

ISSN 2444-4979

# Journal of Human Resources Training

Volume 6, Issue 18 — July — December - 2020

**ECORFAN®**

## **ECORFAN-Spain**

### **Chief Editor**

GUZMÁN - HURTADO, Juan Luis. 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 Assistant**

REYES-VILLO, Angélica. BsC

### **Translator**

DÍAZ-OCAMPO, Javier. BsC

### **Philologist**

RAMOS-ARANCIBIA, Alejandra. BsC

**Journal of Human Resources Training**, Volume 6, Issue 18, July – December 2020, is a journal edited sixmonthly by ECORFAN. 38 Matacerquillas street, Postcode: 28411. Moralarzal –Madrid  
WEB: [www.ecorfan.org/spain](http://www.ecorfan.org/spain), [journal@ecorfan.org](mailto:journal@ecorfan.org). Editor in Chief: GUZMÁN - HURTADO, Juan Luis. PhD, ISSN On line: 2444-4979. Responsible for the latest update of this number ECORFAN Computer Unit. ESCAMILLA-BOUCHÁN, Imelda. PhD, LUNA-SOTO, Vladimir. PhD, 38 Matacerquillas street, Postcode: 28411. Moralarzal – Madrid, last updated December 31, 2020.

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 of Copyrigh

## **Definition of Journal**

### **Scientific Objectives**

Support the international scientific community in its written production Science, Technology and Innovation in the Field of Humanities and Behavioral Sciences, in Subdisciplines of human talent, organizational commitment, work welfare, work performance, human resources management, human capital, productivity, organizational culture, leadership and sustainability.

ECORFAN-Mexico SC 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-RENIECYT 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**

Journal of Human Resources Training is a Journal edited by ECORFAN-Mexico S.C in its Holding with repository in Spain, 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 human talent, organizational commitment, work welfare, work performance, human resources management, human capital, productivity, organizational culture, leadership and sustainability 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 Humanities and Behavioral Sciences. The editorial horizon of ECORFAN-Mexico® 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**

HERNANDEZ-PADILLA, Juan Alberto. PhD  
Universidad de Oviedo

GARCIA, Silvia. PhD  
Universidad Agraria del Ecuador

MARTINEZ - LICONA, José Francisco. PhD  
University of Lehman College

MONTERO - PANTOJA, Carlos. PhD  
Universidad de Valladolid

BOJÓRQUEZ - MORALES, Gonzalo. PhD  
Universidad de Colima

SANTOYO, Carlos. PhD  
Universidad Nacional Autónoma de México

ARELLANEZ - HERNÁNDEZ, Jorge Luis. PhD  
Universidad Nacional Autónoma de México

MERCADO - IBARRA, Santa Magdalena. PhD  
Universidad de Barcelona

AZOR - HERNÁNDEZ, Ileana. PhD  
Instituto Superior de Arte

OROZCO - RAMIREZ, Luz Adriana. PhD  
Universidad de Sevilla

## **Arbitration Committee**

ROMÁN - KALISCH, Manuel Arturo. PhD  
Universidad Nacional Autónoma de México

DE LA MORA - ESPINOSA, Rosa Imelda. PhD  
Universidad Autónoma de Querétaro

GARCÍA - VILLANUEVA, Jorge. PhD  
Universidad Nacional Autónoma de México

CHAVEZ - GONZALEZ, Guadalupe. PhD  
Universidad Autónoma de Nuevo León

CORTÉS - DILLANES, Yolanda Emperatriz. PhD  
Centro Eleia

FIGUEROA - DÍAZ, María Elena. PhD  
Universidad Nacional Autónoma de México

DELGADO - CAMPOS, Genaro Javier. PhD  
Universidad Nacional Autónoma de México

BAZÁN, Rodrigo. PhD  
Universidad Autónoma del Estado de Morelos

LINDOR, Moïse. PhD  
El Colegio de Tlaxcala

PADILLA - CASTRO, Laura. PhD  
Universidad Autónoma del Estado de Morelos

CORTÉS, María de Lourdes Andrea. PhD  
Instituto Tecnológico Superior de Juan Rodríguez

## **Assignment of Rights**

The sending of an Article to Journal of Human Resources Training 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 Authorization Format for their Article to be disseminated by means that ECORFAN-Mexico, S.C. In its Holding Spain 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 human talent, organizational commitment, work welfare, work performance, human resources management, human capital, productivity, organizational culture, leadership and sustainability and other topics related to Humanities and Behavioral Sciences.

## **Presentation of Content**

In the first article we present, *Strategy oriented to strengthen the college work of teachers for the benefit of the consolidation of Academic Corps*, by PALOMARES-RUIZ, María Blanca, TORRES-BUGDUD, Arturo, DIMAS-RANGEL, María Isabel and SORDIA-SALINAS, Cesar, with adscription in the Universidad Autónoma de Nuevo León, the next article we present, *Perception of organizational justice of the workers of a public university in Mexico hired under the outsourcing modality*, by HERNÁNDEZ-GOVEA, Luis Manuel, MAY-GUILLERMO, Erika Guadalupe, DE LA CRUZ-MAY, Samuel and SALVADOR-GARCÍA, Yazmin Denisse, with adscription in the Universidad Juárez Autónoma de Tabasco, Instituto Tecnológico Superior de la Región Sierra and the Universidad Intercultural del Estado de Tabasco, the next article we present, *Factorial explanation of the integration of curriculum design, professional training and job training*, by HERNÁNDEZ-CUETO, Jaquelina Lizet, SALINAS-AGUIRRE, María del Consuelo, YAÑEZ-FLORES, Sara Margarita and ARRIAGA-REYES, Rosa Argelia, with adscription in the Universidad Autónoma de Coahuila, the next article we present, *Determining factors for knowledge management, organizational learning and intellectual capital in the Jalisco public sector*, by HUERTA-CHÁVEZ, Irma Alicia, MURO-MARTÍNEZ, José Manuel and FIGUEROA-OCHOA, Edgar Benjamín, with adscription in the Universidad Autónoma de Guadalajara and the Universidad de Guadalajara.

## Content

Article	Page
<b>Strategy oriented to strengthen the college work of teachers for the benefit of the consolidation of Academic Corps</b> PALOMARES-RUIZ, María Blanca, TORRES-BUGDUD, Arturo, DIMAS-RANGEL, María Isabel and SORDIA-SALINAS, Cesar <i>Universidad Autónoma de Nuevo León</i>	1-5
<b>Perception of organizational justice of the workers of a public university in Mexico hired under the outsourcing modality</b> HERNÁNDEZ-GOVEA, Luis Manuel, MAY-GUILLERMO, Erika Guadalupe, DE LA CRUZ-MAY, Samuel and SALVADOR-GARCÍA, Yazmin Denisse <i>Universidad Juárez Autónoma de Tabasco</i> <i>Instituto Tecnológico Superior de la Región Sierra</i> <i>Universidad Intercultural del Estado de Tabasco</i>	6-17
<b>Factorial explanation of the integration of curriculum design, professional training and job training</b> HERNÁNDEZ-CUETO, Jaquelina Lizet, SALINAS-AGUIRRE, María del Consuelo, YAÑEZ-FLORES, Sara Margarita and ARRIAGA-REYES, Rosa Argelia <i>Universidad Autónoma de Coahuila</i>	18-21
<b>Determining factors for knowledge management, organizational learning and intellectual capital in the Jalisco public sector</b> HUERTA-CHÁVEZ, Irma Alicia, MURO-MARTÍNEZ, José Manuel and FIGUEROA-OCHOA, Edgar Benjamín <i>Universidad Autónoma de Guadalajara</i> <i>Universidad de Guadalajara</i>	22-39



## Strategy oriented to strengthen the college work of teachers for the benefit of the consolidation of Academic Corps

### Estrategia orientada a fortalecer el trabajo colegiado de los profesores en beneficio de la consolidación de los Cuerpos Académicos

PALOMARES-RUIZ, María Blanca\*†, TORRES-BUGDUD, Arturo, DIMAS-RANGEL, María Isabel and SORDIA-SALINAS, Cesar

*Universidad Autónoma de Nuevo León, Facultad de Ingeniería Mecánica y Eléctrica*

ID 1<sup>st</sup> Author: *María Blanca, Palomares-Ruiz* / ORC ID: 0000-0002-4079-6969, Researcher ID Thomson: S-4843-2018, CVU CONACYT ID: 339594, arXiv ID: Mabe\_6708

ID 1<sup>st</sup> Coauthor: *Arturo, Torres-Bugdud* / ORC ID: 0000-0003-2214-9394, CVU CONACYT ID: 216332

ID 2<sup>nd</sup> Coauthor: *María Isabel, Dimas-Rangel* / ORC ID: 0000-0001-9450-8080 Researcher ID Thomson: S-4720-2018 CVU CONACYT ID: 374045

ID 3<sup>rd</sup> Coauthor: *Cesar, Sordia-Salinas* / ORC ID: 0000-0003-2186-1080, Researcher ID Thomson: S-5666-2018, CVU CONACYT ID: 339888

DOI: 10.35429/JHRT.2020.18.6.1.5

Received: June 30, 2020; Accepted: December 20, 2020

#### Abstract

The present work aims to show a strategy aimed at strengthening the academic staff through the creation of collegiate work groups which in the Mexican context are called Academic Corps (CA); the foregoing based on its strategic planning, collegiate work, relevance of the members of the CA, as well as the impact of its Lines of Generation and Application of Knowledge (LGAC) in the Educational Programs of the Faculty of Mechanical and Electrical Engineering, for which which proposes an academic-administrative structure that favors institutional achievements through the elevation of its indicators, where in the first instance a detailed analytical method of how many full-time professors participate in CA and the description of their LGAC, historical of academic corps by educational program and in what degree of consolidation they are found, in conclusion, different strategies were implemented promoting the increase of consolidated and consolidating academic corps, and their dissemination through means of recognized prestige at national and international level, combined to the degree of empowerment of its members, evidence of joint work and integration ration of thematic networks of collaboration.

**Academic Corps, Collegiate work, Academic-Administrative strategy**

#### Resumen

El presente trabajo tiene como objetivo mostrar una estrategia orientada al fortalecimiento de la planta académica mediante la creación de grupos de trabajo colegiado a la cuál en el contexto mexicano se les denomina Cuerpos Académicos (CA); lo anterior en base a su planeación estratégica, trabajo colegiado, pertinencia de los integrantes del CA, así como el impacto de sus Líneas de Generación y Aplicación del Conocimiento (LGAC) en los Programas Educativos de la Facultad de Ingeniería Mecánica y Eléctrica, para lo cual se propone una estructura académico-administrativa que lo favorece a logros institucionales a través de la elevación de sus indicadores, donde en primer instancia se efectuó un método analítico detallado de cuántos profesores de tiempo completo participan en CA y la descripción de sus LGAC, histórico de cuerpos académicos por programa educativo y en qué grado de consolidación se encuentran, en conclusión, se implementaron diferentes estrategias propiciando el incremento de cuerpos académicos consolidados y en consolidación, y su difusión a través de medios de reconocido prestigio a nivel nacional e internacional, aunado a el grado de habilitación de sus integrantes, evidencia del trabajo conjunto y la integración de redes temáticas de colaboración.

**Cuerpos Académicos, Trabajo colegiado, Estrategia Académico-Administrativa**

**Citation:** PALOMARES-RUIZ, María Blanca, TORRES-BUGDUD, Arturo, DIMAS-RANGEL, María Isabel and SORDIA-SALINAS, Cesar. Strategy oriented to strengthen the college work of teachers for the benefit of the consolidation of Academic Corps. Journal of Human Resources Training. 2020, 6-18: 1-5

\*Correspondence to Author (mbpalomares@yahoo.com.mx)

†Researcher contributing first Author

## Introduction

A higher level Educational Institution committed to providing innovation and scientific and technological development to society based on the constant changes in the needs of the national and international industry through the planning and implementation of specific strategies according to the Educational Program (PE) and under an educational model based on competencies. Given this, in the Faculty of Mechanical and Electrical Engineering (FIME), which is a dependency of the Autonomous University of Nuevo León, the need arises to form research groups that allow the professor to consciously think and put into practice the development of their academic skills with it. provide continuous improvement to PEs.

Within the Mexican national framework there is the Secretary of Higher Education, which through the Directorate of Academic Improvement (DSA) and the Program for Teacher Professional Development (PRODEP), formerly the Teacher Improvement Program (PROMEP), have the objective of contributing to that the Full Time Professors (PTC) of the Public Institutions of Higher Education achieve the capacities to carry out the substantive actions of a Quality Teacher: Teaching, Knowledge Generation, Academic Management-Linkage, and Tutoring, in addition they are articulated and consolidated in academic corps .

The Academic Corps (CA) are groups of full-time professors who share projects, activities or studies that deepen their knowledge as a product of basic and applied research with academic objectives and goals, in disciplinary or multidisciplinary subjects to which that PRODEP defines as Line (s) of Generation or Innovative Application of Knowledge (LGAC) as mentioned in its Operating Rules 2018 (DSA, 2017).

Due to the above and due to the impact that these research groups have on the present work, an academic-administrative structure is shown that allows to consolidate the research and management strategies, in order to strengthen the collegiate work of the Professors with the purpose of contributing positively to competitiveness and academic ability.

Likewise, encourage these research groups to be articulated in CA formed based on their strategic planning, relevance among their members, as well as the impact of their LGAC on Educational Programs.

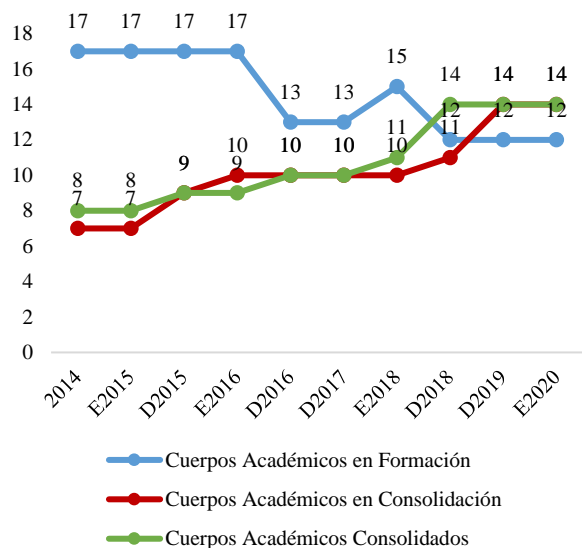
## Background

In order to strengthen collaborative work among professors who belong to universities and higher education institutions, the creation and consolidation of academic corps has been promoted, which include different areas of knowledge depending on the characteristics of the institutions and agencies, Currently at the national level there are 6107 Academic Corps distributed in the different Subsystems of Higher Education of the Country.

For the state of Nuevo León, the participation of each teacher is crucial in the teaching-learning process, and each of them must contribute greatly to a quality education, which is why this year registered a total of 268 Academic Corps which represents 4% of the national total. In this sense, the UANL, according to the policies formulated for the development and consolidation of the Academic Corps as a central axis in the generation and application of knowledge, contributes with 98% of the Academic Corps at the State level, which it is worth mentioning is made up of 61 Higher Education Units (DES) in which a total of 263 Academic Corps are distributed.

For its part, the FIME, as a higher education unit of the UANL, has managed to increase the amount of CA in the different areas of knowledge, in accordance with the strategies embodied in its Development Plan, so that by 2020 it has 40 Academic Corps, which represents an indicator of 70% in their degree of consolidation, of which 12 are in formation (CAEF), 14 are in consolidation (CAEC) and 14 are consolidated (CAC).

The behavior of this indicator in recent years makes evident an important closing of quality gaps between Academic Corps, highlighting above all the significant growth in the number of CAC and CAEC Corps , as shown in graph 1.



**Graphic 1** Academic Corps at FIME, UANL  
Own Elaboration

## Theoretical framework

In order to train quality students who contribute to the economic development of the country, the Academic Corps are made up of groups of professors belonging to an IES who have a full time of dedication in conjunction with teaching activities, research, academic-administrative management, tutoring and advisory; They are categorized by their degree of consolidation determined by the maturity of the LGACs that they develop jointly from the common goals established by the members.

López (2010) quotes Olivé (2008) when pointing out that:

"The objective of scientific communities is to generate authentic knowledge in their field, an objective knowledge of reality that is the result of rational processes ... scientific communities are characterized by a constellation of shared elements, including prior knowledge that they accumulated in their field, but, above all, a set of common values and interests within each specialty".

López (2010) mentions that the work teams reported:

- Products: Drafting, analysis, interpretation, integration and presentation of documents in each thematic field.
- Discussion: Regular meetings to work and analyze the thematic axes of the states of knowledge.

- Compilation of material: Search and classification of information on topics of interest.
- Databases: Systematization of bibliographic and documentary databases, with the support of assistants and research assistants.

The following are the characteristics to determine the degree of consolidation of a CA in accordance with PRODEP:

### CAEF:

- The members have defined the LGAC they cultivate.
- The CA has joint research projects to develop the LGAC / LIIADT / LILCD.
- The CA has its members identified.
- The CA has identified some related high-level CAs from other institutions in the country or abroad with whom they wish to establish contacts.

