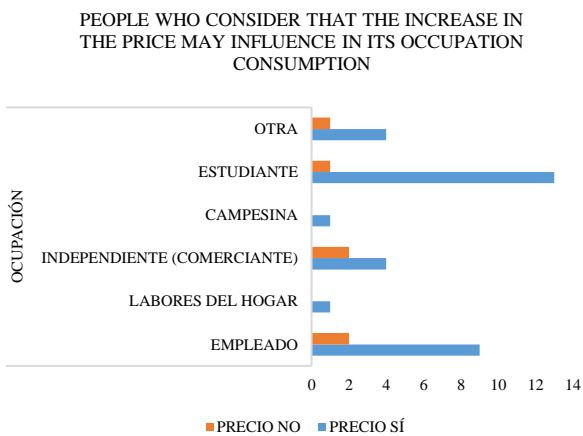
In addition, in the case of the respondents, there was a person who indicated that they consume between 60 and 80 liters per week, and two people indicated that they consume 80 liters or more for their vehicles on a weekly basis and with ages between 20 and 30 years, this Due to your daily activities. (See Graphic 3).



Graphic 3 Percentage of gasoline consumption in liters per week according to the grouped age
Own Source

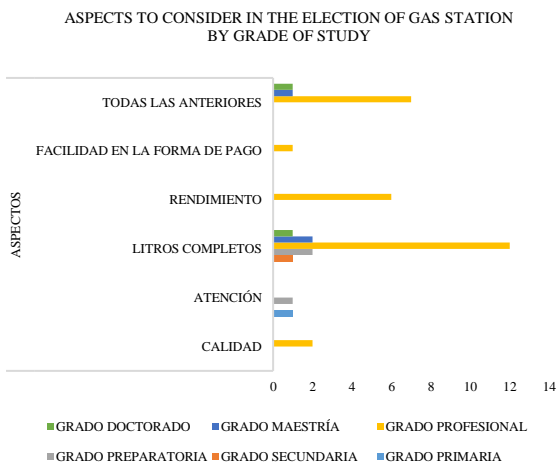
According to the degree of studies, the frequency of the people who chose to have the gas stations self-sustaining, and the following was found: first with a total of 28 people they said that they consider it necessary at a professional level or that they have a bachelor's degree, followed from the preparatory level with a frequency of 3 people, and for the elementary, secondary and master's levels, one person said yes respectively for each; In the case of people who said no, there is a frequency of two in masters and two doctorates, for which it is evident that the majority defend this sustainable approach, and mostly with a professional level.

On the other hand, when analyzing the occupation with respect to the price and its continuous increase, and because the people surveyed are mostly students, therefore, the displacement from their homes to schools or research centers, represents a constant expense in fuel, because many travel from other municipalities in the state of Tabasco, to the city of Villahermosa and are concerned about their savings and performance. The results obtained are the following: 13 students responded that they have considered other alternatives, such as saving or buying in places not authorized for sale and distribution, since the increase in the price affects their economy which makes them more vulnerable . Followed by a frequency of 11 people with employee occupation, they answered yes, and that they also use their vehicles, units or means of transport to move from their homes to their work centers, which represents an inevitable expense (see figure 4).



Graphic 4 Percentage of influence on consumption with respect to the increase in the price per occupation
Own Source

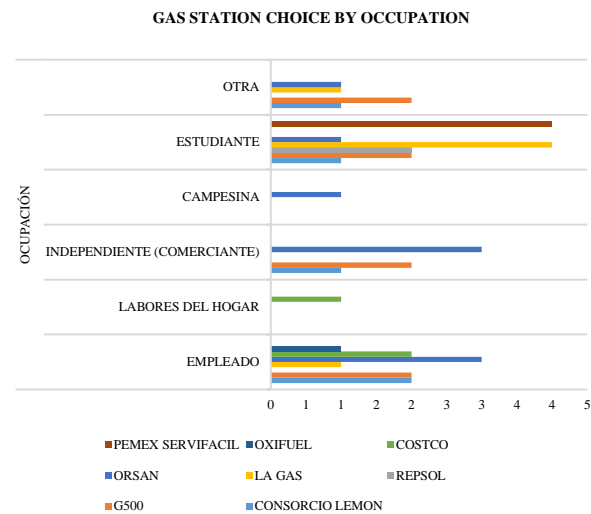
Analyzing the degree of study with respect to the aspects that they consider when choosing their gas station, a frequency of 12 people (of the 50 respondents in total) who chose the “full liters” were obtained, with a professional study degree or degree level, because they consider gas stations that have very good prestige or that their advertising is based on guaranteeing “full liters” to consumers, since they even have certifications and periodic reviews in their service stations for their proper functioning in the gasoline dispensing machines, making use of the word of mouth recommendation to increase their sales levels, and thus have higher profits. In addition, with a frequency of 7 people who chose several aspects, followed by 6 people who chose the highest performance aspect, and with a frequency of 2 the quality aspect and 1 person chose the ease aspect in the payment method (see Graphic 5).



Graphic 5 Aspects for the choice of gas station according to the degree of study
Own Source

Finally, the choice of gas station with respect to the occupation of the respondents was cross-analyzed and the following were found for the student occupation: the G500 gas station with a frequency of 2 people, and for the ORSAN, LA GAS, and CONSORTIUM gas stations LEMON with a frequency of 1 respectively in each of them.

It was also found that from the employee occupation the following: for the ORSAN gas station a frequency of 3 was obtained, for COTSCO, G500 and CONSORCIO LEMON there was a frequency of 2 people for each of them, and for the LA GAS and OXIFUEL gas stations there was a frequency of 1 respectively for each one. So it can be said that ORSAN and G500 are the preferred gas stations in people with these occupations (see Graphic 6).



Graphic 6 Gas station choice percentage according to occupation
Own Source

Model

As part of the analysis of the six context variables: cultural, social, political, economic, environmental and technological, the model that considers each of them and the way in which it relates to the system of companies in the sector of the sector is presented. sale and distribution of fuels.

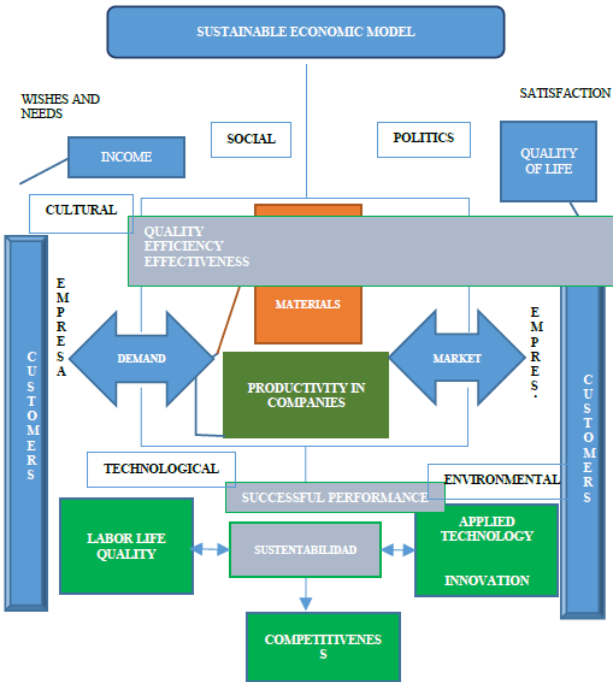


Figure 1 Sustainable economic model
Own Source

Acknowledgments

To the National Council of Science and Technology (CONACYT) for its financing through the National Postgraduate Scholarship awarded.

Conclusions

The study carried out contains relevant information to facilitate decision-making to entrepreneurs, and its purpose has been to know the consumption of gasoline in liters per week, as well as the factors that people consider when choosing where to load gasoline, the gas station of their preference and level of consumption in gasoline of people with private vehicles of Villahermosa, Tabasco; In addition to knowing the percentage of people who are aware of the need to have a new approach to what is economically sustainable.

Therefore, all companies dedicated to the distribution and sale of fuels must also take these aspects into account in their planning for the opening of service stations and those already established, which would have a positive impact on the entire population of the Tabasco state.

Among the most relevant findings of this research, the following are mentioned: the majority of people who have a vehicle are mostly men, since 29 people (58%) were men and 21 people (42%) women that it can be deduced that in the case of women, due to the culture in the state, they only dedicate themselves to household chores, or to some other work informally near their homes, or, they only have one vehicle per family and this is occupied by the heads of family to move to their source of work. It should be noted that this has changed over the years and it has been observed that the percentage of difference between both sexes has decreased.

Another important point that has been found is that the type of advertising that gas stations implement to attract more customers has been the dispatch of “full liters”, which has worked since they mostly chose this aspect with a percentage of 47% of the total number of people surveyed with some type of own land transport means. In addition, quality of service is a strategic factor for the differentiation of local gas stations, with respect to the competition of foreign companies.

References

<http://www.bancomundial.org/es/news/feature/2013/11/19/energy-efficiency-the-fuel-for-low-carbon-urban-development>.

<http://www.beta.inegi.org.mx/app/indicadores/?ind=6200240442#tabMCcollapse-Indicadores#D6200240442>.

https://www.gob.mx/cms/uploads/attachment/file/302697/tabasco_2018_02.pdf
file:///C:/Users/HP/Downloads/CESOP-IL-72-14-EconomiaSustentable-310817.pdf

Reina, F., Johanny, M., Lara Cortes, P. A., & Pulido Sánchez, Y. T. (2019). Diseño de un modelo de proyección financiera que mejore la sostenibilidad de la empresa industrias Ramfe SAS del sector industrial en fabricación de reductores.

Reyes, Giovanni E.; Briceño M., Andrea Propuesta de modelo financiero para crecimiento corporativo sostenible Revista Finanzas y Política Económica, vol. 2, núm. 2, julio-diciembre, 2010, pp. 57-64 Universidad Católica de Colombia Bogotá D.C., Colombia.

Vallejos Pacheco, L. A. (2019). SISTEMA DE GESTIÓN LOGÍSTICA, BASADO EN BPMN, PARA INCREMENTAR LA EFICIENCIA ECONÓMICA EN LA ESTACIÓN DE SERVICIOS VALLEJOS EIRL.

