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Presentation of the content

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Aptitude level, values and school performance in University students**Nivel de aptitud, perfil de ingreso, valores, rendimiento académico en jóvenes Universitarios**

RODRÍGUEZ-ORTIZ, Mónica†*, JASSO-VELAZQUEZ, David, VILLAGRÁN-RUEDA, Sonia and FUENTES-FAVILA, Luis Macario

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Abstract

The presente investigation was carried out at the Autonomous University of Zacatecas, with young people from the 2014-2019 generation of the psychology career (Campus Zacatecas), the objective of this study is to identify if there is a correlation between the level of aptitude, of the values (social, theoretical, aesthetic, economic, political and religious), the income profile and high academic performance at the end of the degree, in university students. It was carried out under a quantitative approach, with a correlational scope. The type of design is non-experimental-transactional, since there was no manipulation of the variables and the information was collected in a single moment. The sample was non-probabilistic, for convenience, it consisted of 89 women and 17 men. The analysis was performed through the statistical package SPSS, obtaining the parametric test (chi²). Regarding the findings found, it was identified that the values variable, especially in the theoretical and social values, considered in the income profile of said generation, is not a predictor of high school performance at the end of the psychology degree, as well as at the education level, there was no significant correlation found.

Ability Value System, School Performance, University

Resumen

La presente investigación se realizó en la Universidad Autónoma de Zacatecas, con jóvenes de la generación 2014-2019 de la carrera de psicología (Campus Zacatecas), el objetivo del presente estudio es identificar si existe una correlación entre el nivel de aptitud, de los valores (social, teórico, estético, económico, político y religioso), el perfil de ingreso y el rendimiento académico alto al finalizar la licenciatura, en los jóvenes universitarios. Se realizó bajo un enfoque cuantitativo, con un alcance correlacional. El tipo de diseño es no experimental-transaccional, ya que no se presentó manipulación de las variables y la recolección de la información se realizó en un solo momento. La muestra fue no probabilística, por conveniencia, constó de 89 mujeres y 17 hombres. El análisis se realizó a través del paquete estadístico SPSS, con la obtención de la prueba paramétrica (ji²). Respecto a los hallazgos encontrados se identificó que la variable valores, sobre todo en los valores teórico y social, considerados en el perfil de ingreso de dicha generación, no es predictora del rendimiento escolar alto al concluir la carrera de psicología, así como en el nivel de aptitud no se encontró una correlación significativa.

Habilidad, Sistema de valores, Rendimiento Escolar, Universidad

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Introduction

Admission to higher education is a process that consists of several stages, in addition to the fact that it is necessary to consider precise indicators for the selection of the most suitable applicants, who meet a defined admission profile, which places them as candidates to have a successful school career, and contribute to the reduction of dropout rates in higher education institutions. On the other hand, the level of aptitude is a necessary and relevant element that must be taken into account, since it is not enough to have the applicant's interest in the chosen career, but the level of aptitude is optimal to be reviewed and considered in any career, not to mention in the case of psychology, because of what it implies in this regard De Garay (2003) states:

To the extent that our higher education system manages to have more information about the profile of its students and their school trajectories, the authorities and faculty are in a better position to implement various policies that serve their population, (p. 2).

On the other hand, Vargas, Ramírez, Cortes, Farfán and Heinze (2011) agree that the high school of origin, personality traits, characteristics of creative thinking could influence the student's academic performance. Other variables to consider are also study habits, thinking styles, as well as values. However, for the intention of the present research, the variable values becomes relevant, due to the nature of the same that will be addressed later; added to this is the great loss of values that at a social level have been in detraction, this has an important impact on young people in general and specifically on young university students. The objective of the present study is to identify if there is a correlation between the entrance profile, the level of aptitude, values and school performance at the end of the bachelor's degree in young university students.

Problematization

There is currently a high rate of high school students who wish to continue their university studies, therefore, in spite of the high demand, universities must have mechanisms to attract all those students who can adapt to the demands of university life.

In addition to having and knowing a previous school career that can predict a successful trajectory at the end of higher education, therefore, the admission process of an institution serves as a milestone in educational programs (PE). According to various evaluation and accreditation agencies such as the Inter-institutional Committees for Higher Evaluation (CIEES), the Council for the Accreditation of Higher Education (COPAES), point out the need to have standards for the trajectory of students, the National Association of Universities of Higher Education (ANUIES) considers the monitoring of students to prevent and reduce educational backwardness, reduce failure rates, raise graduation rates among other aspects.

The Universidad Autónoma de Zacatecas (UAZ) after 190 years of foundation is conceived as the "Maximum House of Studies" of the state according to the First Report of Activities (2022) issued by the Rector Jesús Ibarra Reyes currently has 120 educational programs within the 33 academic units, for the school year 2021-2022, the total enrollment amounted to 41,698 students 47. The total enrollment for the 2021-2022 school year was 41,698 students, 47.7% women and 52.3% men, as well as a teaching staff of 2,767 professors integrated into the different educational programs: 1,557 men and 1210 women, 74% of whom are research professors. However, an important fact is that the largest student population is concentrated at the undergraduate level, with a population of 27,118 students. Within the admission policies the UAZ establishes the following:

Students entering the Universidad Autónoma de Zacatecas "Francisco García Salinas" in any of its areas, units and programs must have the basic knowledge and skills, of the previous level, that guarantee an adequate performance in the level to which they apply for admission. Likewise, they must have the necessary attitudes and values to make them responsible for their formative process and assume an active position in the study and development of the projects and work required, coinciding with the purposes, goals and mission of the institution (UAZ Model XXI Century, 2005, P.37).