### CAEC:

- The CA has academic products recognized for their good quality and derived from the development of the LGAC / LIIADT / LILCD that they cultivate.
- Members participate jointly in well-defined LGAC / LIIADT / LILCD.
- At least a third of its members have extensive experience in teaching and training of human resources.
- Most of the members have recognition of the desirable profile.
- The CA has objective evidence regarding its collegiate life and the academic actions carried out in collaboration with its members.
- The CA collaborates with other CAs.

### CAC:

- The CA has academic products recognized for their good quality and derived from consolidated LGAC / LIIADT / LILCD.
- The members of the CA have extensive experience in teaching and training of human resources.
- Most of the members have the Desirable Profile Recognition, they have a high commitment to the institution, they collaborate with each other and their production is evidence of this. (DSA, 2017)

**Methodology**

Based on an analytical method, a documentary research work was carried out, which consists of separately reviewing all the necessary material collection (Maya, 2014) to determine a strategy for the Creation and Transition of Academic Corps, based on the PE graduation profiles considering the CA's LGAC as the development engine of Educational Programs, the foregoing based on a 3-year development plan and annual operational planning; I consider this stage a strategic stage



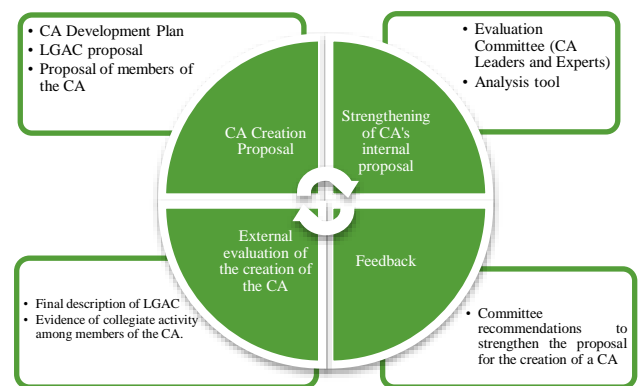
**Figure 1** Strategic Stage  
*Own Elaboration*

As an operational stage, the administrative processes for the creation of Academic Corps were implemented where, in the first instance, the graduation profiles were aligned with the Knowledge Generation and Application Lines to later launch an internal call based on the needs of the PEs, where in addition to the formats established by PRODEP and the operating rules of the same organization, documentation of a development plan is requested which suggests a SWOT analysis of the characteristics of each of the consolidation categories in order to move forward in the next 3 years. In addition to the updated Curriculum Vitae of each member, as well as a representative sample of the academic production linked to the LGAC (s) to be cultivated.



**Figure 2** Operational Stage  
*Own Elaboration*

In a second stage, and in collaboration with a committee of recognized CA leading professors, members of the National System of Researchers (SNI), and with mastery of the calls made by PRODEP, an internal evaluation is carried out that allows issuing recommendations based on to its collegiate work and relevance as a working group that shares projects, activities or studies that deepen knowledge, as well as experience as evaluators both PRODEP and the National Council of Science and Technology (CONACyT) to later provide feedback with the objective of strengthen said proposals to finally obtain the impact and relevance of the creation of new ACs or their transition by strengthening the PEs through their LGACs.



**Figure 3** Academic - Administrative Strategy for the Development of Academic Corps  
*Own Elaboration*

This structure allows to be a filter so that the proposals of the academic body that want to be created or request their transition of degree of consolidation strengthen their proposal based on the recommendations made by the Evaluation Committee of Proposals for Creation and Transition of CA, and in this way have a better chance of success.

**Results**

Aware of the need to achieve high levels of educational quality, it is necessary to strengthen the academic capacity of the CAs, which is understood as raising academic qualification, intensifying collegiate life and institutional commitment, as well as participation in collaboration and exchange networks academic staff of the institution.

For this, the analysis of the importance of academic corps and their impact on student society, in relation to educational programs; which all dependencies must have academic corps among their teaching staff with the goal of improving and strengthening their teaching methods, successfully transmitting their knowledge and promoting research.

Next, the increase that has occurred from the implementation of the academic-administrative strategy for the development of the Academic Corps is shown, where it is evident that in addition to the evolution in quantity of CA, the transition from CAEF to CAC and CAEC.

Similarly, it can be noted that a total of 187 PTC are members of a CA, who contribute integrally to the mission of the educational institution, since the comprehensive work they carry out positively impacts the development of engineering students, which represents 44% of the Full-time academic staff at FIME.

The strengthening of the substantive actions has favored the level of awareness of the professors in relation to their institutional commitment of the Professors who contribute to the transition of the degree of Consolidation of the Academic Corps.

## Conclusions

With the strategy presented in this work, the impact of the internal call for teachers who wish to create or request the transition of degree of consolidation of an Academic Body is evidenced, with this it is intended to promote greater participation and strengthening of their CAs, without However, every effort that is made is with the intention of contributing to the comprehensive training of students and at the same time obtaining improvements in the Academic Capacity of the Unit, since there is the possibility that they will be decreased by various factors, among others that the PTC with more seniority they retire, fulfilling their cycle, so the training must be permanent with a greater focus on the new PTCs on the importance of creating and strengthening the CAs.

## References

- DSA. (27 de diciembre de 2017). *Reglas de Operación del PRODEP 2018*. Obtenido de [http://www.dgesu.ses.sep.gob.mx/Documentos/DSA%20gobmx/Prodep\\_S247.pdf](http://www.dgesu.ses.sep.gob.mx/Documentos/DSA%20gobmx/Prodep_S247.pdf)
- DSA. (31 de ENERO de 2019). *Cuerpos académicos reconocidos por PRODEP*. Obtenido de <https://promep.sep.gob.mx/ca1/Conceptos2.html>
- FIME. (2012). *Plan de Desarrollo FIME 2012-2020*. Obtenido de <http://www.fime.uanl.mx/Plan%20de%20desarrollo%20FIME%20Vision%202020.pdf>
- Lopez Leyva, S. (2010). Cuerpos académicos: factores de integración y producción de conocimiento. *Revista de la Educación Superior*, 7-25.
- Maya, E. (2014). *Métodos y técnicas*. México: Universidad Nacional Autónoma de México.
- UANL. (29 de MARZO de 2012). *Plan de Desarrollo Institucional UANL 2012-2020*. Obtenido de <http://www.uanl.mx/sites/default/files/documentos/universidad/pdi-2020-26abril.pdf>

## Perception of organizational justice of the workers of a public university in Mexico hired under the outsourcing modality

## Percepción de justicia organizacional de los trabajadores de una universidad pública en México contratados bajo la modalidad de outsourcing

HERNÁNDEZ-GOVEA, Luis Manuel†, MAY-GUILLERMO, Erika Guadalupe\*, DE LA CRUZ-MAY, Samuel and SALVADOR-GARCÍA, Yazmin Denisse

*Universidad Juárez Autónoma de Tabasco  
Instituto Tecnológico Superior de la Región Sierra  
Universidad Intercultural del Estado de Tabasco*

ID 1<sup>st</sup> Author: *Luis Manuel, Hernández-Govea* / ORC ID: 0000-0001-6371-8135, CVU CONACYT ID: 1095368

ID 1<sup>st</sup> Coauthor: *Erika Guadalupe, May-Guillermo* / ORC ID: 0000-0001-5403-9849, Researcher ID Thomson: W-4393-2019, CVU CONACYT ID: 366439

ID 2<sup>nd</sup> Coauthor: *Samuel, De La Cruz-May* / ORC ID: 0000-0001-9180-6349, Researcher ID Thomson: ABD-3123-2020, CVU CONACYT ID: 862273

ID 3<sup>rd</sup> Coauthor: *Yazmin Denisse, Salvador-Garcia* / ORC ID: 0000-0003-3047-7558, Researcher ID Thomson: S-7586-2018, CVU CONACYT ID: 824554

DOI: 10.35429/JHRT.2020.18.6.6.17

Received: June 30, 2020; Accepted: December 20, 2020

### Resumen

A descriptive, quantitative study is presented, with a non-experimental and cross-sectional design, carried out with the objective of describing the level of organizational justice perceived by the workers of a public university, hired under the *outsourcing* modality and its relationship with some demographic variables. The data collection technique was the survey and the instrument used to measure perceived organizational justice was the Niehoff and Moorman scale (1993) adapted by Patlán et al. (2014) for use with the Mexican population. The sample consisted of 16 workers from a public Higher Education Institution (IES) located in the state of Tabasco, Mexico. The study findings show that workers perceive average levels of organizational justice, predominantly interactional justice, followed by procedural justice and later distributive justice. In turn, it was identified that the academic degree was the only differentiating demographic variable with respect to the levels of organizational justice perceived by the population studied. The main contribution of the study was to consider as a population a segment of workers who, due to the characteristics of their hiring modality, have psychosocial implications that may affect their organizational performance.

### Organizational Justice, Education Workers, Outsourcing

### Resumen

Se presenta un estudio de tipo descriptivo, cuantitativo, con diseño no experimental y transversal, realizado con el objetivo de describir el nivel de justicia organizacional percibida por los trabajadores de una universidad pública, contratados bajo la modalidad de *outsourcing* y su relación con algunas variables demográficas. La técnica de recopilación de datos fue la encuesta y el instrumento utilizado para medir la justicia organizacional percibida fue la escala de Niehoff y Moorman (1993) adaptada por Patlán et al. (2014) para su uso con población mexicana. La muestra estuvo integrada por 16 trabajadores de una Institución de Educación Superior (IES) pública ubicada en el estado de Tabasco, México. Los hallazgos del estudio muestran que los trabajadores perciben niveles medios de justicia organizacional, predominando la justicia interaccional, seguida de la justicia de procedimientos y posteriormente la justicia distributiva. A su vez, se identificó que el grado académico fue la única variable demográfica diferenciadora respecto a los niveles de justicia organizacional percibida por la población estudiada. La principal contribución del estudio fue considerar como población a un segmento de trabajadores que por las características de su modalidad de contratación presentan implicaciones psicosociales que pueden incidir en su desempeño organizacional.

### Justicia Organizacional, Trabajadores de la educación, Outsourcing

**Citation:** HERNÁNDEZ-GOVEA, Luis Manuel, MAY-GUILLERMO, Erika Guadalupe, DE LA CRUZ-MAY, Samuel and SALVADOR-GARCÍA, Yazmin Denisse. Perception of organizational justice of the workers of a public university in Mexico hired under the outsourcing modality. *Journal of Human Resources Training*. 2020, 6-18: 6-17

\*Correspondence to Author (saoridenise@hotmail.com)

†Researcher contributing first Author

**Introduction**

The economic terms, with the passage of time, have frequently incurred extremely important changes regarding the needs that arise. That is why, if we talk about significant changes over time, there is a specific issue that has undoubtedly had such variations, such as work, since individuals and their needs have changed as The years go by.

The work, since biblical times, had different appreciations in relation to the political, social and cultural, but above all in the economic activities that led to the human being, creating and reproducing his existence through nature, taking parts of it consecutively to survive. However, despite the fact that individuals were owners of their own work, they were not rewarded in favor of it, but many of them were despised for the type of work they did or even many were slaves, who did not see the reward for their effort (Albanesi, 2015).

However, over time humans developed a system of cooperation at work, providing a reward in the working day. Even, by the end of the 18th century in Europe, the notion of work already had many scopes and rights of which in previous years they did not have, one of them is thanks to the changes in economic perceptions that the Theory of Value represented- Adam Smith's work (Smith, 1976). Undoubtedly, its approach, forged several guidelines that served for labor rights that were later used for the benefit of the working class (Albanesi, 2015).

Even Sztulwark and Míguez (2012) mention that, with the advent of industrial capitalism, the process of subordination of the working class was emphasized, since, thanks to this, importance began to be given to the effort of the working class, to guarantee security and the salary regime, granting them subsequent rights to sell their workforce. This was further reinforced with the consolidation of capitalist relations, since wage labor transformed one of its bases. In addition to this, technological advances in recent decades have allowed companies to further consolidate their workforce to obtain diverse and gratifying results (Sztulwark & Míguez, 2012).

**Theoretical foundation****Organizational Justice**

In the search for salary improvements, the process of organizational justice in organizations has been changing as the needs of human beings are transformed, this always looking for improvements in a wide panorama of their needs (Quezada-Abad , 2017). Speaking in terms of job performance, labor ties or labor rights, they have opened various fields in favor of the satisfaction of various needs that a worker needs in order to feel complete and satisfied in their work environment (Patlán, 2016).

In addition to this, and emphasizing in these terms, a special one arises, which, without a doubt, brings great expectations regarding the feeling of an employee in his work environment complying with certain conditions, which is called Organizational Justice, since it is related to concepts such as equity and justice (Martínez-Tur et al., 2014).

According to Omar (2006) the term Organizational Justice refers to how the worker perceives the work environment, that is, what is fair and unfair within the organization to which a person belongs, referring to the treatment of them by organizational management.

In general terms, according to Patlán-Pérez and Martínez (2012), research related to the concept of organizational justice has been divided into at least two very interesting axes; In this sense, Greenberg (1993) proposed a division to study this phenomenon dividing it into two large segments: 1) distributive and procedural justice, and 2) structural justice, which refer to the perception of the worker, if his treatment is fair in the various areas of performance of their work activities, and therefore, if their salary is also fair because of what they do.

In the same way, Colquitt (2001) gives it a similar approach, dividing the study of this issue into four approaches: distributive, procedural, interpersonal and informational, giving rise to the so-called interpersonal and informational justice. According to Omar (2018), the first includes social sensitivity, which is how the worker perceives the dignified and respectful treatment of certain decisions that the organization makes.

In the same context the second approach, it is perceived if the explanation or justification of the organization stops or calms the negative reactions of the worker before diverse behaviors of injustice. Both authors agree that the sensitive perception of the worker has a lot to do with their progress and results obtained in their field of work (Castillo & Fernandez, 2017).

Organizational Justice, although it is a concept studied mostly by the field of psychology, has a direct impact on the economy of many companies since, without a doubt, individuals react consistently in their productivity based on their physical and emotional state (Kozlowski, 2012) so that equity and inequity can be considered internal factors to take into account when wanting to improve worker conditions and their field of action (Peña-Ochoa & Durán, 2016).

### **Factors that influence Organizational Justice**

#### **Work stress**

The pressures of life, such as family, economic and social problems, can generate concerns that, without a doubt, affect the worker and his productivity directly, since stress exceeds the person's resistance capacity (Omar, 2006).

In addition to this, García and Forero (2014) add that job stress arises when work pressures exceed the worker's ability to cope, which generate the physical and mental vulnerability of the person, resulting in absenteeism, job rotation or layoffs, hence these effects are seen in the economy of a country, reflected in the business losses suffered annually due to lack of attention to stress (Quezada-Abad, 2017).

This is a phenomenon that has been happening repeatedly in all the economies of the world, which is why adequate instruments have been developed to explore the sources of this type of stress, such as the Occupational Stress Index (ISO) (Omar, 2004). Which is made up of five variants: job satisfaction, psychological well-being, physical well-being, sources of stress and coping strategies (Marsollier & Aparicio, 2011).

### **Organizational Commitment**

Cernas et al. (2018) mention that organizational commitment is the most important work attitude in the world, since it promotes planned behavior and especially interaction and social exchange, resulting in a positive environment in their work environment focused on behaviors commitment that exist between the worker and the company (Cernas et al., 2018). This also operates vice versa, since, in the absence of commitment from all its actors, there are negative results in all areas (Claure & Böhr, 2015).

### **Work satisfaction**

For there to be an effective relationship between all the entities that work in an organization, there must be a relationship between the organization and its workers that can always satisfy the changing needs of both parties (Sánchez & García, 2017). Job satisfaction is directly related to the knowledge that the person has within the organization, transforming into perception and culminating in an emotional component that defines the person's way of acting (Charaja & Mamani, 2014).

Chiang et al. (2007) conceptualize job satisfaction as an attitude or set of attitudes that are developed by the person towards her work, especially towards their general and particular situation in it. Therefore, as a result of these two concepts, we can see that job satisfaction should not be considered as a casual factor within organizations, since the worker's level of performance will depend on how much he likes his job and on factors such as development, safety, hygiene and incentives that exist to carry out their functions (Cernas et al., 2016).

### **Organizational Trust**

Lockward and Ailín (2011) mention that in the same way that job satisfaction generates calm in the worker, trust in the organization creates stability in the behavior of human capital, since this feeling of stability can serve as a basis for that they develop relationships based on commitment, creating greater involvement in the organization (Quezada-Abad, 2017).



On the contrary, it produces injustice, which generates intellectual and emotional indignation causing lack of trust and resentment to the organization, so this part must be taken care of by the organization so as not to promote low productivity due to factors that can be avoided (Lockward & Ailín, 2011; Quezada-Abad, 2017).