Factors for measuring knowledge management and intellectual capital in the public sector of Jalisco

Factores para la medición de la gestión del conocimiento y del capital intelectual en el sector público Jalisciense

HUERTA-CHÁVEZ, Irma Alicia^{†*} & CASTRO-VALENCIA, Alberto Merced

Universidad Autónoma de Guadalajara

ID 1st Author: *Irma Alicia, Huerta-Chávez* / ORC ID: 0000-0001-6741-1013, Researcher ID Thomson: W-3247-2019, CVU CONACYT ID: 960192

ID 1st Coauthor: *Alberto Merced, Castro-Valencia* / ORC ID 0000-0001-8160-9077, Researcher ID Thomson: D-3462-2018, CVU CONACYT ID: 222325

DOI: 10.35429/JPE.2019.4.3.27.42

Received march 20, 2019; Accepted June 13, 2019

Abstract

In the public sector, stresses the importance of Knowledge Management and Intellectual Capital, as raw material in the generation and provision of services to citizens, depending on existing needs, as well as in the modernization of public administration. In this sense, the objectives of the present research are focused on identifying the necessary factors for the measurement of Knowledge Management and Intellectual Capital in the public sector of Jalisco, as well as explaining the behavior of the variables under study. For this, the scales of Rodríguez-Ponce (2007) and Chahal and Baskhi (2015) were used with six dimensions or factors, appropriate to the Mexican public context. With a cross-sectional study and a non-probabilistic sampling for convenience of 52 employees of middle managers and directors of the public sector of social assistance from Jalisco, who voluntarily accepted to participate, the results were obtained that allowed validating the instrument with necessary dimensions or factors in the explanation of the variables under study, by means of descriptive statistics and statistical tests of reliability, normality tests and correlations between elements by factor.

Knowledge management, Intellectual capital, Public sector

Resumen

En el sector público, destaca la importancia de la Gestión del Conocimiento y el Capital Intelectual, como materia prima en la generación y prestación de servicios a la ciudadanía, en función de las necesidades existentes, así como en la modernización de la administración pública. En este sentido, los objetivos de la presente investigación se concentran en identificar los factores necesarios para la medición de la Gestión del Conocimiento y el Capital Intelectual en el sector público de Jalisco, así como en explicar el comportamiento de las variables en estudio. Para ello, se utilizaron las escalas de Rodríguez-Ponce (2007) y de Chahal y Baskhi (2015) con seis dimensiones o factores, adecuadas al contexto público mexicano. Con un estudio de corte transversal y un muestreo no probabilístico por conveniencia de 52 empleados de mandos medios y directores del sector público de asistencia social jalisciense, quienes de manera voluntaria aceptaron participar, se obtuvieron los resultados que permitieron validar el instrumento con dimensiones o factores necesarios en la explicación de las variables en estudio, mediante estadística descriptiva y pruebas estadísticas de confiabilidad, pruebas de normalidad y correlaciones entre elementos por factor.

Gestión del conocimiento, Capital intelectual, Sector público

Citation: HUERTA-CHÁVEZ, Irma Alicia & CASTRO-VALENCIA, Alberto Merced. Journal-Public Economy. Factors for measuring knowledge management and intellectual capital in the public sector of Jalisco. 2019. 3-4: 27-42

* Correspondence to the Author (amri86@hotmail.com)

† Researcher contributing as first author

Introduction

The public sector has a great responsibility focused on the fulfillment of institutional objectives, which implies responding effectively to the demands of citizens (Sarmiento and Román, 2011; and Rossi, Citro and Bisogno, 2016). In addition, it is important to understand how knowledge management and intellectual capital behave in this sector, since the knowledge generated by public servants is a determining factor for the continuous improvement of services and proper management, allows meet organizational objectives and improve decision making.

In this sense, the public sector stands out for producing and consuming more knowledge, as a basis for intellectual capital, knowledge management being necessary in the generation of programs for the common good of citizens (Oviedo-García, Castellanos-Verdugo, Riquelme-Miranda and García, 2014; Iyikal and Celebi, 2016; and Pérez, Romero and Mora, 2016). Likewise, the new knowledge economy pays special attention to the public sector, since it invites you to have better practices for the modernization of the sector; and face the challenges of retirement and transfer of knowledge workers in public agencies (OECD, 2003; and Sánchez, González and Ortiz, 2010).

Additionally, the existence of few studies on knowledge management in developing countries is highlighted (Syed-Ikhsan and Rowland, 2004), as is the case in Mexico. To this, it is added that research in the intellectual capital of the public sector has also been neglected, even when the generation of knowledge marks international competition (Bontis, 1998); and it is important for the improvement of the management and the control of processes that achieve a real benefit for the citizens (Guthrie and Dumay, 2015).

For its part, the theory of intellectual capital is fragmented, that is, there are several studies which are not related to each other (Massaro, Dumay and Garlatti, 2015), so it represents a real challenge for the public sector, develop research into respect (Tapia, 2016). Likewise, there is a need to have strategies to recognize, measure and evaluate intangible assets for the generation of competitive advantages (Muñoz, 2019).

However, the public sector, in addition to facing the challenges of the new knowledge economy (OECD, 2003; and Sánchez, González and Ortiz, 2010), this sector operates in a context of restricted resources and progressive demands of citizens (Agus, Barker and Kandampully, 2007; and Jääskeläinen and Lönnqvist, 2009). Due to the above, it is extremely necessary for the latter to manage knowledge, that is, properly manage intangible assets, intellectual capital, in order to have competitive advantages to respond in a timely manner to the demands of citizens (Sarmiento and Román, 2011; and Rossi, Citro and Bisogno, 2016).

Regarding intangible assets, it is important to consider them as differentiating elements that create value, directly affecting productivity and the satisfaction of the various stakeholders in the institutions (Muñoz, 2019). Therefore, now the efforts of the institutions must be oriented to change and innovation, emphasizing in giving due importance to the assets that provide value, such as knowledge, skills or attitudes, to name a few (Morales, Jacobo and Leyva, 2018), that is, to its intellectual capital. Likewise, it should be noted that the image and reputation of the institutions have not been so relevant, although they are positioning elements that must be taken care of (Trillo and Peces, 2019).

Based on the above, the problem is formulated based on the following question: what are the necessary factors for the measurement of knowledge management and intellectual capital in the public sector of Jalisco?

Therefore, in the present study, it is proposed to evaluate the variables of knowledge management and intellectual capital, which include six dimensions or factors. Three for the first variable: create knowledge, share knowledge and apply knowledge; and the following three for the second variable: human capital, structural capital and relational capital.

The technique used is quantitative, including descriptive statistics, statistical reliability tests, normality tests and correlations between elements by factor.

This technique represents an added value in relation to the other techniques, by having statistical data that support the explanation of the phenomenon under study, through empirical evidence, through a valid and reliable instrument that ensures the explanation of the behavior of the variables in study, knowledge management and intellectual capital in a specific context, the public sector.

The central hypothesis of the present, focuses on the knowledge management and intellectual capital in the public sector are explained by six factors, which results in reliability levels above 0.5 in the two variables, being:

- H0: The reliability level of Cronbach's Alpha is less than 0.5.
- Ha: The reliability level of Cronbach's Alpha is greater than 0.5.

This article is composed of 8 main sections. In section 1. Introduction, the topic under study is explained in general, as well as the importance, the technique to be used, the main hypothesis and the problem itself, as well as the generalities to be discussed during the article. In section 2. Theoretical framework, it is possible to observe the theory of knowledge management and intellectual capital, including the proposed theoretical model subject to verification in future research. In section 3. Method, the type and design of research, the conceptual and operational description of both dependent and independent variables, in addition to sociodemographic variables, measuring instruments, participants, procedure and data analysis are included. . In section 4.

Results and discussion, the descriptive results for each factor, the normality tests, the correlations between each element and the calculation of Cronbach's Alpha of the two variables under study are detailed. In section 5. Annexes, the items of the instrument are shown. In section 6. Acknowledgments, informants are mentioned for their participation. In section 7. Conclusions and recommendations, the main findings and future work are explained. In section 8. References, the authors are shown as a result of the review of the state of the art and with direct contribution to this study.

Theoretical framework

Knowledge management

The main pioneers in the theory of knowledge management are Nonaka (1994) and Nonaka and Takeuchi (1995), who propose a paradigm to manage the dynamics of aspects of the processes for the creation of organizational knowledge. The central theme is that organizational knowledge is created through a continuous dialogue between tacit and explicit knowledge.

Knowledge is generated by interaction in four ways, that is, it raises the conversion of knowledge as follows: (1) from tacit knowledge to tacit knowledge, (2) from explicit knowledge to explicit knowledge, (3) from tacit knowledge to knowledge explicit, and (4) from explicit knowledge to tacit knowledge (Nonaka, 1994; and Nonaka and Takeuchi, 1995). This is given from one individual to another, from an individual to a group and between groups. In addition, new knowledge is developed by individuals, being the main role of organizations to articulate and amplify it, as the most important resource for international competitiveness (Nonaka, 1994; and Nonaka and Takeuchi, 1995).

In this same sense, Nonaka (1994) and Nonaka and Takeuchi (1995), present a design of an organizational model based on the process of creating organizational knowledge, with the central requirement of providing the organization with a strategic capacity to acquire, create, exploit and accumulate new knowledge continuously and repeatedly in a circular process, being a dynamic cycle of knowledge.

Knowledge can be classified into two types, which apply in any organization: explicit and tacit. The first is a type of knowledge that can be captured written in documents or in databases; Explicit knowledge is formal and systematic, which can be easily communicated and shared according to Nonaka (1994) and Garzón and Fisher (2009 and 2010), a definition also supported by Guchait, Namasivayam and Lei (2011). Additionally, both tacit knowledge and explicit knowledge exist in individuals, groups, organizational and inter-organizational domains (Kong, 2008).

While the second type, that is, tacit knowledge, refers to knowledge that is nonverbal, or even nonverbal, intuitive, non articulated and therefore is not easily expressed and formulated (Kong, 2008).

It is important to recognize Nonaka and Takeuchi (1995), who, in their knowledge creation model supported him in the dynamic interaction between customers, suppliers and the company, and assumed that the company can integrate products, markets and mental models to create knowledge.

In the contribution of Bontis (1998) who affirms that the creation of knowledge on the part of organizations has been practically neglected in administration studies, although Nonaka and Takeuchi (1995) are convinced that this process has been the most important resource for international competitiveness for some time.

According to Rodríguez-Ponce (2007), on whom the present research is based, this author points out that knowledge management includes identifying and sharing information to achieve organizational goals. Likewise, the knowledge management process consists of three stages: create, share and apply knowledge.

The first stage, for the proposed model (see figure 1) is to create knowledge, which includes exploring, combining and discovering new knowledge through doing, which arises from the interactions of individuals in the same organization (Predaja-Grates, E. Rodríguez-Ponce and Rodríguez Ponce, 2009; and Rodríguez-Ponce and Pedraja-Rejas, 2009).

The second stage consists in sharing knowledge, where the individuals within the organization transmit their knowledge among themselves, which increases synergistically (Predaja-Rejas, E. Rodríguez-Ponce and Rodríguez Ponce, 2009; and Rodríguez-Ponce and Pedraja-Rejas, 2009). On the other hand, Pérez and Cortés (2010), emphasize the definition of sharing knowledge, such as that ability of the organization to publicize and integrate knowledge to meet the objectives.