## **Types of Organizational Justice**

### **Distributive Justice**

Rodrigues et al. (2009) mention that organizational justice refers to the perceptions of justice that workers have of what is awarded to them, whether they are rewards or punishments of the organization. However, in the organizational field, it is emphasized that this is directly related to what workers receive from managers, so that, in this field, it is the workers who evaluate their performance based on what they receive (Zúñiga-Fajuri, 2011). Therefore, distributive justice is influenced by factors such as equality (same opportunities for all), need (distribution according to what the person needs) and equity (it is based on what the worker contributes and what he obtains in reference to what others contribute and obtain) (Dieterlen, 2014).

### **Procedural justice**

According to Patlán et al. (2014) this type of justice is based on the perception that develops in human capital about equity in the procedures established for the allocation of resources, benefits and decisions of workers, that is, it focuses on how the worker perceives the elements that are provided to him to carry out his work, without altering his ethics and self-love (Mladinic & Isla, 2011).

According to Patlán et al. (2014) the elements of procedural fairness are: Consistency (procedures and rules must be applied to all employees); Free from bias (non-discrimination or inappropriate treatment by the organization or company of the worker); Accuracy (all information must be based on facts and precise and exact information, and Ethics, which must be based on standards of conduct that must not be violated in the workplace (Patlán et al., 2014; Ríos & Carranza, 2019).

### **Interactional Justice**

Cropanzano et al. (2007) mention that interactional justice focuses on the suitability or fair treatment that workers receive from their superiors and that it includes two important components for its operation: Interpersonal justice, which refers to treating an employee with dignity, courtesy and respect from their superiors and informational justice, which leads to sharing relevant information with employees (Rodríguez et al., 2014).

### **Measurement Instruments for Organizational Justice**

As a result of the years, authors such as Rodríguez-Montalbán et al. (2015) have addressed the issue, and have used different ways to measure how satisfied a person is with their work, since as has been analyzed in this context, the needs of the company or organization, as well as human capital, are always constantly changing, so their satisfaction with the environment in which they work is also.

Patlán et al. (2014) emphasize that there are several authors who argue that the measurement for this topic should be carried out with a single item for each of the dimensions of organizational justice: distributive, procedural and interactional (Jordan & Turner, 2008).

Similarly, other authors such as Greenberg (1993) have developed other measurement methods, such as the two-factor scale; Regarding Niehoff and Moorman (1993) in their analysis they present a scale of three factors and Colquitt (2001) presents up to four factors.

For their part, Rahim et al. (2000) designed an index of organizational justice to measure distributive, procedural and interactional justice (Patlán et al., 2014). Table 1 presents a comparison based on the instruments and models for measuring organizational justice.

Scale	Factors	Author	Country
Two-dimensional model of organizational justice	Distributive and procedural justice Structural and social justice	Greenberg (1993)	U.S
Three-dimensional model of organizational justice	Distributive justice (5 questions; $\alpha > .90$ ). Procedural justice (6 questions; $\alpha > .90$ ). Interactional justice (9 questions; $\alpha > .90$ )	Niehoff y Moorman (1993)	U.S
Organizational justice index	Distributive justice (10 questions; $\alpha = .96$ ). Procedural justice (5 questions; $\alpha = .85$ ). Interactional justice (8 questions; $\alpha = .94$ ).	Rahim, Magner y Shapiro (2000)	U.S
Four-dimensional model of organizational justice	Distributive justice (4 questions; $\alpha = .84$ ). Procedural justice (7 questions; $\alpha = .84$ ). Interpersonal justice (4 questions; $\alpha = .96$ ). Informational Justice (5 questions; $\alpha = .90$ ).	Colquitt (2001)	U.S
Scale of one item per factor	Distributive justice (1 item; $\alpha = .83$ ). Procedural justice (1 item; $\alpha = .54$ ). Interactional justice (1 item; $\alpha = .89$ )	Jordan y Turner (2008)	U.S

**Table 1** Instruments and models for measuring organizational justice.

*Adaptation of Patlán et al. (2014)*

### Relationship between organizational justice and job performance

In Latin America, especially in Mexico and the Southeast of the country, there is very limited information regarding these issues, which are currently of great social and economic interest.

However, it has been possible to analyze information on the subject from studies in other countries, widely identifying the effects that organizational justice causes in economic entities, especially the effects of human behavior on productivity (Peña-Ochoa & Durán, 2016).

Ríos and Carranza (2019) refer to the role that justice plays in the organization and the way in which it is applied to workers, which guarantees their effectiveness, which, together with satisfaction experiences that workers experience derived from finding that the organization for which they work meets their expectations, is not only an image indicator but also a commitment to it (Peña-Ochoa & Durán, 2016). For this reason, it is necessary to mention that while job performance is intrinsically linked to organizational justice, the more justice flows, the greater the performance and commitment that result favorably in productivity (Al-Zu'bi, 2010).

### Importance of Organizational Justice

Organizational justice as mentioned by Tziner et al. (2015) is undoubtedly an element that must be studied and applied in any existing organization, call it a company or a public body, since the set of decisions that these large economic entities make every day, generates feelings, emotions, behaviors and results positive or negative towards their working capital, towards their superiors and even towards the organization itself (Fox et al., 2001).

An example of this is the research carried out by Rubio (2018) in a private university in Armenia in order to know the relationship between organizational commitment and organizational justice. Within their results, they found a moderate and low positive correlation between organizational justice factors and degrees or dimensions of commitment.

In accordance with the results obtained by Rubio (2018), we can undoubtedly underline that organizational justice has the potential to create great benefits for organizations and their workers; Among them, the existence of greater trust and commitment, which produces an evident improvement in the work performance of human capital, as well as improvement reflected in customer satisfaction, creating a better work environment that will contribute to obtaining results that impact in productivity for the organization (Patlán et al., 2014).

For their part, Cernas et al. (2018) mention that when workers perceive that they are treated fairly, not only productive improvements are generated, but it also causes positive attitudes towards work, towards superiors and towards the organization itself; This means that factors such as work stress are minimal, and leads to affective states such as anxiety, decreasing in human capital, achieving, as mentioned, surprising results in organizations that take it into account as part of work well-being ( Cernas et al., 2018).

### **Hiring by outsourcing**

Derived from the socioeconomic changes generated by globalization, organizations have chosen to modify their structures, in order to reduce costs and increase productivity through more flexible contracting mechanisms such as outsourcing, which they consider a strategy to remain in the market (Vesga, 2011).

According to Bustamante and Bermúdez (2010) outsourcing is an Anglophone term that comes from the word out and source, that is, the place where something can be obtained. In this sense, outsourcing consists of delegating certain activities or processes of a company to a third party so that he can manage them, seeking to obtain greater effectiveness.

According to López (2010), outsourcing is a strategy that companies use to separate themselves from legal commitments, increase employment flexibility and reduce production costs. However, the rights of workers are not fulfilled: they do not have defined contracts, they work flexible hours, they do not create seniority and they are hired by specialized companies other than the one where they provide their services.

In this regard, Echaiz (2008) argues that the informal economy is the precursor of flexible specialization and, in turn, favors the emergence of outsourcing in small companies in the agricultural sector in Italy.

In Mexico, this form of contracting became popular as of 1960, initially being used in auxiliary service companies such as cleaning and surveillance and gradually encompassing other functions such as recruitment, selection of personnel and contexts such as education (López, 2010).

### **Implications of outsourcing contracting**

According to Vesga (2011), there is theoretical and empirical evidence on the psychological implications that contemporary forms of contracting, such as outsourcing, generate in workers, such as the affectation towards psychosocial aspects.

In this regard, Bustamante and Bermúdez (2010) point out that these forms of subcontracting can generate positive implications in the motivation of subcontracted workers, as well as negative implications through feelings of discomfort and demotivation due to working conditions that have been deteriorated.

In this sense, Manriquez, Rendón, Sánchez-Fernández and Guerra (2017) point out that generally, organizations that choose to outsource personnel only bear in mind the costs that they reduce by avoiding the workload; However, they do not analyze the hidden costs of this, such as low levels of organizational commitment and other perceptions at work attitudes.

### **Problem Statement**

Human capital is one of the essential elements for organizational effectiveness. Therefore, the perception that employees have in relation to the way they are valued in an organization is essential for the performance of their activities.

In this sense, the perception of experiencing a work environment where organizational justice prevails contributes to the generation of positive attitudes and feelings towards the organization. However, labor hiring through the outsourcing modality has become a common practice in public and private organizations to avoid the workload, affecting work attitudes (Manriquez et al., 2017).

Currently, little is known about the perceptions of Organizational Justice that education workers who work under the outsourcing contracting scheme have and the relationship that certain demographic variables have in said perceptions.

In this sense, unfavorable perceptions of organizational justice can lead to attitudes and feelings being assumed against the objectives of the organization in the event that workers perceive that they are being treated unfairly due to the characteristics of the low modality. which are hired. Given this, the following research objectives and hypotheses are presented.

### General purpose

Describe the level of organizational justice perceived by the workers of a public university, hired under the outsourcing modality and its relationship with some demographic variables.

### Specific objectives

- Identify the level of organizational justice perceived by the workers of a public university, hired under the outsourcing modality.
- Analyze the relationship between the organizational justice perceived by the workers of a public university, hired under the outsourcing modality, and various demographic variables.

### Hypothesis

H1: Workers hired by the university under the outsourcing modality perceive that the level of organizational justice is low.

H2: The level of organizational justice perceived by the university workers hired under the outsourcing modality differs according to their age.

H3: The level of organizational justice perceived by university workers hired under the outsourcing modality is different according to the gender of the workers.

H4: The level of organizational justice perceived by university workers hired under the outsourcing modality is different according to their marital status.

H5: The level of organizational justice perceived by university workers hired under the outsourcing modality differs according to their seniority.

H6: The level of organizational justice perceived by university workers hired under the outsourcing modality is different according to the academic degree they hold.

### Methodology to be developed

#### Research type and design

This is a descriptive research, non-experimental and cross-sectional type, carried out with a quantitative approach (Hernández-Sampieri & Mendoza, 2018), using the survey as a data collection technique, which was virtually through of using a form.

#### Characterization of the sample

From a total of 20 workers from a public HEI located in the state of Tabasco, Mexico who are currently hired under the outsourcing modality, a non-probabilistic sample was obtained by convenience of 16 participants whose age ranges between 27 and 44 years of age, the average being 32 years.

Regarding gender, the equal participation between men and women stands out, since 50% was registered for each case. In turn, 56.2% of the personnel reported being single; 25% live in common law and 18.8% be married.

Regarding seniority, 56.3% of those surveyed report having an antiquity of 1 to 3 years; followed by 25% who are 4 to 5 years old; 12.5% are less than 1 year old and only 6.2% reported having more than 6 years. On the other hand, considering the academic degree, 50% of the participants have a bachelor's degree and the other 50% have a master's degree.

#### Instrument

The instrument used to measure the organizational justice perceived by the study subjects is the Niehoff and Moorman scale (1993) adapted by Patlán et al. (2014) for use with the Mexican population. This scale consists of 18 items that are measured through the Likert scale with 5 response options ranging from 1 = totally disagree to 5 = totally agree and considers three factors of organizational justice: 1) distributive justice, 2) justice procedural and 3) interactional justice. The operationalization of the study variables is presented in Table 2.

Variable	Operational definition
Organizational Justice	Equal opportunities and results for all workers in the organization.
Distributive justice	Equitable allocation of rewards, incentives and sanctions to workers in an organization.
Procedural justice	Fairness in the application of procedures through which the organization assigns resources, benefits and other decisions to workers.
Interactional justice	It refers to the perception of fair, equitable and adequate treatment that workers receive from their superiors.

**Table 2** Variables operationalization

Prepared based on Niehoff and Moorman (1993); Patlán et al. (2014) and Hernández, Martínez, Martínez, Castillo, and Corichi (2015).

## Análisis de datos

For data analysis, the statistical program Statistical Package for the Social Sciences (SPSS) was used. The first analysis was the exploration of the database, in which the conditions of normality in the data, the missing values and the outliers were evaluated.

Subsequently, the descriptive statistics and the quartiles were analyzed as a numerical summary, to designate the level of organizational justice in general perceived by the participants, as well as the levels of justice for each of the dimensions that make up this construct.

In turn, the nonparametric U Mann-Whitney and Kurskal-Wallis tests were used to identify differences between independent groups with respect to the demographic variables under study (age, gender, marital status, seniority and academic degree).

## Results

The statistical tests carried out allowed obtaining the following results.

### 1) Normality analysis

The Shapiro-Wilk test shows a level of significance greater than 0.05 for the Organizational Justice variable and for each of its dimensions, as seen in Table 3 and Figure 1, which indicates that the data fit a distribution normal.

Variable	Statistical	gl	Sig.
Organizational justice	.95	16	.52
Distributive justice	.95	16	.45
Procedural justice	.96	16	.63
Interactional justice	.94	16	.39

**Table 3** Results of the normality test. Descriptive of the study variables

*Own Elaboration*

### 2) Descriptive statistics

According to the data seen in Table 4, it is observed that the workers hired by the HEI under study through the outsourcing modality, perceive average levels of organizational justice in the institution. In turn, the organizational justice factor with the highest mean is interactional justice with 3.69, followed by procedural justice with 3.50 and the lowest mean was obtained by distributive justice with 3.09.

On the other hand, according to the standard deviation, low levels of variability were identified in the data. In this sense, the most dispersed dimensions are distributive justice with 0.71 and interactional justice with 0.69, while the most uniform dimension is procedural justice with 0.65. In general, organizational justice registered a dispersion of 0.62, which denotes low variation in the data.

Variable	Mean	Deviation Standard
Organizational justice	3.50	0.62
Distributive justice	3.09	0.71
Procedural justice	3.50	0.65
Interactional justice	3.69	0.69

**Table 4** Descriptive of the study variables

*Own Elaboration*

### 3) Level of perception of Organizational Justice

In order to respond to H1, which indicates: workers hired by the university under the outsourcing modality perceive that the level of organizational justice is low, a quartile analysis was carried out, partially accepting this hypothesis, because according to the data presented Table 5 identifies a medium level of organizational justice, since 50% of the participants perceive that organizational justice oscillates between low and very low levels, while the other 50% register high and very high levels of perception of organizational justice.

Level	Percentile	Rank	%
1. Very low	25	2.61-2.83	25%
2. Low	50	2.84-3.58	25%
3. High	75	3.59-3.93	25%
4. Very high	100	3.94-4.67	25%

**Table 5** Intensity scale to measure the level of perception of organizational justice  
*Own Elaboration*

#### 4) Relationship between organizational justice and various demographic variables

Table 6 shows the results of the comparison tests between independent samples to respond to H2, H3, H4, H5 and H6, identifying that in the demographic variables: age, gender, marital status and seniority, no differences were found, statistically significant, which leads to retain the null hypothesis that maintains the non-existence of differences between the groups compared for each of these variables. Therefore, with a 95% confidence level it is not possible to accept H2, H3, H4 and H5.

Variable	Sig.	Decision	Test
Age	0.15	Retain the null hypothesis	Kruskal-Wallis
Gender	1.00	Retain the null hypothesis	U Mann-Whitney
Civil status	0.11	Retain the null hypothesis	Kruskal-Wallis
Antiquity	0.52	Retain the null hypothesis	Kruskal-Wallis
Academic degree	0.01	Reject the null hypothesis	Kruskal-Wallis

**Table 6** Comparison tests between independent groups. Asymptotic significances are shown. Significance level is 0.05  
*Own Elaboration*

For its part, regarding the academic degree variable, the Kruskal-Wallis test obtained a significance value of 0.01, which is below the P value = 0.05. Therefore, with a 95% confidence level, there is enough evidence to reject the null hypothesis that maintains the non-existence of differences regarding the academic grade of the workers and their level of perception of organizational justice, as well as to accept H6, That points:

The level of organizational justice perceived by university workers hired under the outsourcing modality is different according to the academic degree they hold.

## Conclusions

In this research, it was identified that the level of organizational justice perceived by the workers hired by the HEI under study under the outsourcing modality is medium. The dimension with the greatest presence is interactional justice, followed by procedural justice and the least perceived is distributive justice.

These findings indicate that workers perceive that their bosses give them fair, equitable and adequate treatment; that there is equity in the procedures established for work assignments and other resources; However, the participating HEI needs to improve its efforts so that the proportion of workers who perceive low levels of organizational justice, particularly with regard to distributive justice (distribution of rewards and sanctions, tasks and responsibilities by their bosses), improve their attitudes and behaviors towards work.

Likewise, when analyzing different demographic variables such as: age, gender, marital status, seniority, academic degree and their relationship with the level of organizational justice perceived by the workers in the sample, it was only corroborated that the academic degree that the workers hold is a differentiating factor.

This finding may be related to the fact that the more academic preparation workers have, the higher job expectations they have in relation to the benefits provided by the organization in which they perform their duties.

However, future research suggests analyzing in greater detail what could be the causes associated with the level of perception of organizational justice and the academic degrees held by the collaborators. Likewise, it is recommended to carry out similar studies with larger populations that allow greater generalization of the results obtained.