The third stage consists in applying knowledge, which is the transformation of knowledge into a result of value for the institution and involves the creation of new products, services or ideas (Predaja-Rejas, E. Rodríguez-Ponce and Rodríguez Ponce, 2009 ; and Rodríguez-Ponce and Pedraja-Rejas, 2009).

On the other hand, it is important to emphasize that the theory of knowledge management, occurs as a result of the evolution of management theories, implies that administrators modify their thinking, because they can be conceived as managers of knowledge of talent human, recognizing the employee as a key factor in the organization, so that their knowledge and talent add to the human capital of the company (Liquidano, 2006).

Additionally, Bañegil and Sanguino (2008) suggest that knowledge management is the creative and operative way to create and share knowledge among the members of the organization and other interest groups. However, the study of intellectual capital is a way of conceptualizing knowledge and its management (Kong and Prior, 2008).

Regarding knowledge management, it should be noted that its main objective is to capture, store, maintain and deliver useful knowledge in a meaningful way to anyone who needs it at any place and time within an organization (Sánchez, González and Ortiz, 2010).

According to Garzón and Fisher (2009 and 2010) they define tacit knowledge as coming from an individual or social action that creates knowledge and determines know-how difficult to imitate. Therefore, it is transcendental to understand the chain of knowledge, which is defined as the ability to acquire and apply knowledge according to Tseng (2012).

Likewise, it is emphasized that knowledge is a key organizational resource that allows both the public and private sectors to improve and achieve activities and objectives (Whyte and Zyngier, 2014). In addition, knowledge has been defined as the information possessed in people's minds, or is understood as the experience and understanding of the individual, or as a form of high-value information that is ready to apply to decisions and actions (Chang and Lin, 2015).

In this same order of ideas, knowledge management can be defined as the process of capturing, storing, exchanging and using knowledge. In addition, it can be defined as a systemic and organizational specification of the process to acquire, organize and communicate the tacit and explicit knowledge of employees (Chang and Lin, 2015).

It is noteworthy that we currently live in a knowledge society, in which knowledge management is a complex and multifaceted phenomenon, under a controversial concept whose expression, although widely used, presents different emphases, approaches and interfaces, which deserve an analysis. (Rezende, Correia and Gomes, 2017).

Therefore, knowledge management should focus on training for institutions, with a view to making them more flexible and incorporating staff, in order to improve their performance, since it includes the field of learning and innovation in employee training, by providing tools for personal development (Arciniegas and Ramírez, 2018).

However, the management of adequate knowledge brings favorable aspects, while inadequate leads to unfavorable aspects, which are mentioned immediately, according to Arciniegas and Ramírez (2018). The positive aspects allow institutions to own:

- “Rational culture of the organization.
- Management strategy with vision of the future.
- Effective management of the organization.
- Goal of being a learning organization.
- Audit, training, registration and use of tattoo knowledge.
- Modern computer technology”(pp. 162-164).

While unfavorable aspects are manifested in:

- “Bad planning and work organization.
- Accumulation of Power by managers.
- Badly organized structure.
- Lack of personal incentives and participation.
- Absence of teamwork.
- Lack of Leadership for knowledge management”(pp. 164-165).

Finally, the implementation of knowledge management, implies adding all the members of the institution so that it is correctly given with favorable results (Arciniegas and Ramírez, 2018).

Intellectual capital

It should be noted that the term intellectual capital for the first time was published by John Kenneth Galbraith (cited by Edvinsson and Sullivan, 1996; and Shih, Chang and Lin, 2010), referring to intellectual action not pure intellect, where this capital tends to Being dynamic, not like other capitals in organizations, is like a form of knowledge, intellect and activity of intellectual capacity, which uses knowledge to create value.

Among the main models, the one proposed by Edvinsson and Sullivan (1996) stands out, which includes: human capital, structural capital, complementary commercial assets and intellectual property, integrating the creation of value. In this knowledge business model, there are two fundamental resources to create value: innovation and complementary business assets.

Petrash (1996), on the other hand, states that intellectual capital and knowledge management are important when creating value for customers, shareholders and employees. This author coincides with Leif Edvinsson of Skandia, Hubert Saint Onge of Canadian Imperial Bank of Commerce; and Patrick Sullivan of Intellectual Capital Management, since intellectual capital is equal to the sum of human capital, organizational capital and client (relational) capital. Human capital is the knowledge that each individual has and generates; organizational capital is that knowledge that has been captured and institutionalized with the structure, processes, and culture of an organization; and the client's capital is the perception of the value obtained by a client resulting from the receipt of goods and / or services. Thus, Petrash (1996), proposes the intellectual asset management model, which is embodied in the Dow company.

In this same order of ideas, Bontis (1998) in its intellectual capital model integrates three components. Human capital is the first and defines it as that which individuals possess, as tacit knowledge, understood as the skills necessary for their performance, four factors integrate it: genetic inheritance, education, experience, and attitudes about life and business, from this capital comes innovation and strategic renewal (Bontis, 1998). The next component is structural capital, which provides support for the performance of workers, since it allows knowledge to flow, includes elements such as efficiency, timely transactions, innovation procedures and accessibility to information to internalize knowledge; it is the set of knowledge that remains in an organization at the end of the day after the individuals within the organization have left (Bontis, 1998; Kong, 2010). The third component is customer capital, which refers specifically to customer knowledge, marketing channels, and relationships with them (Bontis, 1998), also known as customer relationship capital, in the case of public sector, users, social capital and stakeholders (Sánchez, González and Ortiz, 2010).

However, Bontis, Chua and Richardson (2000), state that researchers have generally identified three main dimensions of intellectual capital: human capital, structural capital and client capital. Human capital represents the individual knowledge of employees; Structural capital represents the store of non-human knowledge in organizations that includes databases, organizational graphics, process manuals, strategies, routines and anything that the company classifies as valuable material; and the client's capital, includes relations with them and the marketing channels.

On the part of Chen, Zhu and Yuan (2004), they propose a new model that they call the structure of intellectual capital, it is composed of human capital, structural capital, innovation capital and client capital. Human capital refers to employee factors such as knowledge, skills, abilities and attitudes with customers that contribute to the performance and profits of companies. Structural capital deals with the mechanisms and structure of the company that helps employees to have maximum intellectual performance and in the performance of the organization.

Innovation capital is an effect of human capital and structural capital, so innovation can only occur with excellent employees, reasonable regulations, culture and techniques, and this can give impetus to the growth of customer capital. The last dimension of client capital (relational) is understood as the organization's ability to transform customer requirements into market value and improve the organization's performance.

On the other hand, Bossi (2006) identifies eight differences in the management of intellectual capital in the public sector. There is little stimulation in implementing new ways of managing, innovations are very slow, and for this sector intellectual capital will have to focus on customer service and quality of service; the objectives, services and resources are intangible; social and environmental responsibility must be a priority for the public sector; there is less opportunity for the manager to maneuver, since there is more control and transparency; there is less haste to quantify; and reporting to citizens.

According to Arango, Pérez and Gil (2008), intellectual capital defines it as the accumulated of intangible assets that are generated by the management of knowledge within the organization, which, although not counted in the financial statements of the organization, create present or future value for the fulfillment of different social objectives in a strategic way. In the case of public administrations, intellectual capital allows the country to increase its competence within the knowledge society, therefore, Sweden stands out in being more competitive for research by Leif Edvinsson; and Edvinsson and Malone with the Skandia Navigator (Arango, Pérez and Gil, 2008).

In this same context, Gogan (2014a), affirms that intellectual capital is a key factor for the profitability of companies. In addition, Gogan (2014b), proposes a model for the measurement of intellectual capital, with the objective that it is relevant for the end user, provides useful information for management, is operational and manageable, is easy to understand, and refers to the cognitive areas of the strategic operating system.

On the other hand, Whyte and Zyngier (2014), affirm the importance of intellectual capital and its intensification with the emergence of innovation as a key determinant of competitiveness and changing patterns of interpersonal interaction and the creation of networks in society. Additionally, Wang, Hou and Cullinane (2015), demonstrate the importance of human resource management in the performance of organizations in China.

In this same sense, for intellectual capital it is extremely necessary to resume, according to Sidharta and Affandi (2016), the Resource-Based View Theory of the RBV (Resource-based view) or theory of resources and capabilities of a company. This theory shows several competitive advantages derived from the alignment of skills and motivation with the organizational system, structure and processes that achieve organizational level capabilities; since there are no two identical organizations (Kong, 2008).

On the other hand, Rezende, Correia and Gomes (2017), carry out a study that demonstrates how the typical resources of knowledge management and intellectual capital interact directly in the creation of value. Likewise, from the theoretical perspective of a resource-based vision, what generates value to the organization, in addition to its intangible resources, are the capacities derived from management, and can intervene to achieve effective organizational results (Fierro, Martínez and García-Contreras, 2018).

However, intellectual capital stands out for the objective of its creation, which focuses on the measurement of intangible assets in a clearer way (Peña, Moreno, Améstica, and Da Silva, 2019); Its definition includes a set of resources both strategic and intangible, integrated by knowledge to create value and consists of three capitals: human, structural and relational (Trillo and Peces, 2019).

Theoretical model

The particular theoretical model of the present investigation is shown in Figure 1. Where you can see how the Intellectual Capital (CAI) variable is measured through Human Capital (CAH), Structural Capital (CAE) and Relational Capital (CAR).

In addition, its relationship with the variable Knowledge Management (GEC) is measured, which is measured with the dimensions of Creating Knowledge (CRC), Sharing Knowledge (COC) and Applying Knowledge (APC) in the institutions of the public sector in Jalisco. The relationship is subject to verification in subsequent studies, it is only proposed as theoretical support.

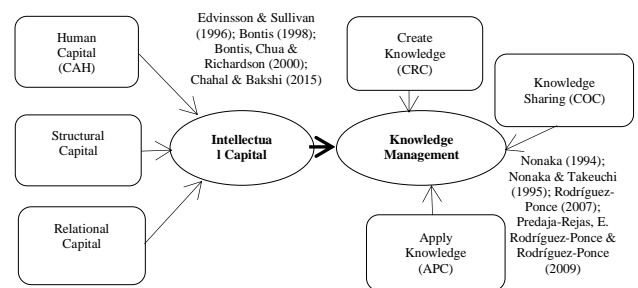


Figure 1 Particular theoretical model, subject to verification.
Source: Own elaboration (2019)

Method

Type and design of research

This research is carried out considering the quantitative approach, of a non-experimental type with cross-section (Hernández, Fernández and Baptista, 2014; and Bernal, 2016).

Variables

Dependent variable: Knowledge Management (GEC)

Conceptual definition: It is defined as the main role of organizations that consists in articulating and amplifying the new knowledge developed by individuals (Nonaka, 1994; Nonaka and Takeuchi, 1995); It implies generating, absorbing, transmitting and using knowledge in a knowledge society, which is the result of a technological information society to carry only what can be valuable for the organization (Zambrano-Vargas and Suárez-Pineda, 2017).

Operational definition: Organizational process that consists of creating, sharing and applying knowledge in institutions to achieve its objectives. It is measured with the Rodríguez-Ponce instrument (2007) in a full 10-item version that evaluates three dimensions, which has been used in confirmatory studies by Pedraja-Rejas and Rodríguez-Ponce (2008);

Predaja-Rejas, E. Rodríguez-Ponce and Rodríguez-Ponce (2009); Rodríguez-Ponce, Pedraja-Rejas, Delgado and Rodríguez-Ponce (2010); Rodríguez-Ponce (2016); and Araneda-Guirriman, Rodríguez-Ponce, Pedraja-Rejas, Baltazar-Martínez and Soria-Lazcano (2017).

Independent variable: Intellectual Capital (CAI)

Conceptual definition: Accumulated intangible assets that are generated by the management of knowledge within the organization, which although not counted in the financial statements of the organization, create present or future value for the fulfillment of different social objectives in a strategic way (Arango, Pérez and Gil, 2008); it is a form of knowledge, intellect and activity of intellectual capacity, which is used to create value (Shih, Chang and Lin, 2010; and Edvinsson and Sullivan, 1996).

Operational definition: Intangible assets of the organization based on knowledge composed of human capital, structural capital and relational capital, which increase organizational performance and create value. It is measured with the instrument of Chahal and Bakshi (2015) in a full 36-item version that evaluates three dimensions, which has been used in the confirmatory study of Chahal and Bakshi (2016).

Sociodemographic Variables

The measured sociodemographic variables correspond to an individualized measurement scale for each: sex, age, and schooling.

Measurement tools

Knowledge Management (GEC) is measured with the Rodríguez-Ponce instrument (2007) in a full 10-item version that evaluates three dimensions: Create Knowledge (CRC), Share Knowledge (COC) and Apply Knowledge (APC), in Likert scale from 1 to 5, with 5 being the highest rating. While Intellectual Capital (CAI), is measured with the instrument of Chahal and Bakshi (2015) in a complete version of 36 items that evaluates three dimensions: Human Capital (CAH), Structural Capital (CAE) and Relational Capital (CAR). The options for informants focus on the Likert scale from 1 to 5, with 5 being the highest rating.

Participants (sample characteristics)

52 middle managers and executives of the public sector of the state of Jalisco, who were selected by the type of non-probabilistic sampling for convenience (Hernández, Fernández and Baptista, 2014; and Bernal, 2016). The characteristics of the selected sample are detailed below (see table 1).

Sociodemographic Variables	Sample Profile
Age	Mean = 42 years
Gender	Male = 26.90%; Female = 73.10%
Scholarship	High school = 1.90%; Bachelor's degree = 78.80%; Mastery = 19.20%
Work variables	
Position	Average controls = 88.50%; Management controls = 11.50%

Table 1 Sample characteristics
Source: Own Elaboration (2019)

Process

The method used for data collection is electronically when sending the link of the questionnaire to the informants' emails, the questionnaire consists of 46 reagents in Likert scale from 1 to 5, with 5 being the maximum score to be obtained.

Analysis of data

Statistical tests of reliability and validity of the instrument were performed, as well as descriptive statistics, normality tests and correlations between elements. The data is processed with the statistical software SPSS (Statistical Package for the Social Sciences) version 25.

Results and Discussion

Descriptive results

The results with higher average values of the Knowledge Management variable, identified in the sample are presented in the processing and integration of the information obtained; in the system of information exploration and important information findings. While lower average values were reflected in the exchange and transfer of knowledge among managers, as well as in the interaction for knowledge creation. The standard deviation was less than 2 (see Table 2).

	Indicators	Mean	Standard deviation	Minimum	Maximum
CRC1	Information exploration system	3.25	0.813	2	5
CRC2	Processing and integration of information obtained	3.40	0.913	2	5
CRC3	System of important information findings	3.25	0.947	2	5
CRC4	Creation of new knowledge	3.08	1.169	1	5
CRC5	Interaction for knowledge creation	3.06	1.127	1	5
COC1	Knowledge exchange between managers	3.02	1.129	1	5
COC2	Knowledge transfer between managers	3.04	1.066	1	5
COC3	Managers' knowledge shared with each other	3.15	1.144	1	5
APC1	Application of knowledge by managers	3.08	1.064	1	5
APC2	Decision making by managers based on knowledge application	3.13	1.172	1	5

Table 2 Descriptive statistics of the Knowledge Management (GEC) variable
Source: Own Elaboration (2019)

For the variable of Intellectual Capital, in the specific case of the Human Capital dimension, the highest average values are presented in employees dedicated to their work, in the happiness of the staff for working in the organization and in the skills of the employees to perform in the institution; while the lowest scores are presented in happy employees, motivation to share new ideas and in continuous employee training. The standard deviation was between 1 and 2 (see Table 3).

	Indicators	Mean	Standard deviation	Minimum	Maximum
CAH1	Continuous employee training	2.83	1.024	1	5
CAH2	Employee Education	3.00	1.066	1	5
CAH3	Employee Skills	3.21	1.054	1	5
CAH4	Employee Creativity	3.12	1.078	1	5
CAH5	Employees with new ideas	3.00	1.103	1	5
CAH6	Motivation to share new ideas	2.67	1.200	1	5
CAH7	Employees with innovative ideas	3.12	1.166	1	5
CAH8	Happy employees	2.33	1.248	1	5
CAH9	Employee Satisfaction	2.62	1.255	1	5
CAH10	Problem resolution	3.17	1.167	1	5
CAH11	Happiness of the staff for working in the organization	3.31	1.094	1	5
CAH12	Availability of additional effort	3.13	1.189	1	5
CAH13	Dedicated employees	3.37	1.067	1	5

Table 3 Descriptive statistics of Human Capital dimension (CAH) as part of the Intellectual Capital variable (CAI).
Source: Own elaboration (2019)

In the Structural Capital variable, the highest average values are shown in the indicators of computer use, the contribution of software to service quality and support systems; while the lowest values are presented in the taking of initiatives, support for innovative ideas and in the development of new products and services. The standard deviation was less than 2 (see Table 4).

	Indicators	Mean	Standard deviation	Minimum	Maximum
CAE1	Pleasant atmosphere	3.23	1.131	1	5
CAE2	Communication between staff	2.94	1.211	1	5
CAE3	Knowledge supported	3.00	1.066	1	5
CAE4	Development of new products and services	2.87	1.048	1	5
CAE5	Support in innovative ideas	2.65	1.136	1	5
CAE6	Service Quality Improvement	2.88	1.060	1	5
CAE7	Structures and systems	3.04	1.137	1	5
CAE8	Accessibility to information	3.17	1.004	1	5
CAE9	Processes	3.04	1.084	1	5
CAE10	Culture	3.10	1.071	1	5
CAE11	Computer use	4.17	0.834	1	5
CAE12	Latest Technology Integration	3.27	1.122	1	5
CAE13	Software contribution to service quality	3.44	1.037	1	5
CAE14	Support systems	3.38	1.105	1	5
CAE15	Trained employees	3.00	1.048	1	5
CAE16	Initiative taking	2.62	1.140	1	5

Table 4 Descriptive statistics of Structural Capital (CAE) dimension as part of the Intellectual Capital (CAI) variable
Source: Own elaboration (2019)

However, for the dimension of Relational Capital, the highest average values are presented in cooperation in solving problems, updating customer data and interactions; while the lowest average values obtained were presented in the clients' knowledge and shared comments of the clients, as well as in their opinion. The standard deviation was less than 2 (see Table 5).

	Indicators	Mean	Standard deviation	Minimum	Maximum
CAR1	Customer data update	3.58	0.957	1	5
CAR2	Customer knowledge	3.15	1.127	1	5
CAR3	Customer feedback	3.21	1.109	1	5
CAR4	Customer Feedback	3.17	1.200	1	5
CAR5	Interactions	3.54	1.163	1	5
CAR6	Cooperation in problem solving	3.65	1.064	2	5
CAR7	Customer Base Improvement	3.52	1.057	1	5

Table 5 Descriptive statistics of the Relational Capital (CAR) dimension as part of the Intellectual Capital (CAI) variable
Source: Own elaboration (2019)

Normality tests

In order to confirm that the behavior of the data is within the normality curve, using quantitative methods, kurtosis and asymmetry were calculated, with these calculations it was found that the values are within the normality parameters, that is to say , when calculating the kurtosis and asymmetry, values between +1 to -1 were obtained (see tables 6, 7, 8, 9, 10 and 11).

Item	Asymmetry		Kurtosis	
	Statistical	Standard error	Statistical	Standard error
CRC1	0.176	0.388	-0.147	0.759
CRC2	-0.134	0.388	-0.366	0.759
CRC3	-0.172	0.388	-0.491	0.759
CRC4	-0.028	0.388	-0.962	0.759
CRC5	-0.155	0.388	-0.995	0.759

Table 6 Asymmetry and kurtosis calculations of the Create Knowledge (CRC) dimension
Source: Own Elaboration (2019)

Item	Asymmetry		Kurtosis	
	Statistical	Standard error	Statistical	Standard error
COC1	0.003	0.388	-0.880	0.759
COC2	-0.121	0.388	-0.821	0.759
COC3	-0.29	0.388	-0.885	0.759

Table 7 Asymmetry and kurtosis calculations of the Knowledge Sharing (COC) dimension
Source: Own Elaboration (2019)

Item	Asymmetry		Kurtosis	
	Statistical	Standard error	Statistical	Standard error
APC1	-0.203	0.388	-0.814	0.759
APC2	-0.3	0.388	-0.544	0.759

Table 8 Asymmetry and kurtosis calculations of the Apply Knowledge (APC) dimension
Source: Own Elaboration (2019)

Item	Asymmetry		Kurtosis	
	Statistical	Standard error	Statistical	Standard error
CAH1	0.133	0.388	-0.785	0.759
CAH2	-0.067	0.388	-0.229	0.759
CAH3	0.077	0.388	-0.481	0.759
CAH4	0.048	0.388	-0.220	0.759
CAH5	0.101	0.388	-0.405	0.759
CAH6	0.208	0.388	-1.117	0.759
CAH7	-0.679	0.388	0.215	0.759
CAH8	0.024	0.388	-0.779	0.759
CAH9	-0.41	0.388	-0.703	0.759
CAH10	-0.352	0.388	-0.567	0.759
CAH11	-0.159	0.388	-0.473	0.759
CAH12	-0.214	0.388	-0.605	0.759
CAH13	-0.141	0.388	-0.613	0.759