## References

Al-Zu'bi, H. (2010). A Study of Relationship between Organizational Justice and Job Satisfaction. *International Journal of Business and Management*, 5(12). <https://doi.org/10.5539/ijbm.v5n12p102>

- Albanesi, R. (2015). Historia reciente del trabajo y los trabajadores. Apuntes sobre lo tradicional y lo nuevo, lo que cambia y permanece en el mundo del trabajo. *Trabajo y Sociedad, unknown*(25), 387–403.
- Castillo, C., & Fernandez, V. (2017). Relationships between the dimensions of organizational justice and students' satisfaction in university contexts. *Intangible Capital, 13*, 282–301. <https://doi.org/10.3926/ic.774>
- Cernas, D., Mercado, P., & León, F. (2016). Job satisfaction and organizational commitment: Test of measurement equivalence between Mexico and the United States. *Contaduría y Administración, 63*(2), 18. <http://www.scielo.org.mx/pdf/cya/v63n2/0186-1042-cya-63-02-00006-en.pdf>
- Cernas, D., Salgado, P., & León, F. (2018). Satisfacción laboral y compromiso organizacional. *Contaduría y Administración, 63*(2), 1–23.
- Charaja, Y., & Mamani, J. (2014). Satisfacción Laboral y Motivación de los Trabajadores de la Dirección Regional de Comercio Exterior y Turismo-Puno-Perú, 2013. *Comunic@cción, 1*(1), 5–13. <http://www.scielo.org.pe/pdf/comunica/v5n1/a01v5n1.pdf>
- Chiang, M., Salazar, C., & Núñez, A. (2007). Clima organizacional y satisfacción laboral en un establecimiento de salud estatal: hospital tipo 1. *Theoria-Revista de Teoría Historia y Fundamentos de La Ciencia, 16*(2), 61–76.
- Claire, M., & Böhr, M. (2015). Tres dimensiones del compromiso organizacional: identificación, membresía y lealtad. *Ajayu Órgano de Difusión Científica Del Departamento de Psicología UCBSP, 1991*, 7. [http://www.scielo.org.bo/scielo.php?pid=S2077-21612004000100008&script=sci\\_abstract](http://www.scielo.org.bo/scielo.php?pid=S2077-21612004000100008&script=sci_abstract)
- Colquitt, J. (2001). On the Dimensionality of Organizational Justice: A Construct Validation of a Measure. *Journal of Applied Psychology, 6*, 4. <https://doi.org/10.1037/0021-9010.86.3.386>
- Cropanzano, R., Bowen, D., & Gilliland, S. (2007). The management of organizational justice. *Academy of Management Perspectives, 21*(4), 34–48. <https://doi.org/10.5465/AMP.2007.27895338>
- Dieterlen, P. (2014). Justicia Distributiva, pobreza y género. *Open Insight, 8*, 39–59. <https://doi.org/ISSN:2007-240639>
- Echaiz, D. (2008). EL CONTRATO DE OUTSOURCING. Boletín Mexicano de Derecho Comparado, 122, 763–793. <http://www.scielo.org.mx/pdf/bmdc/v41n122/v41n122a6.pdf>
- Fox, S., Spector, P., & Miles, D. (2001). Counterproductive Work Behavior (CWB) in Response to Job Stressors and Organizational Justice: Some Mediator and Moderator Tests for Autonomy and Emotions. *Journal of Vocational Behavior, 59*, 291–309. <https://doi.org/10.1006/jvbe.2001.1803>
- García, M., & Forero, C. (2014). Cambio organizacional y percepción de la justicia organizacional en una entidad de la ciudad de Bogotá-Colombia. *Diversitas, 10*(2), 293. <https://doi.org/10.15332/s1794-9998.2014.0002.07>
- Greenberg, J. (1993). The Social Side of Fairness: Interpersonal and Informational Classes of Organisational Justice. *Justice in the Workplace: Approaching Fairness in Human Resource Management, 4*, 79–103.
- Hernández-Sampieri, R., & Mendoza, C. (2018). Metodología de la Investigación: Las rutas cuantitativa, cualitativa y mixta. Ciudad de México: Mc Graw Hill.
- Hernández, T., Martínez, E., Martínez, E., Castillo, F., & Corichi, A. (2015). Justicia Organizacional Y Su Relación Con El Personal Docente De Una Institución De Educación Superior. *Global Journal of Management and Business Research, 15*(2), 32–42. Retrieved from <https://www.semanticscholar.org/paper/Justicia-Organizacional-Y-Su-Relacion-Con-El-De-Una-Gracia-Torres/6cb9c36de50f63c162da7453a192875f136c30>

Jordan, J. S., & Turner, B. A. (2008). The feasibility of single-item measures for organizational justice. *Measurement in Physical Education and Exercise Science*, 12(4), 237–257.

<https://doi.org/10.1080/10913670802349790>

Kozlowski, S. (2012). The Oxford Handbook of Organizational Psychology. In *The Oxford Handbook of Organizational Psychology* (Vol. 1, Issue February). <https://doi.org/10.1093/oxfordhb/9780199928309.001.0001>

Lockward, D., & Ailín, M. (2011). El rol de la confianza en las organizaciones a través de los distintos enfoques o pensamientos de la administración. *Ciencia y Sociedad*, XXXVI(3), 464–502.

<http://www.redalyc.org/articulo.oa?id=87022526005>

Manriquez, M. R., Rendón, L. P., Sánchez-Fernández, M. D., & Guerra, J. F. (2017). Estrategias de compensación y su relación con el Compromiso Organizacional en los docentes de las Instituciones de Educación Superior en México. *Revista Ibero-Americana de Estrategia*, 16(02), 90–103. <https://doi.org/10.5585/riae.v16i2.2455>

Marsollier, R., & Aparicio, M. (2011). El bienestar psicológico en el trabajo y su vinculación con el afrontamiento en situaciones conflictivas. *Psicoperspectivas*, 10(1), 209–220. <https://doi.org/10.2225/PSICOPERSPECTIVA-S-VOL10-ISSUE1-FULLTEXT-10>

Martínez-Tur, V., Moliner, C., Ramos, J., Luque, O., & Gracia, E. (2014). *Calidad y Bienestar en Organizaciones de Servicios: El Papel del Clima de Servicio y La Justicia Organizacional* (Vol. 35, Issue 2). <http://www.papelesdelpsicologo.esl>

Mladinic, A., & Isla, P. (2011). Justicia Organizacional: Entendiendo la Equidad en las Organizaciones. *Psykhe*, 11(2). <http://www.psykhe.cl/index.php/psykhe/article/view/428>

Niehoff, B., & Moorman, R. (1993). Justice As a Mediator of the Relationship Between Methods of Monitoring and Organizational Citizenship Behavior. *Academy of Management Journal*, 36(3), 527–556. <https://doi.org/10.2307/256591>

Omar, A. (2004). *Justicia organizacional, individualismo-colectivismo y estrés laboral*. 17(July 2014), 261–267.

Omar, A. (2006). *Justicia organizacional, individualismo-colectivismo y estrés laboral*. 16(2), 207–217. <https://doi.org/1405-1109>

Omar, A. (2018). Psychometric properties of Colquitt's Organizational Justice Scale in Argentine workers. *Liberabit. Revista Peruana de Psicología*, 24(1), 61–79. <https://doi.org/10.24265/liberabit.2018.v24n1.05>

Patlán-Pérez, J., & Martínez, E. (2012). El clima y la justicia organizacional y su efecto en la satisfacción laboral. *Revista Internacional Administración & Finanzas*, 5(5), 1–20.

Patlán, J. (2016). Derechos laborales: una mirada al derecho a la calidad de vida en el trabajo. *Ciencia Ergo Sum*, 23(2). <https://www.redalyc.org/jatsRepo/104/10446094004/html/index.html>

Patlán, J., Flores, R., Martínez, E., & Hernández, R. (2014). Validez y confiabilidad de la escala de justicia organizacional de Niehoff y Moorman en población mexicana. *Contaduría y Administración*, 59(2), 97–120. [https://doi.org/10.1016/S0186-1042\(14\)71256-2](https://doi.org/10.1016/S0186-1042(14)71256-2)

Peña-Ochoa, M., & Durán, N. (2016). Justicia Organizacional, Desempeño Laboral y Discapacidad. *Rev.Colomb.Cienc.Soc.*, 7(1), 201–222. <http://orcid.org/0000-0002-1825-0097>

Quezada-Abad, C. (2017). Percepción de la justicia organizacional de los empleados de la Universidad Técnica de Machala. *Ciencia Unemi*, 10(23), 70. <https://doi.org/10.29076/issn.2528-7737vol10iss23.2017pp70-79p>

Rahim, A., Magner, N., & Shapiro, D. (2000). Do justice perceptions influence styles of handling conflict with supervisors?: What justice perceptions, precisely? *International Journal of Conflict Management*, 11(1), 9–31. <https://doi.org/10.1108/eb022833>



- Ríos, L., & Carranza, G. (2019). Determinantes de explicación del constructo justicia organizacional y su impacto con satisfacción y desempeño laborales. *NovaRUA*, 10(17), 37–50. <https://doi.org/10.20983/novarua.2018.17.3>
- Rodrigues, L., Santos, C., & Roazzi, A. (2009). Justiça distributiva: Uma revisão da literatura psicossocial e desenvolvimentista. *Psicologia Em Estudo*, 14(4), 631–640. <https://doi.org/10.1590/S1413-73722009000400003>
- Rodríguez-Montalbán, R., Martínez-Lugo, M., & Sánchez-Cardona, I. (2015). Análisis de las Propiedades Psicométricas de la Escala de Justicia Organizacional de Colquitt en una Muestra de empleados(as) en Puerto Rico. *Revista Puertorriqueña de Psicología*, 26(2), 270–286. <http://www.redalyc.org/articulo.oa?id=233245621009>
- Rodríguez, R., Martínez, M., & Salanova, M. (2014). Justicia organizacional, engagement en el trabajo y comportamientos de ciudadanía organizacional: Una combinación ganadora. *Universitas Psychologica*, 13(3). <https://doi.org/10.11144/javeriana.upsy13-3.joet>
- Rubio, L. (2018). Justicia organizacional y engagement en docentes de una universidad privada de Armenia, Quindío. *Contexto*, 7, 47–56. <https://doi.org/10.18634/ctxj.7v.0i.884>
- Sánchez, M., & García, M. D. L. (2017). Satisfacción laboral en los entornos de trabajo. Una exploración cualitativa para su estudio. *Scientia et Technica*, 22(2), 161–166. <http://www.redalyc.org/pdf/849/84953103007.pdf>
- Smith, A. (1976). *An Inquiry into the Nature and Causes of the Wealth of Nations* (London:). London : printed for W. Strahan; and T. Cadell, 1776. <http://hdl.handle.net/1842/1455>
- Sztulwark, S., & Míguez, P. (2012). Conocimiento y valorización en el nuevo capitalismo. *Realidad Económica*, 11–32.
- Tziner, A., Felea, M., & Vasiliu, C. (2015). Relating ethical climate, organizational justice perceptions, and leader-member exchange (LMX) in Romanian organizations. *Revista de Psicologia Del Trabajo y de Las Organizaciones*, 31(1), 51–57. <https://doi.org/10.1016/j.rpto.2015.02.005>
- Vesga, J. (2011). Los tipos de contratación laboral y sus implicaciones en el contrato psicológico. *Pensamiento Psicológico*, 9(16), 171–182. Retrieved from <https://www.semanticscholar.org/paper/Justicia-Organizacional-Y-Su-Relacion-Con-El-De-Una-Gracia-Torres/6cb9cba36de50f63c162da7453a192875f136c30>
- Zúñiga-Fajuri, A. (2011). *Teorías de la justicia distributiva: una fundamentación moral del derecho a la protección de la salud*. 55.

## Factorial explanation of the integration of curriculum design, professional training and job training

### Explicación factorial de la integración del diseño curricular, la formación profesional y la capacitación laboral

HERNÁNDEZ-CUETO, Jaquelina Lizet†\*, SALINAS-AGUIRRE, María del Consuelo, YAÑEZ-FLORES, Sara Margarita and ARRIAGA-REYES, Rosa Argelia

*Universidad Autónoma de Coahuila*

ID 1<sup>st</sup> Author: *Jaquelina Lizet, Hernández-Cueto* / ORC ID: 0000-0002- 3728- 7434, Researcher ID Thomson: S-8588-2018, CVU CONACYT ID: 322702

ID 1<sup>st</sup> Coauthor: *María Del Consuelo, Salinas-Aguirre* / ORC ID: 0000-0002-6542-1813, Researcher ID Thomson: S-9244-2018, CVU CONACYT ID: 615635

ID 2<sup>nd</sup> Coauthor: *Sara Margarita, Yañez-Flores* / ORC ID: 0000-0002-4750-4244, Researcher ID Thomson: S-9231-2018, CVU CONACYT ID: 352125

ID 3<sup>rd</sup> Coauthor: *Rosa Argelia, Arriaga-Reyes* / ORC ID: 0000-0001-7130-9206, CVU CONACYT ID: 1067612

DOI: 10.35429/JHRT.2020.18.6.18.21

Received: September 30, 2020; Accepted: December 20, 2020

#### Abstract

This article tries to give a statistical explanation that links elements of curriculum design, professional training and job training through quantitative research. An instrument was elaborated expressly containing the three axes described above, with 10 simple variables per axis, obtaining a total of 30 variables of decimal ratio measurement. For this study, a statistical analysis of Cronbach's alpha was performed for the reliability of the instrument; frequency and percentage to describe the sample and a factor analysis for the integrational explanation of the phenomenon under study.

#### Curriculum

#### Resumen

El presente artículo trata de dar una explicación estadística que vincule elementos del diseño curricular, la formación profesional y la capacitación laboral a través de una investigación cuantitativa. Se elaboró un instrumento *ex profeso* conteniendo los tres ejes antes descritos, con 10 variables simples por eje, obteniéndose un total de 30 variables de medición decimal de razón. Para este estudio se realizaron análisis estadísticos de alfa de Cronbach para la confiabilidad del instrumento; frecuencia y porcentaje para describir la muestra y un análisis factorial para la explicación integracional del fenómeno de estudio.

#### Currículum

**Citation:** HERNÁNDEZ-CUETO, Jaquelina Lizet, SALINAS-AGUIRRE, María del Consuelo, YAÑEZ-FLORES, Sara Margarita and ARRIAGA-REYES, Rosa Argelia. Factorial explanation of the integration of curriculum design, professional training and job training. *Journal of Human Resources Training*. 2020, 6-18: 18-21

\*Correspondence to Author: (jaquelina.hernandez.cueto@uadec.edu.mx)

†Researcher contributing first Author

## Introduction

The present investigation tries to give an objective explanation about the connection and possible implication between the axes of curriculum design, professional training and job training. The importance of this study lies in the fact that it can be observed that the trend of higher education must be for successful labor insertion, however many times what is learned in universities is not directly linked to job performance or what is stipulated through the curricular mesh, so it is important to visualize tentative explanations from an objective approach such as statistics.

## Methodology

The methodology used in this study is quantitative in terms of the research design, for which a decimal numerical ratio measurement instrument was designed. Three axes of research were measured: curriculum design, professional training and job training. Each axis with 10 simple variables.

A Cronbach's alpha analysis was carried out for the validity and reliability of the instrument. A frequency and percentage analysis to know the data of the respondents and an analysis of main factors with extraction of multiple communalities of R2 and a normalized varimax rotation.

The 1% Kaiser criterion was used for the integrational analysis. With which four explanatory factors were obtained.

## Results

### Cronbach's Alpha Analysis

The results of the Cronbach's alpha analysis indicate that the instrument has a reliability of 0.95 according to the De Vellis criterion, which is considered a very good score.

### Frequency and percentage analysis of the respondents' data

Based on an analysis of frequencies and percentages, the sample is made up of 246 respondents, mostly teachers or students from the Autonomous University of Coahuila, there are only 19 university respondents or external normalists, of which 66.6 % are women (n = 164); the rest are men (n = 82, 33.3%).

The ages of the respondents ranged from 14 to 71 years of age, being the most representative from 17 to 23 years (n = 127, 51.62%). The occupation was very diverse there are 45 full-time teachers (18.29%); 148 undergraduate students (60.16%); 32 graduate students (13.00%); 3 civil servants (1.21%) and 18 part-time teachers (7.31).

### Integrational analysis of main factors

An integrational analysis of main factors was carried out with extraction of multiple communalities of R2 and a normalized varimax rotation. The significance was from 0.43 according to the n of 246 subjects and a probable level of error of 0.5.

	V. own	% Total S <sup>2</sup>	Accum. V. P.	Accum. %
Factor 1	12.87	42.89	12.87	42.89
Factor 2	2.81	9.36	15.67	52.25
Factor 3	1.56	5.21	17.24	57.46
Factor 4	1.12	3.74	18.36	61.20

**Table 1** Eigenvalues analysis of main factors

With the Kaiser criterion, four factors were extracted that describe the 61.20 explanation of the study phenomenon.