Table 9 Calculations of asymmetry and kurtosis of the Human Capital dimension (CAH)
Source: Own Elaboration (2019)

Item	Asymmetry		Kurtosis	
	Statistical	Standard error	Statistical	Standard error
CAE1	-0.636	0.388	0.928	0.759
CAE2	0.186	0.388	-0.905	0.759
CAE3	-0.029	0.388	-0.686	0.759
CAE4	0.121	0.388	-0.520	0.759
CAE5	-0.03	0.388	-0.699	0.759
CAE6	0.107	0.388	-1.117	0.759
CAE7	-0.345	0.388	-0.420	0.759
CAE8	0.031	0.388	-0.341	0.759
CAE9	-0.436	0.388	-0.190	0.759
CAE10	-0.045	0.388	-0.441	0.759
CAE11	-0.442	0.388	-0.590	0.759
CAE12	-0.776	0.388	0.492	0.759
CAE13	-0.767	0.388	1.275	0.759
CAE14	-0.656	0.388	0.892	0.759
CAE15	0.059	0.388	-0.680	0.759
CAE16	0.237	0.388	-1.149	0.759

Table 10 Calculations of asymmetry and kurtosis of the Structural Capital dimension (CAE)
Source: Own Elaboration (2019)

Item	Asymmetry		Kurtosis	
	Statistical	Standard error	Statistical	Standard error
CAR1	-0.292	0.388	-0.243	0.759
CAR2	-0.61	0.388	0.651	0.759
CAR3	-0.154	0.388	-0.264	0.759
CAR4	-0.012	0.388	-0.455	0.759
CAR5	-0.472	0.388	-0.258	0.759
CAR6	-0.468	0.388	-0.139	0.759
CAR7	-0.69	0.388	0.418	0.759

Table 11 Asymmetry and kurtosis calculations of the Relational Capital (CAR) dimension
Source: Own Elaboration (2019)

With the results obtained, it is possible to affirm that the distribution of the data obtained complies with the assumption of normality, given that they have parameters of +1.96 to -1.96 corresponding to an error level of 0.05 (Hair, Tatham, and Black, 1999).

Correlations

Due to the scope of the present investigation, in the matrices of correlations between elements, it can be observed how they correlate with each other, thereby ensuring that each element effectively contributes to the factor, since most of the values were greater than 0.5 (see Table 12, 13, 14, 15, 16 and 17). The results obtained show favorable correlations between the dimensions of the Knowledge Management (GEC) variable, which includes Creating Knowledge (CRC), Sharing Knowledge (COC) and Applying Knowledge (APC). Also, in the Intellectual Capital (CAI) variable, there are acceptable correlations in the Human Capital (CAH), Structural Capital (CAE) and Relational Capital (CAR) dimensions.

Specifically, in the dimension related to Create Knowledge (CRC), it is possible to affirm that the elements correlate with each other since they present values greater than 0.5; except for item CRC1 that presented a correlation of 0.4 and 0.3 with items CRC4 and CRC5, respectively; same as the item CRC2 whose value obtained was 0.4 with respect to CRC4, so special attention should be paid to item CRC5 because it has the lowest correlation, which refers to the interaction that must exist in the creation of knowledge (see Table 12).

	CRC1	CRC2	CRC3	CRC4	CRC5
CRC1	1.000				
CRC2	0.668	1.000			
CRC3	0.734	0.677	1.000		
CRC4	0.451	0.468	0.588	1.000	
CRC5	0.395	0.510	0.614	0.762	1.000

Table 12 Correlation matrix between elements of the Create Knowledge (CRC) dimension
Source: Own Elaboration (2019)

In the case of the Knowledge Sharing (COC) dimension, each of its elements is correlated by presenting values greater than 0.5 (see Table 13).

	COC1	COC2	COC3
COC1	1.000		
COC2	0.907	1.000	
COC3	0.849	0.876	1.000

Table 13 Correlation matrix between elements of the Knowledge Sharing (COC) dimension
Source: Own Elaboration (2019)

Regarding the dimension of Apply Knowledge (APC), all its elements are correlated with values greater than 0.5 (see Table 14).

	APC1	APC2
APC1	1.000	
APC2	0.762	1.000

Table 14 Correlation matrix between elements of the Apply Knowledge (APC) dimension
Source: Own Elaboration (2019)

The Human Capital dimension (CAH), mostly presents values greater than 0.5 in the correlation between its elements. However, CAH5 has a correlation of 0.4 with respect to CAH1; CAH10 also has values less than 0.5 with CAH2 and CAH6; Similarly CAH11 has values less than 0.5 with respect to CAH1, CAH5, CAH6, CAH7, CAH8, CAH9 and CAH10; CAH12 has values less than 0.5 in the correlation with CAH1, CAH8, CAH9 and CAH10; and finally, CAH13 has values less than 0.5 in the correlation with CAH1, CAH2, CAH6 and CAH7.

These results generally show acceptable values, despite this, the item that presented the most correlations with values below 0.5, refers to the CAH11 with which the happiness of the staff is evaluated by working in the organization (see Table 15).

	CAH1	CAH2	CAH3	CAH4	CAH5	CAH6	CAH7	CAH8	CAH9	CAH10	CAH11	CAH12	CAH13
CAH1	1.000												
CAH2	0.78	1.00											
CAH3	0.76	0.81	1.00										
CAH4	0.51	0.69	0.72	1.00									
CAH5	0.43	0.54	0.68	0.83	1.00								
CAH6	0.60	0.70	0.76	0.73	0.77	1.00							
CAH7	0.50	0.59	0.61	0.63	0.72	0.70	1.00						
CAH8	0.65	0.63	0.64	0.55	0.55	0.70	0.57	1.00					
CAH9	0.57	0.59	0.59	0.52	0.51	0.63	0.58	0.91	1.00				
CAH10	0.53	0.49	0.62	0.56	0.58	0.46	0.51	0.68	0.67	1.000			
CAH11	0.49	0.52	0.69	0.50	0.45	0.42	0.28	0.45	0.40	0.454	1.000		
CAH12	0.38	0.50	0.59	0.55	0.63	0.64	0.53	0.46	0.41	0.349	0.574	1.000	
CAH13	0.37	0.32	0.52	0.51	0.53	0.48	0.40	0.50	0.52	0.544	0.528	0.587	1.000

Table 15 Correlation matrix between elements of the Human Capital dimension (CAH)
Source: Own Elaboration (2019)

Now, regarding the dimension of Structural Capital (CAE), it can be seen that most of the correlations of its elements show values greater than 0.5. However, there are some minor correlations to this value. The CAE7 has a correlation value of less than 0.5 with respect to CAE2; also, CAE11 and CAE12, also present values below 0.5 in the correlations with CAE1, CAE2, CAE3, CAE4, CAE5, CAE6, CAE7, CAE8, CAE9 and CAE10; on the other hand, the item CAE13 shows values lower than the parameter indicated in the correlations with CAE1, CAE2, CAE3, CAE4, CAE6, CAE7, CAE8 and CAE10; similarly CAE14 with CAE1, CAE2, CAE4, CAE6, CAE7, CAE8 and CAE11; also, CAE15 has correlations of less than 0.5 with CAE7 and CAE11; and finally CAE16 has a lower value than the parameter in its correlation with CAE11.

In this sense, the items or elements that presented the greatest amount of correlations with values below 0.5 were CAE11 and CAE12, the first refers to the use of computers in the performance of the work and the second refers to the integration of the latest technology. In this regard, the questions will have to be rephrased so that it is effectively questioned in such a way that the informants understand the question and it is possible that they correlate with the other items or elements to reinforce the explanation of the dimension or factor related to Structural Capital (see Table 16).

	CA E1	CA E2	CA E3	CA E4	CA E5	CA E6	CA E7	CA E8	CA E9	CAE 10	CAE 11	CAE 12	CAE 13	CAE 14	CAE 15	CAE 16
CAE 1	1.0															
2	0.7	1.0														
CAE 3	0.7	0.8	1.0													
4	0.7	0.7	0.8	1.0												
CAE 5	0.5	0.6	0.7	0.7	1.0											
6	0.6	0.4	0.5	0.5	0.5	1.0										
CAE 7	0.1	0.2	0.3	0.3	0.3	0.3	1.0									
8	0.2	0.3	0.4	0.4	0.4	0.4	0.6	1.0								
CAE 9	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.6	1.0							
10	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	1.0						
CAE 11	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.27	1.00					
12	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.25	0.25	0.68	1.00				
CAE 13	0.3	0.4	0.5	0.4	0.5	0.4	0.1	0.4	0.6	0.50	0.48	0.55	0.76	1.00		
14	0.5	0.5	0.5	0.6	0.5	0.6	0.4	0.6	0.6	0.51	0.28	0.51	0.55	0.64	1.00	
CAE 15	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.64	0.27	0.55	0.50	0.58	0.79	1.00
16	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.64	0.27	0.55	0.50	0.58	0.79	1.00

Table 16 Correlation matrix between elements of the Structural Capital dimension (CAE)
Source: Own Elaboration (2019)

Finally, Relational Capital (CAR) shows that some of the elements are correlated by presenting values greater than 0.5. However, element CAR1 is correlated at 0.3 with CAR6 and CAR7; likewise, the CAR2 correlates in 0.4 with the CAR1. In this regard, the item with the highest number of correlations with values below 0.5 is CAR1, which refers to the updating of customer data (see Table 17).

	CAR1	CAR2	CAR3	CAR4	CAR5	CAR6	CAR7
CAR1	1.000						
CAR2	0.448	1.000					
CAR3	0.565	0.777	1.000				
CAR4	0.583	0.709	0.750	1.000			
CAR5	0.510	0.585	0.500	0.559	1.000		
CAR6	0.368	0.669	0.527	0.548	0.845	1.000	
CAR7	0.336	0.739	0.592	0.568	0.667	0.575	1.000

Table 17 Correlation matrix between elements of the Relational Capital (CAR) dimension
Source: Own Elaboration (2019)

Regarding the reliability of the instrument built on the Likert scale, it is possible to affirm that the values obtained in Cronbach's Alpha, that is, in relation to its internal consistency, are adequate, given that they present values greater than 0.7 (Cronbach, 1951; Nunnaly, 1978; Hair, Anderson, Tatham and Black, 1999), considered as an excellent level of reliability (see Table 18). These results are consistent with those obtained by Araneda-Guirriman, Rodríguez-Ponce, Pedraja-Rejas, Baltazar-Martínez and Soria-Lazcano (2017) and Chahal and Bakshi (2016).