### F. 1 Substitution of professional preparation for the development of job training

In factor 1, it is observed that the integration of variables gives the explanation that for the consolidation of the elements that constitute job training, university professional preparation for work must be replaced. In other words, when such substitution is made, there is the socio-labor implication of issues related to employment (for example: unemployment, informality, underemployment...); It is also observed that the educational-labor reforms are taken as implications in the socio-labor reality; training is seen as an aid to having a decent job; the incidence of professional training in the socio-labor reality is seen; the characteristics of decent work are linked (for example: human dignity, social security ...); the rules-norms are considered for effective communication Social rights are known (for example: the right to health, education ...), as well as the rights and obligations as a worker and the legal conditions regarding hiring. In addition to assessing the before and now of saving, afores, pensions in the socio-educational-labor reality.

Factor 1	
Replace job	0.452757
Realid	0.632060
Capaci	0.686266
Formac	0.588891
Worthy	0.638081
Rules	0.754444
Social	0.637610
Obligation	0.749159
Condition	0.796425
Saving	0.830818
	0.790820

**Table 2** F. 1 Substitution of professional preparation for the development of job training

## F. 2 Explanation of curriculum design through the elements of professional preparation

In factor 2, it is explained through the elements of professional preparation such as Motivating the worker to give better products and / or results at work and Achieving the learning of skills with skills to be professionally competitive; the features of the curricular design included in the research instrument. For example, it is present to achieve the traits of the career graduation profile; professional skills for the labor market; guide in the construction of student learning; educational reforms; educational public policies; evaluation processes and the selection of the content of educational programs.

Factor 2	
Profile	0.631505
ComML	0.645161
Guide	0.710576
Refo	0.605702
Polit	0.683332
Evalua	0.626259
Select	0.733182
Resul	0.448379
Learning	0.430766

**Table 3** F. 2 Explanation of curriculum design through the elements of professional preparation

## F. 3 Orthogonal explanation of vocational training

Factor 3 gives an orthogonal explanation of what the professional training of university students implies based on the following elements: it helps to get a secure job with good remuneration; it is related to the success of the worker; motivates the worker to give better products and / or results at work; replaces college career preparation for work.

Achieves the learning of skills with skills to be professionally competitive; improves job opportunities in the labor market; builds the professional future of a person towards a life plan; develop towards a better quality of life and provide personal / professional satisfaction in work activities.

Factor 3	
Remun	0.593167
Success	0.693777
Resul	0.623064
Replace	0.484340
I learned	0.632267
Porto	0.632514
Future	0.713144
Quality	0.660615
Satisfied	0.686443

**Table 4** F. 3 Orthogonal explanation of vocational training

## F. 4 Educational figure as elements of curricular design

Factor 4 shows an explanation of the curricular design through the intervention of the educational figure, in the first instance when it stimulates the obtaining of response in its students and when it helps the cognitive autonomy of its students.

Factor 4	
Answer	<b>0.691494</b>
Autonom	<b>0.594763</b>

**Table 5** F. 4 Educational figure as elements of curriculum design

## Conclusion

Through this study, it is concluded that in the factorial integrational analysis it is possible to visualize interesting explanations in the sense of having for factor 1 to replace the professional preparation received in the initial professional instruction of the universities in order to observe development in the training labor, that is to say that what is learned in schools is disconnected in accordance with what is acquired in the labor field.

In the second factor, it is stated that in order to observe the elements of curricular design, the motivation of the workers and the learning and acquisition of labor competencies need to be present. In other words, in a pragmatic way there should be a representation of what is learned to improve working conditions.

It is highlighted that vocational training is explained only through its own elements, which gives an idea that a preparation is not being exercised that accounts for what is organized in the curricular designs or that is managed to be projected in the labor field through training.

Finally, despite the new educational precepts on which classroom processes focus on students, this research concludes that an educational figure is necessary, but that it must be in favor of the construction of metacognitive skills in students, such as It is the case that they give answers to different needs and unknowns that arise in school environments and that they build cognitive autonomy, that is, that they improve mental processes by themselves.

### **References**

Amaz, J. (2010). *La planeación curricular*. México: Trillas.

Barriga, Á. D. (2009). *Ensayos sobre la problemática curricular*. México: Trillas.

Connelly, F. M., and D. J. Clandinin. (1988). *Teachers as curriculum planners: Narratives of experience*. Research in Education Series 15. New York: Teachers College Press.

Delors, J. (1997). *La educación encierra un tesoro*. México: Dower.

García, J. G. (2012). *Evaluación de las políticas hacia la educación superior en México. Ilusiones y desencantos (1999-2010)*. México: D.D.S.

Ratto, M. C. (1997). *Teoría y diseño curricular*. México: Trillas.

Román, M. (1999). *Aprendizaje y currículum. Didáctica socio-cognitiva aplicada*. Madrid: EOS.

Stenhouse, L. (2007). *La investigación como base de la enseñanza*. Madrid: Morata.

Torres, J. (2005). *El currículum oculto*. Madrid: Morata.

Zabalza, M. (2007). *Diseño y desarrollo curricular*. Madrid: Narcea.

## Determining factors for knowledge management, organizational learning and intellectual capital in the Jalisco public sector

### Factores determinantes para la gestión del conocimiento, el aprendizaje organizacional y el capital intelectual en el sector público jalisciense

HUERTA-CHÁVEZ, Irma Alicia<sup>1†\*</sup>, MURO-MARTÍNEZ, José Manuel<sup>1</sup> and FIGUEROA-OCHOA, Edgar Benjamín<sup>2</sup>

<sup>1</sup>Universidad Autónoma de Guadalajara

<sup>2</sup>Universidad de Guadalajara

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

ID 1<sup>st</sup> Coauthor: *José Manuel, Muro-Martínez* / ORC ID: 0000-0002-1350-4916, CVU CONACYT ID: 457057

ID 2<sup>nd</sup> Coauthor: *Edgar Benjamín, Figueroa-Ochoa* / ORC ID: 0000-0003-4590-2393, Researcher ID Thomson: H-2941-2015, CVU CONACYT ID: 333239

DOI: 10.35429/JHRT.2020.18.6.22.39

Received: July 30, 2020; Accepted: December 20, 2020

#### Abstract

Knowledge as the most valuable resource of the organization, takes relevance in the current knowledge society. Thus, in the public sector, the preponderant need for the appropriation of knowledge as part of organizational learning and the generation of intellectual capital, through knowledge management, stands out. In this context, the objectives of this research focus on identifying the necessary factors for the measurement of Knowledge Management, Organizational Learning and Intellectual Capital in the public sector of Jalisco, in order to have an instrument supported theoretically and verified by means of the present empirical test, as well as the generation of a contribution to the state of the art in the social economic-administrative sciences. The scales used are from Rodríguez-Ponce (2007), Castañeda and Fernández (2007), and Chahal and Bakshi (2015), appropriate to the Mexican public context. Through a cross-sectional study and a simple random probability sampling of 305 employees of the Jalisco public sector of social assistance, the results were obtained that allowed the identification of nine factors for the explanation of these variables, in addition to that the instrument showed a reliability index adequate to statistical parameters.

**Knowledge management, Organizational learning, Intellectual capital**

#### Resumen

El conocimiento como el recurso más valioso de la organización, toma relevancia en la actual sociedad del conocimiento. Es así que, en el sector público, se destaca la necesidad preponderante de la apropiación del conocimiento como parte del aprendizaje organizacional y la generación de capital intelectual, mediante la gestión del conocimiento. En este contexto, los objetivos de la presente investigación se centran en identificar los factores necesarios para la medición de la Gestión del Conocimiento, el Aprendizaje Organizacional y el Capital Intelectual en el sector público de Jalisco, a fin de contar con un instrumento sustentado teóricamente y comprobado mediante la presente prueba empírica, así como la generación de una aportación al estado del arte en las ciencias sociales económico administrativas. Las escalas utilizadas son de Rodríguez-Ponce (2007), Castañeda y Fernández (2007), y de Chahal y Bakshi (2015), adecuadas al contexto público mexicano. Mediante un estudio de corte transversal y un muestreo probabilístico aleatorio simple de 305 empleados del sector público de asistencia social jalisciense, se obtuvieron los resultados que permitieron identificar nueve factores para la explicación de estas variables, además que el instrumento mostró un índice de confiabilidad adecuado a los parámetros estadísticos.

**Gestión del conocimiento, Aprendizaje organizacional, Capital intelectual**

**Citation:** HUERTA-CHÁVEZ, Irma Alicia, MURO-MARTÍNEZ, José Manuel and FIGUEROA-OCHOA, Edgar Benjamín. Determining factors for knowledge management, organizational learning and intellectual capital in the Jalisco public sector. Journal of Human Resources Training, 2020, 6-18: 22-39

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

†Researcher contributing first Author

## 1. Introduction

Knowledge management, organizational learning and intellectual capital in the public sector have a common element which is the knowledge of the employees of this sector, as the most valuable resource for the generation of products and services for society. Furthermore, it is in this sector where the greatest knowledge is produced and consumed; and to this it is added that each of its instances are created with a particular purpose, which will have to be fulfilled, each time, better adapted to the new demands of citizenship and thus generate programs for social welfare (Sarmiento and Román, 2011; Oviedo-García, Castellanos-Verdugo, Riquelme-Miranda and García, 2014; Iyikal and Celebi, 2016; Pérez, Romero and Mora, 2016; and Rossi, Citro and Bisogno, 2016).

In this regard, it is essential to understand the behavior of the aforementioned variables, given that the knowledge generated, shared and applied in the public sector is of exclusive interest for the continuous improvement of its work, as it has distinctive elements such as competitive advantages, same which will have to be contemplated and approved by citizens, after making the right decisions by the competent authorities, in each interaction with the employees of the sector.

The main problem found for the development of this research is based mainly on the identification of knowledge gaps, since, to date, research on the variables under study, which are: knowledge management, learning organizational and intellectual capital; have been approached in isolation and in contexts other than those of developing countries such as Mexico, which leads to less research on the matter (Bontis, 1998; Syed-Ikhsan and Rowland, 2004; Guthrie and Dumay, 2015; Massaro, Dumay and Garlatti, 2015; Tapia, 2016; Angle, 2017).

In this same sense, to date, the public sector faces new challenges in the new knowledge economy, such as improving practices for modernization; the retirement and transfer of knowledge workers; it operates with restricted resources and has new demands from citizens.

For this reason, it is preponderant to manage the knowledge of its employees, which does not imply any cost, but rather, implies generating strategies for the retention of knowledge (OECD, 2003; Agus, Barker and Kandampully, 2007; Jääskeläinen and Lönnqvist, 2009; and Sánchez, González and Ortiz, 2010; Fierro, Martínez and García-Contreras, 2018).

Due to the above, it is necessary to measure intangible assets understood as elements that create value and affect the productivity and satisfaction of the various interest groups, since they are different between organizations. In addition to considering the orientation to change and the focus on innovation, considering the intangible assets that add value to organizations such as knowledge, skills or the way of behaving, as well as the image and reputation that are often neglected by the authorities that lead the public sector (Morales, Jacobo and Leyva, 2018; Muñoz, 2019; Trillo and Peces, 2019).

In relation to what has already been described, the problem is formulated from the following question: what are the determining factors for the measurement of knowledge management, organizational learning and intellectual capital in the public sector of Jalisco? Based on the main question, in this article, it is proposed to evaluate the three constructs with nine dimensions, by using the quantitative technique, including descriptive statistics, normality tests, reliability tests and correlation matrices between elements by factor, as well as the Kaiser-Meyer-Olkin (KMO) test and the Bartlett Sphericity test to conclude with the Exploratory Factor Analysis (EFA) identifying the number of factors and the total variance explained.

The technique used represents added value in relation to the other techniques, such as the qualitative, since through statistical analysis it is possible to have quantitative data that support the explanation of the phenomenon under study, after compliance with the established statistical parameters, and corroborates through empirical evidence, by generating a valid and reliable instrument for a context such as the public sector, with the variables already mentioned, according to the formulation of the problem.

The central hypothesis of this article focuses on the fact that knowledge management, organizational learning and intellectual capital in the public sector are explained by nine factors that are: creating knowledge, sharing knowledge, applying knowledge, individual learning, learning at the group level, learning at the organizational level, human capital, structural capital and relational capital. This hypothesis is stated as follows:

- H0: Knowledge management, organizational learning and intellectual capital in the public sector are explained by less than nine factors
- Ha: Knowledge management, organizational learning and intellectual capital in the public sector are explained by nine factors

Now this article is made up of 8 main sections. In section 1. Introduction, the subject under study is explained in a general way, as well as the importance, the technique to be used, the main hypothesis and the problem itself, including the generalities to be dealt with during the article. In section 2. Theoretical framework, it is possible to observe the theory of knowledge management, organizational learning and intellectual capital. In section 3. Method, the type and design of the research, the conceptual and operational description of the variables, as well as the sociodemographic variables, the measurement instruments, the participants, the procedure and the data analysis are included. In section 4.

Results and discussion, the descriptive results for each factor, the normality tests, the calculation of Cronbach's Alpha, the correlations between each element, the Kaiser-Meyer-Olkin (KMO) test, the Bartlett's Sphericity and Exploratory Factor Analysis (EFA) identifying the number of factors and the total variance explained. In section 5. Annexes, the items of the instrument are shown. In section 6. Acknowledgments, mention is made of the informants 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 resulting from the review of the state of the art and with direct contribution to this study.

## 2. Theoretical framework

### 2.1 Knowledge management

Knowledge is defined as a truly justified belief and this is divided into tacit knowledge and explicit knowledge. The first is one that is found within people and is difficult to encode, non-verbalized, or even non-verbalizable, intuitive, not articulated and therefore it is not easily expressed and formulated; Unlike the second, which is already properly established within the work systems in organizations, whether captured, written in documents or in databases, it is formal and systematic, it can be easily communicated and shared (Nonaka, 1994; Kong, 2008 ; Garzón and Fisher, 2009 and 2010; Guchait, Namasivayam and Lei, 2011).

In this same sense, 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), especially to obtain a better performance in the fulfillment of their duty or good of its organizational mission; It is also defined as the information possessed in the minds of people, which includes the experience and understanding of the individual, is a form of high-value information that is ready to be applied to decision-making and the implementation of actions (Chang and Lin, 2015).

Now, knowledge includes several elements, it includes personal beliefs, truth, experience, values, information, know-how and skills of the members of the organizations; likewise, knowledge is seen as a key organizational resource, being the highly necessary valuable asset for the creation of competitive advantages. In addition, for this to occur, it includes the processes of creating, storing, transferring and applying knowledge (Nonaka and Takeuchi, 1995; Grant, 1996; Davenport and Prusak, 1998; Alavi and Leidner, 2001; Chawla and Joshi, 2010; Bellinza, Guerrero, Colón and Ramírez, 2011; Whyte and Zyngier, 2014; Ali et al., 2016; Lazazzara and Za, 2019), this last process will be conceptualized as knowledge management, which implies the administration of the knowledge in the organization.



To understand the theory of knowledge management, it is essential to recognize the research works of Nonaka (1994) as well as Nonaka and Takeuchi (1995), who, being pioneers in it, proposed the model of the knowledge spiral, which implies manage the dynamics for the creation of knowledge, which is generated through the continuous dialogue between tacit knowledge and explicit knowledge, and is also transmitted between individuals and groups. This model provides the organization with the strategic capacity to acquire, create, exploit and accumulate new knowledge continuously and repeatedly in a circular process, being a dynamic cycle of knowledge, and incorporates interaction with customers, suppliers and the company, assuming the development of products, markets and mental models to create knowledge.

Now, it is possible to understand knowledge management as the main function of organizations to manage and increase said knowledge, turning it into organizational knowledge, as the most valuable and most important resource for international competitiveness (Nonaka and Takeuchi, 1995). However, it not only implies storing or manipulating knowledge, but also effectively recognizing the human asset introduced into people's minds and taking advantage of it as a new organizational asset accessible to those who make decisions in organizations (Edge, 2005).

Therefore, knowledge management, in addition to capturing, storing and maintaining knowledge, implies delivering useful knowledge in a meaningful way to anyone who needs it at any place and time within an organization (Sánchez, González and Ortiz, 2010). Also, since it is a theory that is the result of the evolution of management theories, it entails modifying the way of thinking of administrators, by conceiving themselves as managers of knowledge of human talent, and recognizing the employee as a key factor in the organization (Liquidano, 2006). Likewise, it is a creative and operational way to create and share knowledge among the members of the organizations and the interest groups (Bañegil and Sanguino, 2008), and includes the focus of training in the field of learning and innovation in the training of employees (Arciniegas and Ramírez, 2018).

Knowledge management involves identifying and sharing information to achieve organizational goals, and includes the process of creating knowledge, sharing knowledge, and applying knowledge. For this, the creation of knowledge consists of exploring, combining and discovering new knowledge through doing, which arises from the interactions of individuals in the same organization; While knowledge sharing is understood as the process in which individuals within the organization transmit their knowledge among themselves, which increases synergistically; and applying knowledge is conceptualized as the transformation of knowledge into a result of value for the institution and implies the creation of new products, services or ideas (Rodríguez-Ponce, 2007; Pedraja-Rejas and Rodríguez-Ponce, 2008; Pedraja-Rejas, E. Rodríguez-Ponce and Rodríguez-Ponce, 2009; E. Rodríguez-Ponce, Pedraja-Rejas, Delgado and Rodríguez-Ponce, 2010; Rodríguez-Ponce, 2016; Araneda-Guirriman, Rodríguez-Ponce, Pedraja-Rejas, Baltazar- Martínez and Soria-Lazcano, 2017; Huerta-Chávez and Castro-Valencia, 2019; Huerta-Chávez, 2019).

## 2.2 Organizational learning

The term organizational learning for the first time is introduced by Miller and Cangelotti (1965) supported by the theory of contingencies (Woodward, 1965). In the proposed model, they propose why not all organizations survive external conditions over time, since by understanding the environment in which organizations operate, they will have to use various administrative techniques to achieve their institutional objectives (Chiavenato, 2014); it is the ability to adapt to changes to increase competitiveness and improve performance (Rose, Kumar and Pak, 2009).

In this same sense, organizational learning is also considered as a process that allows the creation of value with the intangible assets of the organization, being a key factor for institutions to be more intelligent when integrating knowledge (Bañegil and Sanguino, 2008). Likewise, it is defined as a continuous process of creating, acquiring and transforming knowledge, it includes sharing and interpreting information, in addition to the information memory processes (Ho, 2008).

An important element for organizational learning is that it is created in a certain context, that is, within institutions, therefore, it is also understood as the process of thought and individual and shared actions in an organizational context (Rashman, Withers and Hartley, 2009); and it is emphasized that it is an internal process for the creation of new knowledge with personal experiences to generate new behaviors and capacities (Jiménez-Jiménez and Sanz-Valle, 2011), in order to generate competencies so that the institution improves its performance (Riquelme, Cravero and Saavedra, 2008) successfully (Rose, Kumar and Pak, 2009).

Organizational learning reflects the capacity of the personnel of organizations to act in the face of changes in the environment by acquiring and creating new knowledge through the creation of different strategies that contribute to innovation and the development of the organization (Angulo, 2017). Therefore, it allows the creation of sustained competitive advantages to achieve better results (Pérez and Cortés, 2010). Derived from the above, it is possible to affirm that the level at which organizations learn and adapt to environmental changes becomes a source of competitive advantage (Chawla and Joshi, 2011), by developing new skills and knowledge (García-Morales, Jiménez-Barrionuevo and Gutiérrez-Gutiérrez, 2012).

In addition, organizational learning takes place at three levels: at the individual level, at the group level and at the organizational level. For this, learning at the individual level, contemplates how each worker learns, values and attitudes influence to learn new knowledge, enthusiasm and motivation, as well as organizational commitment. Meanwhile, group-level learning contemplates the learning mechanisms in groups, orientation towards learning, teamwork and behavior, self-learning, and individual motivation to learn cooperation strategies to achieve shared objectives (Garzón and Fisher, 2009; Pérez and Cortés, 2010; Castañeda, 2015; Pokharel and Choi, 2015; Fassio and Ruddy, 2017). Finally, learning at the organizational level occurs when new knowledge is created and institutionalized in order to adapt to the changing environment and anticipate (Castañeda, 2015 Fassio and Ruddy, 2017).

### **2.3 Intellectual capital**

The term intellectual capital was first published by John Kenneth Galbraith (cited by Edvinsson and Sullivan, 1996; and Shih, Chang, and Lin, 2010), with a focus directly on intellectual action, not pure intellect, emphasizing that this capital has a tendency to be dynamic, not like the other capitals that are part of the organization; This type of capital is mainly distinguished from the use of knowledge, intellect and intellectual capacity to create value in organizations. Thus, the capacities derived from knowledge management can intervene to achieve effective organizational results (Fierro, Martínez and García-Contreras, 2018).

However, it is important to highlight that intellectual capital is based mainly on the theory of resources and capabilities (Barney, 1991), as it is an intangible asset that has the ability to generate competitive advantages in relation to other institutions. Thus, the models developed for intellectual capital, most of the authors agree on three main factors such as human capital, structural capital and relational capital; Furthermore, innovation and the various complementary assets must be considered to generate value (Edvinsson and Sullivan, 1996) towards the various interest groups (Petrasch, 1996).

Therefore, intellectual capital is the accumulated intangible assets, which even when they are not within the organization's financial statements, create current and future value that directly affects the fulfillment of institutional objectives in a strategic way (Arango, Pérez and Gil, 2008); It is a key factor for the profitability of companies and it will have to be relevant for the end user, provide useful information for management, be operational and manageable, as well as easy to understand, and refer to the cognitive areas of the strategic operating system (Gogan, 2014a; Gogan, 2014b).

Now, intellectual capital arises for the measurement of intangible assets in a clearer way (Peña, Moreno, Améstica, & Da Silva, 2019) and includes a set of both strategic and intangible resources, integrated by knowledge for creation of value (Trillo and Peces, 2019).

On the other hand, the integration of intellectual capital in its three main factors can be understood as follows: human capital, constitutes the individual knowledge of employees; Structural capital represents the storage of non-human knowledge in organizations that includes databases, organizational charts, process manual, strategies, routines and anything that the company classifies as valuable material; and relational capital, includes relationships with stakeholders (Bontis, 1998; Bontis, Chua and Richardson, 2000; Kong and Ramia, 2010; Sánchez, González and Ortiz, 2010 and Tapia, 2016).

More precisely, human capital is the knowledge that each individual possesses and that it generates, understood as tacit knowledge, integrating the skills necessary for their performance, knowledge, capabilities, genetic inheritance, education, experience, and attitudes About life and the company, from this capital comes innovation and strategic renewal (Petrash, 1996; Bontis, 1998; Bontis, Chua and Richardson, 2000; Chen, Zhu and Yuan, 2004).

While structural capital is that knowledge that has been captured and institutionalized with the structure, processes, and culture of an organization; represents the knowledge storage that includes databases, organizational charts, process manual, strategies, routines and anything that the company classifies as valuable material; gives support for the performance of workers; it is the body of knowledge that remains in an organization at the end of the day after the individuals have left; It helps employees to achieve maximum intellectual and organizational performance (Petrash, 1996; Bontis, 1998; Bontis, Chua and Richardson, 2000; Chen, Zhu and Yuan, 2004; Kong, 2010).

Finally, relational capital is the perception of the value obtained by a client as a result of the receipt of goods and / or services; it is the transformation of customer requirements into market value and improvement of the organization's performance; includes knowledge of the client (Petrash, 1996; Bontis, 1998; Bontis, Chua and Richardson, 2000; Chen, Zhu and Yuan, 2004; Sánchez, González and Ortiz, 2010).

### **3. Method**

#### **3.1 Research type and design**

The present research is developed contemplating the quantitative approach, of a non-experimental type with a cross-sectional section (Hernández, Fernández and Baptista, 2014; and Bernal, 2016).

#### **3.2 Variables**

##### **3.2.1 Knowledge Management Variable (GEC)**

Conceptual definition: It is defined as the main role of organizations that consists of 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 the institutions to achieve their objectives. It is measured with the Rodríguez-Ponce (2007) instrument in a complete version of 10 items that evaluates three dimensions, which has been used in studies by Pedraja-Rejas and Rodríguez-Ponce (2008); Pedraja-Rejas, E. Rodríguez-Ponce and Rodríguez-Ponce (2009); Rodríguez-Ponce, Pedraja-Rejas, Delgado and Rodríguez-Ponce (2010); Rodríguez-Ponce (2016); Araneda-Guirriman, Rodríguez-Ponce, Pedraja-Rejas, Baltazar-Martínez and Soria-Lazcano (2017); Huerta-Chávez and Castro-Valencia (2019); and Huerta-Chávez (2019).

##### **3.2.2 Organizational Learning Variable (APO)**

Conceptual definition: Process of thought and individual and shared actions in an organizational context (Rashman, Withers and Hartley, 2009), occurs at three levels: individual, group and organizational, being an instrument to create competitive advantages and also has a significant relationship with organizational performance or its results (Riquelme, Cravero and Saavedra, 2008).

Operational definition: Organizational process that contemplates the three levels of learning that are generated in institutions at the individual, group and organizational level. It is measured with the Castañeda and Fernández (2007) scale in a ten-item version that evaluates three dimensions, which has been used in studies by López, Ahumada and Olivares (2012); Castañeda (2015); Quispe and Vigo (2017); Suárez, Fazio and Manzanares (2019); and Huerta-Chávez (2019).

### 3.2.3 Intellectual Capital Variable (CAI)

Conceptual definition: Accumulated of intangible assets that are generated by the management of knowledge within the organization, which although they are not counted in the organization's financial statements, 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 intellectual capacity activity, 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 by Chahal and Bakshi (2015) in a full version of 36 items that evaluates three dimensions, which has been used in studies by Chahal and Bakshi (2016); Huerta-Chávez and Castro-Valencia (2019); and Huerta-Chávez (2019).

### 3.2.4 Sociodemographic variables

The sociodemographic variables measured correspond to an individualized measurement scale for each one: gender, age, and education.

### 3.3 Measurement tools

Knowledge Management (GEC) is measured with the Rodríguez-Ponce (2007) instrument in a complete version of 10 items that assesses 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.

Organizational Learning (APO) is measured with the Castañeda and Fernández (2007) instrument in a 10-item version that assesses three dimensions: Individual Level Learning (ILL), Group Level Learning (GLL) and Organizational Level Learning (OLL). The options for the informants are centered on the 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 full version of 36 items that evaluates three dimensions: Human Capital (CAH), Structural Capital (CAE) and Relational Capital (CAR). The options for the informants are centered on the Likert scale from 1 to 5, with 5 being the highest rating.

### 3.4 Participants (characteristics of the sample)

305 employees of operational level, middle managers and managers of the public sector of the state of Jalisco, out of a universe of 1,471 employees (DIF, 2019), who were selected using the type of simple random probability sampling with a confidence level of 95% and a margin of error of 5% (Hernández, Fernández and Baptista, 2014; and Bernal, 2016). The characteristics of the sample are detailed below (see table 1).

Sociodemographic variables	Sample profile
Age	Average = 43 years
Gender	Male = 26% Female = 74%
Scholarship	Secondary = 7% High School = 18% Bachelor = 65% Mastery = 10%
Variables de trabajo	
Cargo	Personal operativo = 72% Mandos medios = 26 % Mandos directivos = 2 %

**Table 1** Characteristics of the sample  
*Source: Own Elaboration (2020)*

### 3.5 Procedure

The method used for data collection is electronically by sending the link of the questionnaire to the informants' emails, the questionnaire consists of 56 items on a Likert scale from 1 to 5, with 5 being the maximum score to obtain.

### 3.6 Analysis of data

Descriptive statistics, statistical tests of normality were carried out using the central tendency indices, reliability tests of the instrument by calculating Cronbach's Alpha, elaboration of the correlation matrices between elements by factor, as well as the Kaiser-Meyer-Olkin test (KMO) and Bartlett's Sphericity, to conclude with the Exploratory Factor Analysis (EFA) identifying the number of factors and the total variance explained. The data are processed with the statistical software SPSS (Statistical Package for the Social Sciences) version 25.

## 4. Results and Discussion

### 4.1 Descriptive statistics: normality

The results with the highest mean values of the Knowledge Management variable, identified in the sample, are presented in: the institution has an efficient system for exploring internal and external information; the institution has a system that allows it to identify important findings for its work from both internal and external sources; and the information obtained from various sources is efficiently processed and integrated within the organization. While the lower average values were reflected in: the managers of the organization exchange knowledge among themselves; and the managers of the institution apply the knowledge generated and shared.

With the descriptive analysis for this variable, it was confirmed that the distribution of the data obtained complies with the assumption of normality, according to the central tendency indices, where the standard deviation was less than 2; the asymmetry and kurtosis results presented values of  $\pm 1.96$  which corresponds to an error level of .05 (Hair, et al., 1999) which are acceptable (see Table 2).

	Indicators	Mean	Standard deviation	Asymmetry	Kurtosis
CRC1	Information exploration system	3.43	1.049	-0.175	-0.569
CRC2	Processing and integration of information obtained	3.39	0.971	-0.241	-0.291
CRC3	Important information findings system	3.42	0.939	-0.110	-0.406
CRC4	Creation of new knowledge	3.35	1.134	-0.315	-0.580
CRC5	Interaction for knowledge creation	3.34	1.150	-0.271	-0.673
COC1	Knowledge exchange between managers	3.32	1.072	-0.327	-0.373
COC2	Knowledge transfer between managers	3.33	1.137	-0.217	-0.682
COC3	Mutually shared managerial knowledge	3.33	1.149	-0.256	-0.672
APC1	Application of knowledge by managers	3.32	1.096	-0.384	-0.461
APC2	Decision-making by managers based on the application of knowledge	3.34	1.156	-0.350	-0.513

**Table 2** Descriptive statistics and central tendency indices of the Knowledge Management variable (GEC)  
Source: Own Elaboration (2020)

Regarding the results of the Organizational Learning variable, the highest average values stand out in: when the institution works in a group, collective learning is achieved; the staff of the institution learn with enthusiasm when working in groups; and the staff uses the knowledge that the institution has. While the lower average values were reflected in: the institution designs new products or services based on the knowledge of the personnel who work in it; This institution offers staff opportunities to develop their skills to do the job; and the institution adapts in a timely manner to changes in the environment.

Likewise, with the descriptive analysis for this variable, it was corroborated that the distribution of the data obtained complies with the normality assumption, according to the central tendency indices, where the standard deviation was less than 2; the results of asymmetry and kurtosis presented values of  $\pm 1.96$  that corresponds to an error level of .05 (Hair, et al., 1999) which are acceptable (see Table 3).

	Indicators	Mean	Standard deviation	Asymmetry	Kurtosis
ANI1	Observational learning	3.52	1.005	-0.500	-0.215
ANI2	Learning by trial and error	3.61	0.989	-0.345	-0.476
ANI3	Skills development	3.38	1.248	-0.421	-0.779
ANI4	Learning by Instructions	3.69	1.050	-0.677	-0.003
ANG1	Learning with enthusiasm	3.76	1.032	-0.625	-0.157
ANG2	Free exchange of knowledge	3.66	1.025	-0.766	0.249
ANG3	Collective learning	3.91	0.909	-0.971	1.185
ANO1	Use of knowledge	3.73	1.016	-0.669	0.027
ANO2	Adaptation to changes	3.51	1.067	-0.313	-0.515
ANO3	Design of new products or services	3.32	1.075	-0.395	-0.439

**Table 3** Descriptive statistics and indexes of central tendency of the Organizational Learning variable (APO) *Source: Own Elaboration (2020)*

For the Intellectual Capital variable, in the specific case of the Human Capital dimension, the highest mean values are presented in: the staff is happy to work in the institution; staff are dedicated to work; and the staff is willing to give extra efforts. While the lowest average scores are presented in: managers make staff happy; the staff is highly polite; and staff training is ongoing.

Also, with the descriptive analysis for this variable, it was confirmed that the distribution of the data obtained complies with the assumption of normality, according to the central tendency indices, where the standard deviation was less than 2; the asymmetry and kurtosis results presented values of  $\pm 1.96$  which corresponds to an error level of .05 (Hair, et al., 1999) which are acceptable (see Table 4).

	Indicators	Mean	Standard deviation	Asymmetry	Kurtosis
CAH1	Continuous employee training	3.29	1.184	-0.179	-0.789
CAH2	Employee education	3.27	1.038	-0.296	-0.405
CAH3	Employee skills	3.54	0.923	-0.549	0.175
CAH4	Employee creativity	3.61	0.939	-0.586	0.210
CAH5	Employees with new ideas	3.77	0.990	-0.511	-0.381
CAH6	Motivation to share new ideas	3.35	1.212	-0.268	-0.880
CAH7	Employees with innovative ideas	3.77	0.999	-0.532	-0.317
CAH8	Happy employees	3.15	1.355	-0.174	-1.158
CAH9	Employee satisfaction	3.32	1.328	-0.311	-1.016
CAH10	Problem resolution	3.41	1.309	-0.388	-0.966
CAH11	Staff happiness for working in the organization	3.96	1.047	-0.846	0.107
CAH12	Availability of additional effort	3.85	1.161	-0.872	-0.093
CAH13	Dedicated employees	3.88	1.030	-0.755	-0.015

**Table 4** Descriptive statistics of the Human Capital dimension (CAH) as part of the Intellectual Capital variable (CAI) and central tendency indices *Source: Own Elaboration (2020)*

In the Structural Capital variable, the highest mean values are shown in: computers are used for operations; information technology software contributes to quality of service; and the atmosphere in this institution is pleasant. While the lowest values are presented in: there is stimulation to take initiatives; there is great support for innovative ideas; and the staff is highly empowered.

Likewise, with the descriptive analysis for this variable, it was corroborated that the distribution of the data obtained complies with the normality assumption, according to the central tendency indices, where the standard deviation was less than 2; the asymmetry and kurtosis results presented values of  $\pm 1.96$  which corresponds to an error level of .05 (Hair, et al., 1999) which are acceptable (see Table 5).