Variable: Knowledge Management	Variable: Intellectual capital	Cronbach's alpha parameter
.952	.976	$\alpha = > .7$

Table 18 Calculation of Cronbach's Alpha of Knowledge Management (GEC) and Intellectual Capital (CAI)
Source: Own Elaboration (2019)

Annexes

The 46 items of the instrument applied in this study are shown below (see Table 19).

	Items
CRC1	The institution has an efficient internal and external information exploration system.
CRC2	The information obtained from various sources is efficiently processed and integrated within the organization.
CRC3	The institution has a system that allows you to identify important findings for your work from both internal and external sources.
CRC4	The directors of the institution create new knowledge considering the system of exploration, detection of findings and integration of information.
CRC5	The managers of the institution interact with each other favoring the creation of knowledge.
COC1	The managers of the organization exchange knowledge with each other.
COC2	The managers of the organization transfer knowledge to each other.
COC3	The directors of the institution share knowledge with each other.
APC1	The directors of the institution apply the knowledge generated and shared.
APC2	Managers make decisions based on the application of previously generated knowledge.
CAH1	Staff training is continuous.
CAH2	The staff is highly polite.
CAH3	Staff skills improve.
CAH4	The staff is creative and bright.
CAH5	The staff proposes new ideas.
CAH6	There is motivation to share new ideas.
CAH7	The staff has innovative ideas.
CAH8	The managers make the staff happy.
CAH9	The director makes the staff satisfied.
CAH10	Managers help solve problems.
CAH11	The staff is happy to work in the institution.
CAH12	The staff is willing to give additional efforts.
CAH13	The staff is dedicated to work.
CAE1	The atmosphere in this institution is pleasant.
CAE2	Managers and staff communicate well.
CAE3	The increase in knowledge is well supported.
CAE4	The institution develops new products and services.
CAE5	There is great support for innovative ideas.
CAE6	The institution improves the quality of service.
CAE7	There is information on structures and systems.
CAE8	There is easy access to information.
CAE9	The processes develop unique capabilities.
CAE10	The culture is supportive and comfortable.
CAE11	Computers are used for operations.
CAE12	The latest in information technology software is integrated.
CAE13	Information technology software contributes to the quality of service.
CAE14	The systems support innovation.
CAE15	The staff is highly empowered.
CAE16	There is stimulation to take initiatives.
CAR1	User data is updated.
CAR2	Meetings with the user are given continuously.
CAR3	User opinion is valued.
CAR4	User comments are shared at the institution.
CAR5	Interactions improve competition.
CAR6	Cooperation helps solve the problem.
CAR7	The user registry of the institution is improving.

Table 19 Items for the measurement of Knowledge Management (GEC) and Intellectual Capital (CAI)
Source: Own elaboration (2019), based on Rodríguez-Ponce (2007) and Chahal and Bakshi (2015)

Acknowledgments

Thanks to the coordination level staff, department heads and executives of the Jalisco public sector who participated in this study, by voluntarily responding to the instrument, in order to have its validity and reliability, for the explanation of the variables studied.

Conclusions and recommendations

After the theoretical review of the state of the art, it is possible to conclude that knowledge management and intellectual capital are an inseparable binomial and of utmost importance for the improvement of the public sector, given that good management will depend on the generation of intellectual capital that affects in a beneficial way in the citizenship, with best practices for modernization and the fulfillment of the objectives for which each public institution has its origin.

This research has a specific contribution to the theory of administration essentially to the subject of knowledge management and intellectual capital of the public sector, because with the results obtained both in the theoretical review and in the empirical test it was possible to make the proposal of a theoretical model, which integrates the factors or dimensions necessary to measure the behavior of the variables under study, which is subject to verification.

In the proposed model, Knowledge Management (GEC) is explained through the factors of Creating Knowledge (CRC), Sharing Knowledge (COC) and Applying Knowledge (APC); while for Intellectual Capital (CAI) it can be explained with the factors of Human Capital (CAH), Structural Capital (CAE) and Relational Capital (CAR). The foregoing corroborates the central hypothesis, which states that the variables studied are measured with six factors or dimensions, which results in levels of reliability of the instrument greater than 0.5 with the calculation of Cronbach's Alpha.

Due to the above, the null hypothesis is rejected, where the level of reliability of Cronbach's Alpha is less than 0.5; and the alternative hypothesis is accepted, where the level of reliability of Cronbach's Alpha is greater than 0.5.

The main limitations of the research focus on the selection of the sample, since it was a sampling for convenience and in a specific sector, so it is not possible to generalize results, since it is necessary to determine a larger and statistically representative sample. In addition, the statistical analysis was limited to the use of descriptive statistics, normality tests, correlation matrices and the Cronbach's Alpha test;

Therefore, it is suggested to carry out different tests as a requirement to apply the Exploratory Factor Analysis (AFE) and the Confirmatory Factor Analysis (AFC), as well as to apply the Structural Equation Modeling (MEE).

It is important to emphasize that the results of the present investigation reflect the pilot data, so in future investigations it is necessary to incorporate new items and variables, as well as to incorporate new informants, because in this investigation only middle managers and managers were added leaving aside the operational staff, who finally is the one who gives the citizen the face in the work of the public sector.

References

- Agus, A., Barker, S., & Kandampully, J. (2007). An exploratory study of service quality in the Malaysian public service sector. *International Journal of Quality & Reliability Management*, 24(2), 177-190.
- Araneda-Guirriman, C., Rodríguez-Ponce, E., Pedraja-Rejas, L., Baltazar-Martínez, C., & Soria-Lazcano, H. (2017). La gestión del conocimiento en instituciones de educación superior del norte de Chile. *Revista de Pedagogía*, 38(102).
- Arango, M. D., Pérez, G., & Gil, H. (2008). Propuestas de modelos de gestión de capital intelectual: Una revisión. *Contaduría Universidad de Antioquia*, (52), 105-130.
- Arciniegas, J. A., y Ramírez, L. J. (2018). Capítulo 10: Análisis de un modelo de gestión del conocimiento aplicado a Sistema de gestión de calidad: Caso Universidad Pública. En Comité Editorial (Ed.), *Ingeniería, tecnología, automatización: Innovación y desarrollo* (pp. 155-171). Antioquia, Colombia: Editorial Corporación CIMTED.
- Bernal, C. A. (2016). *Metodología de la Investigación*. Administración, economía, humanidades y ciencias sociales- Cuarta edición. Colombia. Pearson.

- Bañegil, T. M. & Sanguino, R. (2008). Estrategia basada en el conocimiento y competitividad de ciudades: análisis empírico en las corporaciones locales españolas. *Revista europea de dirección y economía de la empresa*, 17(4), 85-94.
- Bontis, N. (1998). Intellectual capital: an exploratory study that develops measures and models. *Management Decision*, 36(2), 63-76.
- Bontis, N., Chua Chong Keow, W., & Richardson, S. (2000). Intellectual capital and business performance in Malaysian industries. *Journal of intellectual capital*, 1(1), 85-100.
- Bossi, A. (2006). El capital intelectual en el sector público. *Socieda de, Contabilidade e Gestão, Rio de Janeiro*, 1(1), 5-18.
- Chahal, H., & Bakshi, P. (2015). Examining intellectual capital and competitive advantage relationship: Role of innovation and organizational learning. *International Journal of Bank Marketing*, 33(3), 376-399.
- Chahal, H., & Bakshi, P. (2016). Measurement of intellectual capital in the Indian banking sector. *Vikalpa*, 41(1), 61-73.
- Chang, C. L. H., & Lin, T. C. (2015). The role of organizational culture in the knowledge management process. *Journal of Knowledge management*, 19(3), 433-455.
- Chen, J., Zhu, Z., & Yuan Xie, H. (2004). Measuring intellectual capital: a new model and empirical study. *Journal of Intellectual capital*, 5(1), 195-212.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297-334.
- Edvinsson, L., & Sullivan, P. (1996). Developing a model for managing intellectual capital. *European management journal*, 14(4), 356-364.
- Fierro, E., Martínez, M., & García-Contreras, R. (2018). Can gender be a determinant of organizational performance and knowledge sharing in public sector organizations?. *AD-minister*, (32), 137-160.
- Garzón, M. A., & Fischer, A. L. (2009). El aprendizaje organizacional en República Dominicana y Colombia. *Pensamiento & gestión*, (26), 238-278.
- Garzón, M. A., & Fischer, A. L. (2010). El aprendizaje organizacional, prueba piloto de instrumentos tipo Likert. *Forum Empresarial*, 20(1), 65-101.
- Gogan, M. L. (2014a). Analysis of the Models for Measuring Intellectual Capital. *Annals of the Oradea University Fascicle of Management and Technological Engineering*, (1), 175-179.
- Gogan, M. L. (2014b). An innovative model for measuring intellectual capital. *Procedia-Social and Behavioral Sciences*, 124 (2014), 194-199.
- Guchait, P., Namasivayam, K., & Lei, P. W. (2011). Knowledge management in service encounters: impact on customers' satisfaction evaluations. *Journal of Knowledge Management*, 15(3), 513-527.
- Guthrie, J., & Dumay, J. (2015). New frontiers in the use of intellectual capital in the public sector. *Journal of Intellectual Capital*, 16(2), 258-266.
- Hair, J. F., Anderson, R. E., Tatham, R. L., y Black, W. C. (1999). *Análisis Multivariante*. Quinta Edición. Madrid, España. Editorial Prentice Hall.
- Nunnally, J. (1978). *Psychometric theory*. Second Edition. New York, United States of America. McGraw-Hill.
- Hernández, R., Fernández, C. y Baptista, M. P. (2014). *Metodología de la Investigación*. Sexta edición. México. McGraw-Hill.
- Iyikal, O. C., & Celebi, A. (2016, September). Investigating a quality of services in the public sector: evidence from northern cyprus. In *Journal of Economic and Social Development (JESD)*, Vol. 3, No. 2, September 2016 Selected Papers from: 12th International Scientific Conference on Economic and Social Development-Bangkok, Thailand February 18-20, 2016; 13th International Scientific Conference on Economic and Social Development-Barcelona, Spain, 3 (2),1-15.

- Jääskeläinen, A., & Lönnqvist, A. (2009). Designing operative productivity measures in public services. *Vine*, 39(1), 55-67.
- Kong, E. (2008). The development of strategic management in the non-profit context: Intellectual capital in social service non-profit organizations. *International Journal of Management Reviews*, 10(3), 281-299.
- Kong, E. (2010). Innovation processes in social enterprises: an IC perspective. *Journal of Intellectual Capital*, 11(2), 158-178.
- Kong, E., & Prior, D. (2008). An intellectual capital perspective of competitive advantage in nonprofit organisations. *International Journal of Nonprofit and Voluntary Sector Marketing*, 13(2), 119-128.
- Liquidano, M. C. (2006). El administrador de recursos humanos como gestor de talento humano. Sus competencias y la relación de las prácticas de administración de recursos humanos. *Contaduría y administración*, (220), 145-178.
- Massaro, M., Dumay, J., & Garlatti, A. (2015). Public sector knowledge management: a structured literature review. *Journal of Knowledge Management*, 19(3), 530-558.
- Morales, L. E., Jacobo, C. C., y Leyva, B. A. (2018). La importancia del capital intelectual en la gestión de instituciones de educación básica. En E. Del Hierro y S. V. Mortis (Ed.), *Realidades y oportunidades de la educación básica en México* (pp. 79-85). Ciudad de México, México: Pearson.
- Muñoz, E. Y. (2019). *Estudio de caso, aplicación del "Modelo Intellectus" y aproximación a la gestión del capital intelectual en una empresa industrial y comercial de la ciudad de Popayán – Cauca, en el II semestre de 2018* (tesis doctoral). Universidad Cooperativa de Colombia, Colombia.
- Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization science*, 5(1), 14-37.
- Nonaka, I. & Takeuchi, H. (1995). *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*. Oxford University Press, New York.
- Organization for Economic Co-operation and Development-OECD (2003). Knowledge Management: Learning-by-Comparing Experiences from Private Firms and Public Organizations. *Summary Record of the High Level Forum held in Copenhagen*.
- Oviedo-García, M. Á., Castellanos-Verdugo, M., Riquelme-Miranda, A., & del Junco, J. G. (2014). La relación entre aprendizaje organizacional y los resultados en la Administración Pública. *Revista europea de dirección y economía de la empresa*, 23(1), 1-10.
- Pedraja-Rejas, L., & Rodríguez-Ponce, E. (2008). Estilos de liderazgo, gestión del conocimiento y diseño de la estrategia: un estudio empírico en pequeñas y medianas empresas. *Interciencia*, 33(9), 651-657.
- Pedraja-Rejas, L., Rodríguez-Ponce, E., & Rodríguez-Ponce, J. (2009). La influencia de la gestión del conocimiento sobre la eficacia organizacional: Un estudio en instituciones públicas y empresas privadas. *Revista Facultad de Ingeniería*, (47), 218-227.
- Peña C., Moreno A., Améstica L., y Da Silva S. S. (2019). Incubadoras en red: capital relacional de incubadoras de negocios y la relación con su éxito. *Revista de Administração, Sociedade e Inovação*, 5(2), 162-179.
- Pérez, J., & Cortés, J. A. (2010). Medición y validación del desempeño organizacional como resultado de acciones de aprendizaje. *Revista ciencias estratégicas*, 17(22), 251-271.
- Pérez, H., Romero, J. A., & Mora, E. O. (2016). Factores Previos para la Gestión del Conocimiento en la Administración Pública Costarricense. *Administrar lo público 3. Costa Rica. Centro de Investigación y Capacitación en Administración Pública*. 102-132
- Petrash, G. (1996). Dow's journey to a knowledge value management culture. *European management journal*, 14(4), 365-373.
- Rezende, J. F., Correia, A. A., & Gomes, B. A. (2017). The intellectual capital and the creation of value in research units linked to the Brazilian Ministry of Science Technology and Innovation. *RAI Revista de Administração e Inovação*, 14(2017), 199-215

- Rodríguez-Ponce, E. R. (2007). Gestión del conocimiento y eficacia de las organizaciones: Un estudio empírico en instituciones públicas. *Interciencia*, 32(12), 820-826.
- Rodríguez-Ponce, E. (2016). Estudio exploratorio del impacto de la gestión del conocimiento en la calidad de las universidades. *Interciencia*, 41(4), 228-234.
- Rodríguez-Ponce, E., & Pedraja-Rejas, L. (2009). Análisis del impacto del proceso de toma de decisiones estratégicas sobre la eficacia de las organizaciones públicas. *INNOVAR. Revista de Ciencias Administrativas y Sociales*, 19(35), 33-46.
- Rodríguez-Ponce, E., Pedraja-Rejas, L., Delgado, M., & Rodríguez-Ponce, J. (2010). Gestión del conocimiento, liderazgo, diseño e implementación de la estrategia: un estudio empírico en pequeñas y medianas empresas. *Ingeniare. Revista chilena de ingeniería*, 18(3), 373-382.
- Rossi, F. M., Citro, F., & Bisogno, M. (2016). Intellectual capital in action: evidence from Italian local governments. *Journal of Intellectual Capital*, 17(4), 696-713.
- Sánchez, J., González, E. G., & Ortiz, M. A. (2010). Knowledge Management Process as Development Policy in Public Sector. Cases in Guadalajara, Mexico. *Universidad & Empresa*, (19), 11-22.
- Sarmiento, G., & Román, I. (2011). Propuesta de un modelo de capital intelectual para medir y gestionar los intangibles de las entidades públicas. In *Proceeding of XVI Conference AECA* (pp. 1-21).
- Sidharta, I., & Affandi, A. (2016). The empirical study on intellectual capital approach toward financial performance on rural banking sectors in Indonesia. *International Journal of Economics and Financial Issues*, 6(3).
- Shih, K. H., Chang, C. J., & Lin, B. (2010). Assessing knowledge creation and intellectual capital in banking industry. *Journal of intellectual capital*, 11(1), 74-89.
- Syed-Ikhsan, O. S., & Rowland, F. (2004). Knowledge management in a public organization: a study on the relationship between organizational elements and the performance of knowledge transfer. *Journal of knowledge management*, 8(2), 95-111.
- Tapia, M. O. (2016). The intellectual capital elemental factor for the quality of services and satisfaction of users of the provincial Municipality of Puno. *Comuni@cción*, 7(1), 5-15.
- Trillo, M. A., y Peces M. C. (2019). El capital relacional como factor clave en el desarrollo económico internacional. Un estudio de casos en el sector tecnológico. *Regional and Sectoral Economic Studies*, 19(1), 127-144.
- Tseng, S. M. (2012). Correlations between external knowledge and the knowledge chain as impacting service quality. *Journal of Retailing and Consumer Services*, 19(4), 429-437.
- Wang, X., Hou, Y., & Cullinane, N. (2015). How does the human resource department's client relationship management impact on organizational performance in China? Mediate effect of human capital. *South African Journal of Economic and Management Sciences*, 18(3), 291-307.
- Whyte, M. & Zyngier, S. (2014). Applied Intellectual Capital Management. *Journal of Intellectual Capital; Bradford*, 15(2), 227-248.
- Zambrano-Vargas, S. M., & Suárez-Pineda, M. (2017). Theoretical evolution of knowledge management. *Revista Principia Iuris*, 13(25), 135-152.

Instructions for Scientific, Technological and Innovation Publication

[Title in Times New Roman and Bold No. 14 in English and Spanish]

Surname (IN UPPERCASE), Name 1st Author†*, Surname (IN UPPERCASE), Name 1st Coauthor, Surname (IN UPPERCASE), Name 2nd Coauthor and Surname (IN UPPERCASE), Name 3rd Coauthor

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

International Identification of Science - Technology and Innovation

ID 1st Author: (ORC ID - Researcher ID Thomson, arXiv Author ID - PubMed Author ID - Open ID) and CVU 1st author: (Scholar-PNPC or SNI-CONACYT) (No.10 Times New Roman)

ID 1st Coauthor: (ORC ID - Researcher ID Thomson, arXiv Author ID - PubMed Author ID - Open ID) and CVU 1st coauthor: (Scholar or SNI) (No.10 Times New Roman)

ID 2nd Coauthor: (ORC ID - Researcher ID Thomson, arXiv Author ID - PubMed Author ID - Open ID) and CVU 2nd coauthor: (Scholar or SNI) (No.10 Times New Roman)

ID 3rd Coauthor: (ORC ID - Researcher ID Thomson, arXiv Author ID - PubMed Author ID - Open ID) and CVU 3rd coauthor: (Scholar or SNI) (No.10 Times New Roman)

(Report Submission Date: Month, Day, and Year); Accepted (Insert date of Acceptance: Use Only RINOE)

Abstract (In English, 150-200 words)

Objectives
Methodology
Contribution

Keywords (In English)

Indicate 3 keywords in Times New Roman and Bold No. 10

Abstract (In Spanish, 150-200 words)

Objectives
Methodology
Contribution

Keywords (In Spanish)

Indicate 3 keywords in Times New Roman and Bold No. 10

Citation: Surname (IN UPPERCASE), Name 1st Author, Surname (IN UPPERCASE), Name 1st Coauthor, Surname (IN UPPERCASE), Name 2nd Coauthor and Surname (IN UPPERCASE), Name 3rd Coauthor. Paper Title. Journal-Public Economy. Year 1-1: 1-11 [Times New Roman No.10]

* Correspondence to Author (example@example.org)

† Researcher contributing as first author.

Introduction

Text in Times New Roman No.12, single space.

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

What is your added value with respect to other techniques?

Clearly focus each of its features

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

Explanation of sections Article.

Development of headings and subheadings of the article with subsequent numbers

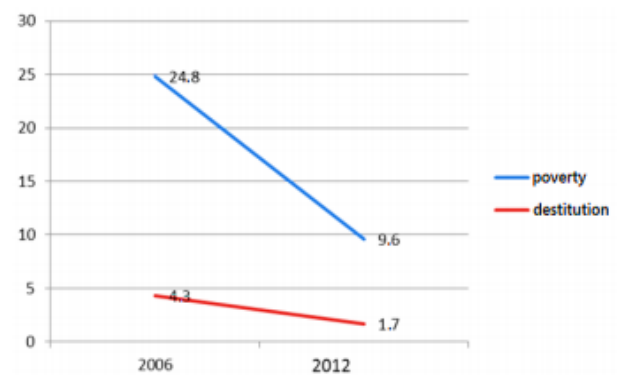
[Title No.12 in Times New Roman, single spaced and Bold]

Products in development No.12 Times New Roman, single spaced.

Including graphs, figures and tables-Editable

In the article content any graphic, table and figure should be editable formats that can change size, type and number of letter, for the purposes of edition, these must be high quality, not pixelated and should be noticeable even reducing image scale.

[Indicating the title at the bottom with No.10 and Times New Roman Bold]



Graphic 1 Title and Source (in italics).

Should not be images-everything must be editable.