	Indicators	Mean	Standard deviation	Asymmetry	Kurtosis
CAE1	Pleasant atmosphere	3.63	1.143	-0.511	-0.503
CAE2	Communication between staff	3.37	1.163	-0.452	-0.586
CAE3	Knowledge supported	3.44	0.958	-0.419	-0.072
CAE4	Development of new products and services	3.40	1.050	-0.526	-0.124
CAE5	Support in innovative ideas	3.17	1.096	-0.284	-0.633
CAE6	Service quality improvement	3.45	1.027	-0.515	-0.123
CAE7	Structures and systems	3.48	1.117	-0.353	-0.635
CAE8	Information accessibility	3.51	1.147	-0.398	-0.594
CAE9	Processes	3.48	1.054	-0.305	-0.420
CAE10	Culture	3.54	1.073	-0.322	-0.574
CAE11	Use of computers	4.10	1.009	-1.076	0.673
CAE12	Latest technology integration	3.46	1.193	-0.412	-0.716
CAE13	Software contribution to quality of service	3.66	1.120	-0.571	-0.323
CAE14	Support systems	3.57	1.016	-0.624	0.072
CAE15	Empowered employees	3.20	1.033	-0.121	-0.234
CAE16	Taking initiatives	3.08	1.075	-0.073	-0.510

**Table 5** Descriptive statistics of the Structural Capital dimension (CAE) as part of the Intellectual Capital variable (CAI) and central tendency indices *Source: Own Elaboration (2020)*

Now, for the Relational Capital dimension, the highest average values are presented in: the user's data is up-to-date; and in cooperation help to solve the problem. While the lowest average values obtained were presented in: meetings with the user are given continuously; and in the comments of the users they are shared in the institution.

Similarly, with the descriptive analysis for this variable, it was corroborated that the distribution of the data obtained complies with the assumption of normality, according to the central tendency indices, where the standard deviation was less than 2; the asymmetry and kurtosis results presented values of  $\pm 1.96$  which corresponds to an error level of .05 (Hair, et al., 1999) which are acceptable (see Table 6).

	Indicators	Mean	Standard deviation	Asymmetry	Kurtosis
CAR1	Customer data update	3.74	1.081	-0.568	-0.469
CAR2	Customer knowledge	3.41	1.028	-0.432	-0.274
CAR3	Customer opinion	3.51	1.132	-0.539	-0.467
CAR4	Shared customer comments	3.33	1.152	-0.392	-0.675
CAR5	Interactions	3.56	0.990	-0.541	-0.046
CAR6	Cooperation in solving the problem	3.71	0.951	-0.780	0.543
CAR7	Customer base improvement	3.62	1.095	-0.414	-0.593

**Table 6** Descriptive statistics of the Relational Capital (CAR) dimension as part of the Intellectual Capital (CAI) variable and central tendency indices

Source: Own Elaboration (2020)

#### 4.2 Instrument reliability

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, since they present values greater than 0.7 (Cronbach, 1951; Nunnally, 1978; Hair, Anderson, Tatham and Black, 1999), considered as an excellent level of reliability (see Table 7).

Variable	Dimension	Cronbach's alpha $\alpha \Rightarrow .7$
GEC	Create Knowledge (CRC)	.942
	Knowledge Sharing (COC)	.971
	Apply Knowledge (APC)	.927
APO	Individual Level Learning (ILL)	.841
	Group Level Learning (GLL)	.908
	Organizational Level Learning (OLL)	.887
CAI	Human Capital (CAI)	.950
	Structural Capital (CAE)	.971
	Relational Capital (CAR)	.938

**Table 7** Calculation of Cronbach's Alpha of Knowledge Management (GEC), Organizational Learning (APO) and Intellectual Capital (CAI)

Source: Own Elaboration (2020)

#### 4.3 Correlation matrices

Due to the scope of the present investigation, in the correlation matrices between elements it can be observed how these are correlated with each other, thus allowing to ensure that in each element it effectively contributes to the factor, since most of the values were greater than 0.5 (see Table 8, 9, 10, 11, 12, 13, 14, 15 and 16). The results obtained show favorable correlations between the dimensions of the Knowledge Management variable (GEC), which includes Create Knowledge (CRC), Share Knowledge (COC) and Apply Knowledge (APC). In addition, the Organizational Learning (APO) variable, which includes Individual Level Learning (ILL), Group Level Learning (GLL) and Organizational Level Learning (OLL). Likewise, in the variable of Intellectual Capital (CAI), there are acceptable correlations in the dimensions Human Capital (CAH), Structural Capital (CAE) and Relational Capital (CAR).

Specifically, in the three dimensions of Knowledge Management, it is possible to affirm that the elements are correlated with each other since they present values greater than 0.5 (see tables 8, 9 and 10).

	CRC1	CRC2	CRC3	CRC4	CRC5
CRC1	1.000				
CRC2	0.829	1.000			
CRC3	0.744	0.813	1.000		
CRC4	0.755	0.743	0.756	1.000	
CRC5	0.755	0.738	0.707	0.862	1.000

**Table 8** Correlation matrix between elements of the Create Knowledge dimension (CRC)

Source: Own Elaboration (2020)

	COC1	COC2	COC3
COC1	1.000		
COC2	0.907	1.000	
COC3	0.898	0.948	1.000

**Table 9** Correlation matrix between elements of the Knowledge Sharing (COC) dimension

Source: Own Elaboration (2020)

	APC1	APC2
APC1	1.000	
APC2	0.865	1.000

**Table 10** Correlation matrix between elements of the Apply Knowledge (APC) dimension

Source: Own Elaboration (2020)

Specifically, in the dimension referring to Individual Level Learning (ILL), it is possible to affirm that the elements are correlated with each other since they present values greater than 0.5; Except for item ANI3, which presented a correlation of 0.494 with ANI1, which refers to whether the institution offers staff opportunities to develop their skills to carry out work compared to staff at the institution, they learn by observing their co-workers (see Table 11).

	ANI1	ANI2	ANI3	ANI4
ANI1	1.000			
ANI2	0.573	1.000		
ANI3	0.494	0.501	1.000	
ANI4	0.652	0.543	0.698	1.000

**Table 11** Correlation matrix between elements of the Individual Level Learning (ILL) dimension  
Source: Own Elaboration (2020)

For the case of the Group Level Learning (GLL) and Organizational Level Learning (OLL) dimensions, each of its elements is correlated by presenting values greater than 0.5 (see tables 12 and 13).

	ANG1	ANG2	ANG3
ANG1	1.000		
ANG2	0.795	1.000	
ANG3	0.719	0.797	1.000

**Table 12** Correlation matrix between elements of the Group Level Learning (GLL) dimension  
Source: Own Elaboration (2020)

	ANO1	ANO2	ANO3
ANO1	1.000		
ANO2	0.698	1.000	
ANO3	0.717	0.759	1.000

**Table 13** Correlation matrix between elements of the Organizational Level Learning (OLL) dimension  
Source: Own Elaboration (2020)

The dimension of Human Capital (CAH), mostly presents values greater than 0.5 in the correlation between its elements. However, CAH4 presents a lower correlation than the indicated value, with respect to CAH1; likewise CAH9 and CAH10 with CAH4; in addition to CAH11 with CAH1; in the same way CAH12 and CAH13 with respect to CAH1, CAH8, CAH9 and CAH10. These results generally present acceptable values, despite this, the items that presented more correlations with values lower than 0.5, refer to CAH12 and CAH13 with respect to the staff is willing to give additional efforts and the staff is dedicated to work, respectively ( see Table 14).

CAH 1	CAH 2	CAH 3	CAH 4	CAH 5	CAH 6	CAH 7	CAH 8	CAH 9	CAH 10	CAH 11	CAH 12	CAH 13	
CAH1	1.000												
CAH2	0.650	1.000											
CAH3	0.685	0.786	1.000										
CAH4	0.493	0.699	0.712	1.000									
CAH5	0.603	0.694	0.699	0.745	1.000								
CAH6	0.739	0.656	0.658	0.578	0.681	1.000							
CAH7	0.550	0.625	0.628	0.674	0.786	0.640	1.000						
CAH8	0.765	0.618	0.627	0.514	0.590	0.765	0.556	1.000					
CAH9	0.732	0.590	0.600	0.472	0.575	0.730	0.518	0.910	1.000				
CAH10	0.703	0.549	0.557	0.425	0.500	0.692	0.461	0.820	0.867	1.000			
CAH11	0.488	0.571	0.594	0.546	0.527	0.567	0.503	0.518	0.516	0.539	1.000		
CAH12	0.493	0.570	0.613	0.572	0.634	0.553	0.541	0.478	0.444	0.377	0.703	1.000	
CAH13	0.446	0.569	0.513	0.590	0.615	0.508	0.580	0.423	0.397	0.393	0.646	0.731	1.000

**Table 14** Correlation matrix between elements of the Human Capital dimension (CAH)  
Source: Own Elaboration (2020)

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 CAE11 has a correlation value of less than 0.5 with respect to CAE2, CAE3, CAE4, CAE5 and CAE6; likewise, CAE15 and CAE16 also present values lower than 0.5 in correlations with CAE11. In this sense, the item or element that presented the greatest amount of correlations with values lower than 0.5 was the CAE11, which refers to the use of computers in carrying out the work (see Table 15).

CAE 1	CAE 2	CAE 3	CAE 4	CAE 5	CAE 6	CAE 7	CAE 8	CAE 9	CAE 10	CAE 11	CAE 12	CAE 13	CAE 14	CAE 15	CAE 16	
CAE1	1.000															
CAE2	0.711	1.000														
CAE3	0.663	0.797	1.000													
CAE4	0.648	0.756	0.804	1.000												
CAE5	0.677	0.759	0.843	0.800	1.000											
CAE6	0.668	0.747	0.815	0.835	0.847	1.000										
CAE7	0.733	0.715	0.769	0.763	0.813	0.804	1.000									
CAE8	0.709	0.701	0.758	0.730	0.780	0.766	0.864	1.000								
CAE9	0.728	0.690	0.777	0.775	0.814	0.786	0.840	0.871	1.000							
CAE10	0.788	0.695	0.766	0.729	0.785	0.771	0.843	0.793	0.857	1.000						
CAE11	0.508	0.489	0.453	0.452	0.454	0.461	0.500	0.509	0.523	0.511	1.000					
CAE12	0.627	0.615	0.622	0.658	0.683	0.602	0.752	0.759	0.707	0.672	0.638	1.000				
CAE13	0.560	0.595	0.587	0.609	0.594	0.562	0.704	0.694	0.666	0.641	0.647	0.806	1.000			
CAE14	0.543	0.631	0.622	0.674	0.645	0.637	0.684	0.666	0.655	0.619	0.607	0.774	0.855	1.000		
CAE15	0.513	0.603	0.642	0.662	0.677	0.693	0.638	0.594	0.589	0.595	0.460	0.554	0.514	0.578	1.000	
CAE16	0.584	0.720	0.674	0.711	0.751	0.711	0.638	0.638	0.622	0.624	0.412	0.548	0.517	0.611	0.755	1.000

**Table 15** Correlation matrix between elements of the Structural Capital dimension (CAE)  
Source: Own Elaboration (2020)

Finally, the Relational Capital (CAR) shows that all its elements are correlated by presenting values greater than 0.5. (see Table 16).

CAR1	CAR2	CAR3	CAR4	CAR5	CAR6	CAR7	
CAR1	1.000						
CAR2	0.730	1.000					
CAR3	0.651	0.760	1.000				
CAR4	0.671	0.739	0.791	1.000			
CAR5	0.614	0.675	0.691	0.750	1.000		
CAR6	0.643	0.627	0.630	0.660	0.783	1.000	
CAR7	0.720	0.606	0.657	0.683	0.679	0.686	1.000

**Table 16** Correlation matrix between elements of the Relational Capital dimension (CAR)  
Source: Own Elaboration (2020)



#### 4.5 KMO and Bartlett's Sphericity

The results of the calculation of the Kaiser-Meyer-Olkin (KMO) index obtained are between 0.5 and 1 (Montoya, 2007), in fact, they are very close to 1; These indicate that it is appropriate to apply factor analysis to the data matrix under study, that is, that the sample taken for the study is appropriate and that therefore it is possible to continue with the application of factor analysis (see Table 16).

In relation to the results of the Bartlett Sphericity test obtained, they are less than 0.05 (Montoya, 2007), since the analysis presented a significance much lower than the 0.05 limit, since it was 0.000 which indicates that the data matrix is valid to continue with the factor analysis, and it is verified that the correlation matrix is an identity matrix, that is, that the intercorrelations between the variables are zeros (see Table 16).

Variable	KMO	Bartlett's sphericity (Sig.)
Knowledge Management (GEC)	.944	.000
Organizational Learning (APO)	.922	.000
Intellectual Capital (CAI)	.968	.000

**Table 17** KMO statistic and Bartlett's sphericity

Source: Own Elaboration (2020)

With the tests carried out, all the analyzes on the relevance and validity of the data matrix are satisfactorily verified and passed.

#### 4.5 Exploratory factor analysis

In order to determine the number of factors necessary for the explanation of the variables under study, and to corroborate the theory of the methodological matrix, the matrix of components was made for each variable. For this, the principal components extraction method was used, which searches for the factor that explains the greatest amount of the variance in the correlation matrix (Montoya, 2007).

While for the rotation the varimax method with a rotated solution was used, which corresponds to orthogonal rotation, that is, the variables maintain the independence between the rotated factors, with this the model is simplified and the ambiguities that arise when the matrix does not it is rotated (Montoya, 2007); In addition, the number of factors indicated by the theory was added (Hair, et al., 1999).

Given that a decomposition was performed in the factorial analysis, the mathematical calculation coincides with the theory by dividing the global instrument into 9 factors, which are precisely those contained in this study; Regarding the explained variance, each of the variables exceeds the recommended 50% (Hair, et al., 1999).

In this regard, the variable of Knowledge Management (GEC) with three factors can be explained up to 89.837%; the Organizational Learning variable (APO) with three factors can be explained up to 79.839%; and the variable Intellectual Capital (CAI) with three factors can be explained up to 72.154% (see Table 18).

Variable	Factors	Total Explained Variance
Knowledge Management (GEC)	1. Create Knowledge (CRC)	
	2. Knowledge Sharing (COC)	
	3. Apply Knowledge (APC)	89.837%
Organizational Learning (APO)	1. Individual Level Learning (ILL)	
	2. Group Level Learning (GLL)	
	3. Organizational Level Learning (OLL)	79.839%
Intellectual Capital (CAI)	1. Human Capital (CAH)	
	2. Structural Capital (CAE)	
	3. Relational Capital (CAR)	72.154%

**Table 18** Exploratory Factor Analysis and Total Explained Variance

Source: Own Elaboration (2020)

According to the results obtained, for Knowledge Management (GEC) it was evidenced that it is possible to measure it with three dimensions or factors that are Create Knowledge (CRC), Share Knowledge (COC) and Apply Knowledge (APC), as stated by Rodríguez -Ponce (2007). In this regard, the public sector must have a system for the exploration, processing, integration and identification of information findings; contemplating the creation of new knowledge and favorable interaction of managers. In addition, it must detect how knowledge is exchanged, transferred, shared and applied between managers, supporting decision-making in them (Pedraja-Rejas and Rodríguez-Ponce, 2008; Pedraja-Rejas, E. Rodríguez-Ponce and Rodríguez-Ponce, 2009; Rodríguez-Ponce, Pedraja-Rejas, Delgado and Rodríguez-Ponce, 2010; Rodríguez-Ponce, 2016; Araneda-Guirriman, Rodríguez-Ponce, Pedraja-Rejas, Baltazar-Martínez and Soria-Lazcano, 2017; Huerta-Chávez and Castro-Valencia, 2019; and Huerta-Chávez, 2019).

Regarding Organizational Learning (APO), its measurement was verified with three dimensions or factors, which are Individual Level Learning (ILL), Group Level Learning (GLL) and Organizational Level Learning (OLL), which is congruent with the results obtained by Castañeda and Fernández (2007). To do this, the public sector will have to identify how employees learn from observation, trial and error, skill development, or following verbal or written instructions. Also, you should pay attention to the way the groups learn, the enthusiasm for teamwork, as well as the exchange and use of knowledge. Finally, you will have to consider how the organization uses knowledge, adapts to change and designs new products and services (López, Ahumada and Olivares, 2012; Castañeda, 2015); Quispe and Vigo, 2017; Suárez, Fazio and Manzanares, 2019; and Huerta-Chávez, 2019).

Now, for Intellectual Capital, the measurement with three dimensions was corroborated: Human Capital, Structural Capital and Relational Capital according to Chahal and Bakshi (2015). In this regard, the public sector must identify the knowledge that the staff possesses, as well as the continuous training, education, improvement of skills, creativity, new and innovative ideas created and motivation to share them, happiness, disposition and dedication to work on the part of the employees. Likewise, it must detect the knowledge generated by the employees that remains in the institution even at the end of the day, the organizational structure and the systems that support the productivity of the employees. Finally, it must identify the knowledge generated from the relationships between employees and internal and external stakeholders (Chahal and Bakshi, 2016; Huerta-Chávez and Castro-Valencia, 2019; and Huerta-Chávez, 2019).