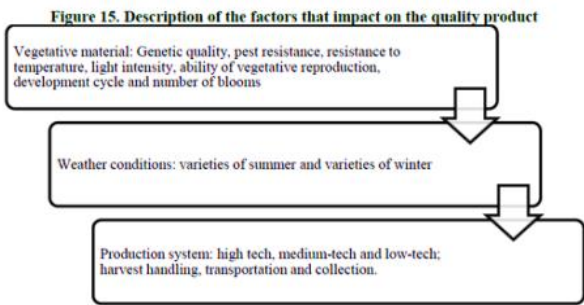


Figure 1 Title and Source (in italics).

Should not be images-everything must be editable.

	Cluster		Error		F	Sig.
	Mean square	df	Mean square	df		
SOLVENCY	77.287	4	.426	532	181.247	.000
LIQUIDITY	77.182	4	.427	532	180.669	.000
SIZE	62.602	4	.537	532	116.616	.000
PROFITABILITY	68.655	4	.491	532	139.738	.000

Table 1 Title and Source (in italics).

Should not be images-everything must be editable.

Each article shall present separately in 3 folders:

- a) Figures, b) Charts and c) Tables in .JPG format, indicating the number and sequential Bold Title.

For the use of equations, noted as follows:

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

They must be editable and number aligned on the right side.

Methodology

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

Results

The results shall be by section of the article.

Annexes

Tables and adequate sources

Thanks

Indicate if they were financed by any institution, University or company.

Conclusions

Explain clearly the results and possibilities of improvement.

References

Use APA system. Should not be numbered, nor with bullets, however if necessary numbering will be because reference or mention is made somewhere in the Article.

Use Roman Alphabet, all references you have used must be in the Roman Alphabet, even if you have quoted an Article, book in any of the official languages of the United Nations (English, French, German, Chinese, Russian, Portuguese, Italian, Spanish, Arabic), you must write the reference in Roman script and not in any of the official languages.

Technical Specifications

Each Article must submit your dates into a Word document (.docx):

Journal Name

Article title

Abstract

Keywords

Article sections, for example:

1. *Introduction*
2. *Description of the method*
3. *Analysis from the regression demand curve*
4. *Results*
5. *Thanks*
6. *Conclusions*
7. *References*

Author Name (s)

Email Correspondence to Author

References

Intellectual Property Requirements for editing:

-Authentic Signature in Color of Originality
Format Author and Coauthors

-Authentic Signature in Color of the Acceptance
Format of Author and Coauthors

Reservation to Editorial Policy

RINOE Journal-Public Economy reserves the right to make editorial changes required to adapt the Articles to the Editorial Policy of the Journal. Once the Article is accepted in its final version, the Journal will send the author the proofs for review. RINOE® will only accept the correction of errata and errors or omissions arising from the editing process of the Journal, reserving in full the copyrights and content dissemination. No deletions, substitutions or additions that alter the formation of the Article will be accepted.

Code of Ethics - Good Practices and Declaration of Solution to Editorial Conflicts

Declaration of Originality and unpublished character of the Article, of Authors, on the obtaining of data and interpretation of results, Acknowledgments, Conflict of interests, Assignment of rights and Distribution.

The RINOE® Management claims to Authors of Articles that its content must be original, unpublished and of Scientific, Technological and Innovation content to be submitted for evaluation.

The Authors signing the Article must be the same that have contributed to its conception, realization and development, as well as obtaining the data, interpreting the results, drafting and reviewing it. The Corresponding Author of the proposed Article will request the form that follows.

Article title:

- The sending of an Article to RINOE Journal-Public Economy emanates the commitment of the author not to submit it simultaneously to the consideration of other series publications for it must complement the Format of Originality for its Article, unless it is rejected by the Arbitration Committee, it may be withdrawn.
- None of the data presented in this article has been plagiarized or invented. The original data are clearly distinguished from those already published. And it is known of the test in PLAGSCAN if a level of plagiarism is detected Positive will not proceed to arbitrate.
- References are cited on which the information contained in the Article is based, as well as theories and data from other previously published Articles.
- The authors sign the Format of Authorization for their Article to be disseminated by means that RINOE® in its Holding Taiwan considers pertinent for disclosure and diffusion of its Article its Rights of Work.
- Consent has been obtained from those who have contributed unpublished data obtained through verbal or written communication, and such communication and Authorship are adequately identified.
- The Author and Co-Authors who sign this work have participated in its planning, design and execution, as well as in the interpretation of the results. They also critically reviewed the paper, approved its final version and agreed with its publication.
- No signature responsible for the work has been omitted and the criteria of Scientific Authorization are satisfied.
- The results of this Article have been interpreted objectively. Any results contrary to the point of view of those who sign are exposed and discussed in the Article.

Copyright and Access

The publication of this Article supposes the transfer of the copyright to RINOE® in its Holding Taiwan for its RINOE Journal-Public Economy, which reserves the right to distribute on the Web the published version of the Article and the making available of the Article in This format supposes for its Authors the fulfilment of what is established in the Law of Science and Technology of the United Mexican States, regarding the obligation to allow access to the results of Scientific Research.

Article Title:

Name and Surnames of the Contact Author and the Coauthors	Signature
1.	
2.	
3.	
4.	

Principles of Ethics and Declaration of Solution to Editorial Conflicts

Editor Responsibilities

The Publisher undertakes to guarantee the confidentiality of the evaluation process, it may not disclose to the Arbitrators the identity of the Authors, nor may it reveal the identity of the Arbitrators at any time.

The Editor assumes the responsibility to properly inform the Author of the stage of the editorial process in which the text is sent, as well as the resolutions of Double-Blind Review.

The Editor should evaluate manuscripts and their intellectual content without distinction of race, gender, sexual orientation, religious beliefs, ethnicity, nationality, or the political philosophy of the Authors.

The Editor and his editing team of RINOE® Holdings will not disclose any information about Articles submitted to anyone other than the corresponding Author.

The Editor should make fair and impartial decisions and ensure a fair Double-Blind Review.

Responsibilities of the Editorial Board

The description of the peer review processes is made known by the Editorial Board in order that the Authors know what the evaluation criteria are and will always be willing to justify any controversy in the evaluation process. In case of Plagiarism Detection to the Article the Committee notifies the Authors for Violation to the Right of Scientific, Technological and Innovation Authorization.

Responsibilities of the Arbitration Committee

The Arbitrators undertake to notify about any unethical conduct by the Authors and to indicate all the information that may be reason to reject the publication of the Articles. In addition, they must undertake to keep confidential information related to the Articles they evaluate.

Any manuscript received for your arbitration must be treated as confidential, should not be displayed or discussed with other experts, except with the permission of the Editor.

The Arbitrators must be conducted objectively, any personal criticism of the Author is inappropriate.

The Arbitrators must express their points of view with clarity and with valid arguments that contribute to the Scientific, Technological and Innovation of the Author.

The Arbitrators should not evaluate manuscripts in which they have conflicts of interest and have been notified to the Editor before submitting the Article for Double-Blind Review.

Responsibilities of the Authors

Authors must guarantee that their articles are the product of their original work and that the data has been obtained ethically.

Authors must ensure that they have not been previously published or that they are not considered in another serial publication.

Authors must strictly follow the rules for the publication of Defined Articles by the Editorial Board.

The authors have requested that the text in all its forms be an unethical editorial behavior and is unacceptable, consequently, any manuscript that incurs in plagiarism is eliminated and not considered for publication.

Authors should cite publications that have been influential in the nature of the Article submitted to arbitration.

Information services

Indexation - Bases and Repositories

Research Gate (Germany)
Google Scholar (Citation indices-Google)
Mendeley ((Bibliographic References Manager)

Publishing Services

Citation and Index Identification H.
Management of Originality Format and Authorization.
Testing Article with PLAGSCAN.
Article Evaluation.
Certificate of Double-Blind Review.
Article Edition.
Web layout.
Indexing and Repository
Article Translation.
Article Publication.
Certificate of Article.
Service Billing.

Editorial Policy and Management

Distrito YongHe, Zhongxin, calle 69. Taipei - Taiwan. Phones: +52 1 55 1260 0355, +52 1 55 6159 2296, +52 1 55 6034 9181; E-mail: contact@rinoe.org www.rinoe.org

RINOE® Journal-Public Economy

Editor in chief

MIRANDA-GARCIA, Marta. PhD

Executive director

RAMOS-ESCAMILLA, María. PhD

Editorial Director

PERALTA-CASTRO, Enrique. MsC

Web designer

ESCAMILLA-BOUCHAN, Imelda. PhD

Web Diagrammer

LUNA-SOTO, Vladimir. PhD

Editorial Assistants

REYES-VILLAO, Angélica. BsC

Translator

DÍAZ-OCAMPO, Javier. BsC

Philologist

RAMOS-ARANCIBIA, Alejandra. BsC

Advertising & Sponsorship

(RINOE® - Taiwan), sponsorships@rinoe.org

Site Licences

03-2010-032610094200-01-For printed material, 03-2010-031613323600-01-For Electronic material,03-2010-032610105200-01-For Photographic material,03-2010-032610115700-14-For the facts Compilation,04-2010-031613323600-01-For its Web page,19502-For the Iberoamerican and Caribbean Indexation,20-281 HB9-For its indexation in Latin-American in Social Sciences and Humanities,671-For its indexing in Electronic Scientific Journals Spanish and Latin-America,7045008-For its divulgation and edition in the Ministry of Education and Culture-Spain,25409-For its repository in the Biblioteca Universitaria-Madrid,16258-For its indexing in the Dialnet,20589-For its indexing in the edited Journals in the countries of Iberian-America and the Caribbean, 15048-For the international registration of Congress and Colloquiums. financingprograms@rinoe.org

Management Offices

Distrito YongHe, Zhongxin, calle 69. Taipei - Taiwan.

Journal-Public Economy

“Innovation in micro enterprises: Mérida, Yucatán”

GONZÁLEZ-HERRERA, Karina Concepción, CASTILLO-GALLEGOS, Aurea Licet and GAMBOA-LEÓN, Roque Humberto Martín

Universidad Tecnológica Metropolitana

“Comparative Analysis between the Integrating Company model and the Export Consortium in Mexico”

ARREDONDO-HIDALGO, María Guadalupe, CONRAUD-KOELLNER, Eva, ALCOCER-LUQUE María Clementina and MORENO-ÁVILA, Fátima de la Purísima

Universidad de Guanajuato

“Study of the context variables for the design of a sustainable economic model in gas service stations in Villahermosa, Tabasco”

ANGELES-GUZMÁN, Casandra, MENESES HERNÁNDEZ, José Luis, JAVIER-GERÓNIMO, Zinath and ARIAS-RODRÍGUEZ, Nancy Estela

Instituto Tecnológico de Villahermosa

“Factors for measuring knowledge management and intellectual capital in the public sector of Jalisco”

HUERTA-CHÁVEZ, Irma Alicia & CASTRO-VALENCIA, Alberto Merced

Universidad Autónoma de Guadalajara