5. Annexes

The 56 items of the instrument applied in this study are shown below (see Table 19).

Variable	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 it to identify important findings for its 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 directors 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 mutual knowledge.
APC1	The directors of the institution apply the knowledge generated and shared.
APC2	Managers make decisions based on the application of previously generated knowledge.
ANI1	Staff at the institution learn by observing their co-workers.
ANI2	In this institution the staff learn by rehearsing and testing.
ANI3	This institution offers staff opportunities to develop their skills to do the job.
ANI4	At this institution, staff learn by following instructions, whether verbal or written.
ANG1	The staff of the institution learn with enthusiasm when they work in groups.
ANG2	Institution staff freely exchange knowledge when working in groups.
ANG3	When the institution works in a group, collective learning is achieved.
ANO1	The staff uses the knowledge that the institution has.
ANO2	The institution adapts promptly to changes in the environment.
ANO3	The institution designs new products or services based on the knowledge of the personnel who work in it.
CAH1	Staff training is ongoing.
CAH2	The staff is highly polite.
CAH3	Staff skills improve.
CAH4	The staff are creative and bright.
CAH5	Staff come up with new ideas.
CAH6	There is motivation to share new ideas.
CAH7	The staff has innovative ideas.
CAH8	Managers make staff happy.
CAH9	The manager makes the staff happy.
CAH10	Managers help in problem solving.
CAH11	The staff is happy to work at the institution.
CAH12	The staff is willing to go the extra mile.
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	Information exists in structures and systems.
CAE8	There is easy access to information.
CAE9	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 built in.
CAE13	Information technology software contributes to the quality of service.
CAE14	Systems support innovation.
CAE15	The staff is highly empowered.
CAE16	There is stimulation to take initiatives.
CAR1	User data is up to date.
CAR2	Meetings with the user occur continuously.
CAR3	User opinion is valued.
CAR4	User comments are shared at the institution.
CAR5	Interactions improve competition.
CAR6	Cooperation helps to solve the problem.
CAR7	The institution's user registry is improving.

**Table 19** Items for the measurement of Knowledge Management (GEC), Organizational Learning (OLL) and Intellectual Capital (CAI)

Source: Own elaboration (2020), based on Castañeda and Fernández (2007), Rodríguez-Ponce (2007), Chahal and Bakshi (2015), and Huerta-Chávez (2019).

## 6. Acknowledgments

We are grateful to the personnel at the operational level, middle managers and managers of the Jalisco public sector who participated in the present study, when answering the instrument, in order to have its validity and reliability, for the explanation of the variables studied.

## 7. Conclusions and recommendations

With this study, it was possible to corroborate the theory of the variables addressed in a specific context that is the public sector of Jalisco. By having an instrument whose reliability index was adequate to the statistical parameters, duly supported theoretically. Consequently, the results allowed the identification of nine factors for the explanation of these variables. For Knowledge Management (GEC) the factors were: Create Knowledge (CRC), Share Knowledge (COC) and Apply Knowledge (APC); for Organizational Learning (APO) the factors were: Individual Level Learning (ILL), Group Level Learning (GLL) and Organizational Level Learning (OLL); and for Intellectual Capital (CAI) they were: Human Capital (CAH), Structural Capital (CAE) and Relational Capital (CAR).

Through descriptive statistics, it was possible to identify those elements that influence each variable, in addition to corroborating the normality of the data, and the adequate sample for the application of exploratory factor analysis and the percentage explanation of the total variance of each variable, being higher than established statistical parameters.

The foregoing corroborates the central hypothesis, where it is stated that the variables studied, Knowledge Management (GEC), Organizational Learning (APO) and Intellectual Capital (CAI) in the public sector are explained with nine factors. Due to the above, with this the null hypothesis is rejected and the alternative hypothesis is accepted.

The main limitations of the research focus on the selection of the sample, which focused on the public sector of social assistance at the state level, so it is only possible to generalize results for the mentioned sector, therefore it is suggested to expand the sample. In addition, the statistical analysis was limited to the use of descriptive statistics, normality tests, correlation matrices, Cronbach's Alpha test, KMO calculation, Bartlett's Sphericity test and Exploratory Factor Analysis; For this reason, it is suggested to carry out the Confirmatory Factor Analysis (CFA), as well as to apply the Structural Equation Modeling (SEM), to test relationships between the studied constructs and incorporate more informants, such as the different interest groups.

## 8. 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.
- Alavi, M., & Leidner, D. E. (2001). Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS quarterly*, 107-136.
- Ali, A., Nor, R. N. H., Abdullah, R., & Murad, M. A. A. (2016). Developing conceptual governance model for collaborative knowledge management system in public sector organisations. *Journal of Information and Communication Technology*, 15(2), 171-191.
- Angulo, R. (2017). Gestión del conocimiento y aprendizaje organizacional: una visión integral. *Informes Psicológicos*, 17(1), 53-7.
- 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), 13-30.
- 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.

- 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.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.
- Bellinza, M., Guerrero, N., Colón, S., & Ramírez, W. (2011). Gestión del conocimiento: Aproximaciones teóricas. *Clío América*, 5(10), 257-271.
- Bernal, C. A. (2016). *Metodología de la Investigación*. Administración, economía, humanidades y ciencias sociales- Cuarta edición. Colombia. Pearson.
- 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.
- Castañeda, D. I. (2015). Condiciones para el aprendizaje organizacional. *Estudios Gerenciales*, 31(134), 62-67.
- Castañeda, D. I., & Fernández, M. (2007). Validación de una escala de niveles y condiciones de aprendizaje organizacional. *Universitas Psychologica*, 6(2), 245-254.
- 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.
- Chawla, D., & Joshi, H. (2011). Impact of knowledge management on learning organization in Indian organizations—A comparison. *Knowledge and Process Management*, 18(4), 266-277.
- Chen, J., Zhu, Z., & 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.
- Davenport, T. H., & Prusak, L. (1998). Working knowledge: How organizations manage what they know. *Harvard Business Press*, 1-15.
- Edge, K. (2005). Powerful public sector knowledge management: a school district example. *Journal of knowledge management*, 9(6), 42-52.
- Edvinsson, L., & Sullivan, P. (1996). Developing a model for managing intellectual capital. *European management journal*, 14(4), 356-364.
- Fassio, A. N., & Rutty, M. G. (2017). Hacia la identificación de dimensiones relevantes relacionadas con el aprendizaje organizacional. *Revista Trilogía*, 9(16).
- 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.
- García-Morales, V. J., Jiménez-Barrionuevo, M. M., & Gutiérrez-Gutiérrez, L. (2012). Transformational leadership influence on organizational performance through organizational learning and innovation. *Journal of business research*, 65(7), 1040-1050.
- 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.
- Grant, R. M. (1996). Prospering in dynamically-competitive environments: Organizational capability as knowledge integration. *Organization science*, 7(4), 375-387.
- 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.
- Hernández, R., Fernández, C. y Baptista, M. P. (2014). *Metodología de la Investigación*. Sexta edición. México. McGraw-Hill.
- Ho, L. A. (2008). What affects organizational performance? The linking of learning and knowledge management. *Industrial Management & Data Systems*, 108(9), 1234-1254.
- Huerta-Chávez, I. A. (Octubre de 2019). Validación de un instrumento para la medición de la gestión del conocimiento, el aprendizaje organizacional y el capital intelectual en el sector público. En J. S. Méndez (Presidencia), *XXIV Congreso Internacional de Contaduría y Administración e Informática*. Congreso llevado a cabo en el XXIV Congreso Internacional de Contaduría y Administración e Informática, Ciudad de México, México.
- Huerta-Chávez, I. A., & Castro-Valencia, A. M. (2019). Factors for measuring knowledge management and intellectual capital in the public sector of Jalisco. *Journal-Public Economy*, 3(4), 27-42.
- Iyikal, O. C., & Celebi, A. (2016, September). Investigating a quality of services in the public sector: evidence from northern cyprus. *Journal of Economic and Social Development (JESD)*, 3 (2),1-15.
- Jääskeläinen, A., & Lönnqvist, A. (2009). Designing operative productivity measures in public services. *Vine*, 39(1), 55-67.
- Jiménez-Jiménez, D., & Sanz-Valle, R. (2011). Innovation, organizational learning, and performance. *Journal of business research*, 64(4), 408-417.
- 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., & Ramia, G. (2010). A qualitative analysis of intellectual capital in social service non-profit organisations: A theory–practice divide. *Journal of Management & Organization*, 16(5), 656-676.
- Lazazzara, A., & Za, S. (2019). The effect of subjective age on knowledge sharing in the public sector. *Personnel Review*, 49(1), 303-323.
- 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.
- López, V., Ahumada, L., & Olivares, R. (2012). Escala de medición del aprendizaje organizacional en centros escolares. *Psicothema*, 24(2), 323-329.
- Massaro, M., Dumay, J., & Garlatti, A. (2015). Public sector knowledge management: a structured literature review. *Journal of Knowledge Management*, 19(3), 530-558.
- Miller I., & Cangelotti C. (1965). Momentum and Revolution, organization adaptation. *Academy of Management Journal*, 23(4), 5591-614.

- Montoya, O. (2007). Aplicación del análisis factorial a la investigación de mercados. Caso de estudio. *Scientia et Technica*, 1(35), 281-286.
- Morales, K. J., Pertuz, V., Paola, P. A., & Vega, A. Aprendizaje organizacional en una empresa minera en Colombia. *Revista venezolana de gerencia*, 25(89), 213-228.
- 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.
- Nunnally, J. C. (1978). *Psychometric Theory*. New York. Mc Graw Hill.
- 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. A., 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.
- Pokharel, M. P., & Choi, S. O. (2015). Exploring the relationships between the learning organization and organizational performance. *Management Research Review*, 38(2), 126-148.
- Quispe, E., & Vigo, S. (2017). La interacción del aprendizaje organizacional y el desempeño laboral de los educadores de las instituciones educativas públicas. *Revista de Investigación en Psicología*, 20(2), 407-422.
- Rashman, L., Withers, E., & Hartley, J. (2009). Organizational learning and knowledge in public service organizations: A systematic review of the literature. *International Journal of Management Reviews*, 11(4), 463-494.
- Riquelme, A., Cravero, A., & Saavedra, R. (2008). Gestión del Conocimiento y Aprendizaje Organizacional: Modelo Adaptado para la Administración Pública Chilena. *In EIG*, 43-61.
- 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., 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.
- Rose, R. C., Kumar, N., & Pak, O. G. (2009). The effect of organizational learning on organizational commitment, job satisfaction and work performance. *Journal of Applied Business Research*, 25(6), 55-66.
- 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*, 1-21.
- Sistema para el Desarrollo Integral de la Familia del Estado de Jalisco, DIF (2019). *Transparencia*. Recuperado de <https://transparencia.info.jalisco.gob.mx/transparencia/informacion-fundamental/5483>
- 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.
- Suárez, G., Fazio, A., & Manzanares, E. (2019). Propiedades psicométricas de la Escala de Niveles y Condiciones de Aprendizaje Organizacional (ENCAO) en trabajadores de una empresa privada peruana. *Acta Colombiana de Psicología*, 22(2), 319-341.
- 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.
- Whyte, M. & Zyngier, S. (2014). Applied Intellectual Capital Management. *Journal of Intellectual Capital; Bradford*, 15(2), 227-248.
- Woodward, J. (1965). *Industrial Organizations: theory and Practice*. London. Oxford University Press.
- 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 1<sup>st</sup> Author†\*, Surname (IN UPPERCASE), Name 1<sup>st</sup> Coauthor, Surname (IN UPPERCASE), Name 2<sup>nd</sup> Coauthor and Surname (IN UPPERCASE), Name 3<sup>rd</sup> Coauthor

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

*International Identification of Science - Technology and Innovation*

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

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

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

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

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

---

### 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 of Human Resources Training. Year 1-1: 1-11 [Times New Roman No.10]

---

---

\* Correspondence to Author (example@example.org)

† Researcher contributing as first author.



# Instructions for Scientific, Technological and Innovation Publication

## 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

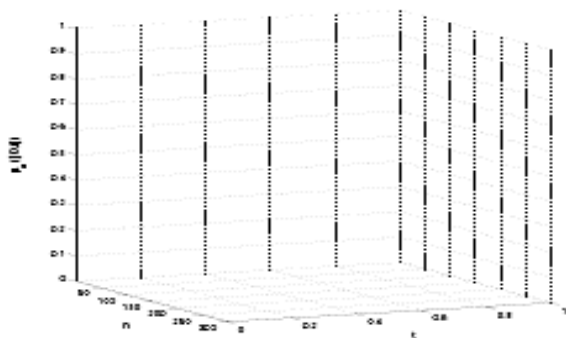
[Title No.12 in Times New Roman, single spaced and bold]

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

## Including graphs, figures and tables-Editable

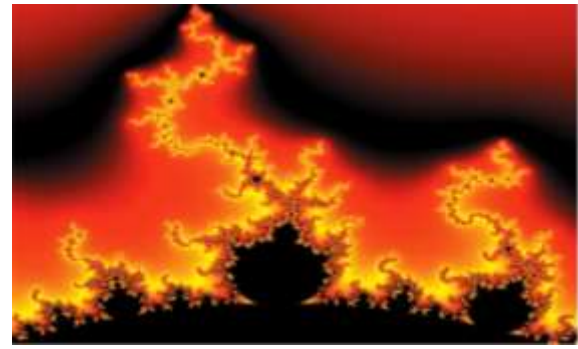
In the article content any graphic, table and figure should be editable formats that can change size, type and number of letter, for the purposes of edition, these must be high quality, not pixelated and should be noticeable even reducing image scale.

[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.


**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:

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

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.

# Instructions for Scientific, Technological and Innovation Publication

---

## 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**

Journal of Human Resources Training 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. ECORFAN® 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 ECORFAN-Mexico, S.C 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 Journal of Human Resources Training 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 ECORFAN-Mexico, S.C. In its Holding Spain 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 ECORFAN-Mexico, SC in its Holding Spain for its Journal of Human Resources Training, 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 ECORFAN® 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**

LATINDEX (Scientific Journals of Latin America, Spain and Portugal)

RESEARCH GATE (Germany)

GOOGLE SCHOLAR (Citation indices-Google)

REDIB (Ibero-American Network of Innovation and Scientific Knowledge- CSIC)

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**

38 Matacerquillas, CP-28411. Moralarzal –Madrid-España. Phones: +52 1 55 6159 2296, +52 1 55 1260 0355, +52 1 55 6034 9181; Email: [contact@ecorfan.org](mailto:contact@ecorfan.org) [www.ecorfan.org](http://www.ecorfan.org)

**ECORFAN®**

**Chief Editor**

GUZMÁN - HURTADO, Juan Luis. 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 Assistant**

REYES-VILLO, Angélica. BsC

**Translator**

DÍAZ-OCAMPO, Javier. BsC

**Philologist**

RAMOS-ARANCIBIA, Alejandra. BsC

**Advertising & Sponsorship**

(ECORFAN® Spain), [sponsorships@ecorfan.org](mailto:sponsorships@ecorfan.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@ecorfan.org](mailto:financingprograms@ecorfan.org)

**Management Offices**

38 Matacerquillas, CP-28411. Moralarzal –Madrid-España.

# Journal of Human Resources Training

“Strategy oriented to strengthen the college work of teachers for the benefit of the consolidation of Academic Corps”

**PALOMARES-RUIZ, María Blanca, TORRES-BUGDUD, Arturo, DIMAS-RANGEL, María Isabel and SORDIA-SALINAS, Cesar**

*Universidad Autónoma de Nuevo León*

“Perception of organizational justice of the workers of a public university in Mexico hired under the outsourcing modality”

**HERNÁNDEZ-GOVEA, Luis Manuel, MAY-GUILLERMO, Erika Guadalupe, DE LA CRUZ-MAY, Samuel and SALVADOR-GARCÍA, Yazmin Denisse**

*Universidad Juárez Autónoma de Tabasco*

*Instituto Tecnológico Superior de la Región Sierra*

*Universidad Intercultural del Estado de Tabasco*

“Factorial explanation of the integration of curriculum design, professional training and job training”

**HERNÁNDEZ-CUETO, Jaquelina Lizet, SALINAS-AGUIRRE, María del Consuelo, YAÑEZ-FLORES, Sara Margarita and ARRIAGA-REYES, Rosa Argelia**

*Universidad Autónoma de Coahuila*

“Determining factors for knowledge management, organizational learning and intellectual capital in the Jalisco public sector”

**HUERTA-CHÁVEZ, Irma Alicia, MURO-MARTÍNEZ, José Manuel and FIGUEROA-OCHOA, Edgar Benjamín**

*Universidad Autónoma de Guadalajara*

*Universidad de Guadalajara*