After the above, it can be inferred that all students, especially those pursuing a bachelor's degree, go through an admission process, which considers and takes into account the elements of all the aspects mentioned above, on knowledge and skills, therefore, this potentiates the possibility that those who enter the university are really students who will have an exceptional performance in their school career.

The Academic Unit of Psychology has been founded more than 35 years ago, it is characterized for being one of the three main careers with the largest number of enrollment within the UAZ, currently has 5 more extensions, not counting the Zacatecas Campus located in the capital of Zacatecas, which represents the largest number of the population, followed by the municipality of Fresnillo, Jalpa, Juan Aldama, Ojocaliente and Jerez de García Salinas.

In recent years we have observed behaviors and attitudes, lack of interest, low motivation for the fulfillment of school tasks, low academic performance, cognitive deficiencies, confrontations with teachers (verbal), loss of values, substance abuse and in general negative attitudes and defiance in some students of the psychology career, object of study (we are talking about a really minimal percentage), however it is alarming, since being the psychology career, it would be expected that the student population, after having gone through an admission process in which variables such as variables such as: study habits, values, thinking styles, personality and vocational definition considered with a favorable level of aptitude for the entrance to the psychology career, these aspects, considered as unfavorable and undesirable for a student in training as a mental health professional, are manifested and detected.

On the other hand, when reviewing the academic performance at the end of the career, it has not been the most suitable in the generation under study, therefore a question arises that arises for the development of this research that is stated below is there a correlation between the entry profile, values, level of aptitude and academic performance of the students of the 2014-2019 generation of the psychology career?

Hypothesis

Hi: "There is a relationship between the entry profile, aptitude level, values and academic performance at the end of the psychology career in the students of the 2009-2014 generation".

Theoretical perspective

In this section a theoretical dissertation of each of the variables that we have taken up for the elaboration of the research is exposed, it is considered that they are aspects of utmost importance to achieve an understanding on the topic to be developed, these variables are intertwined, without a doubt, since, having a clarity on the meaning of these, will therefore generate a greater understanding of the elements to be addressed.

Values

First of all, we will deal with the subject of values, it is of utmost importance to approach and reflect on why they are basic at the moment of approaching education, since the school is considered the second most relevant institution in the formation of the human being, besides the family; in the latter, values are learned in an imitative way, through models, mainly given by primary figures, although this is not always the case. However, in school values are explicitly transmitted at a cognitive and theoretical level, so it would be expected that formal education contributes to the internalization and reproduction of values.

It is necessary to emphasize that society, the community, the environment in which one grows and lives, have a considerable influence on the issue of values, since it is in this environment that, in recent years, there has been a tremendous crisis of values, there is currently a wave of complex and varied psychosocial problems, as an example of this, is the violence that is on the rise day after day in Mexico.

Regarding the topic of values from a psychological perspective, some authors consider them as: "enduring beliefs or mental representations, referring to modes of behavior and desirable states or ends of existence" (Rockeach, 1973; Swartz, 1992; cited in García, Grimaldo and Manzanares, 2016, p. 230).

Therefore, we could then interpret that these beliefs are the ones that allow subjects to adopt certain types of behavior in society and daily life, in which the school context is no exception.

The value system of each person or subject in the same way leads to make important decisions and evidently when referring to a university career, it takes on a significant relevance and even more if it is a psychology career, in which it would be expected that the applicants have a significant inclination in values such as the social and theoretical mainly. According to Blesedell, Crepeau, Ellen and Schell (2008) "Values constitute a significant part of a profession" (p. 1005).

In addition, it is worth mentioning that "people's values are important predictors of behavior, interests and attitudes, for example, of students' academic performance, interpersonal bonds and voting behavior" (Castro and Nader, 2006, p. 158).

One of the most representative authors on the subject of values is undoubtedly Schwartz, who proposes 10 motivational values in which he highlights the following:

The 10 basic values common to all cultures are self-direction, stimulation, hedonism, achievement, power, security, conformity, tradition, benevolence and universality. These make up a dynamic system, organized in a circular system in which the basic values are grouped by their compatibility and in their opposite position, has the values that are incompatible or contrary, that is, those that represent a contradiction between the objectives and that, therefore, would generate a conflict in the individual (Schwartz, 1992; cited in Abella, Lezcano and Casado, 2017, p. 126).

Consequently, it is convenient to explore and know the values of those aspiring to enter the university, in order to have greater confidence that those who are being trained really have solid and rooted values, which will allow a more ethical praxis, once they have completed their professional training and are inserted in the labor market.

Aptitude Level and Entrance Profile

After the above, it is convenient to expose the term aptitude level, since it indicates if the applicant to enter a career really has the skills, competencies and knowledge required explicitly in the entrance profile (this will be discussed later); since these are aspects that will have an imminent impact not only in the school career, but also in the exercise of the profession in the labor market. From the perspective of psychology, the Dictionary of Psychology defines it as: "Potential capacity that makes an individual apt for a certain activity. Generally the aptitude is revealed precociously and, in most cases, pre-existent to learning, although it can remain latent throughout life" (p. 111).

After the above, it is agreed that the higher the level of aptitude presented by an applicant to the entrance of the psychology career, the school trajectory, translated into academic performance, will be high. Once the aspect related to the level of aptitude has been raised, it is appropriate to introduce the entry profile variable, since it is known that at the basic, middle and higher education levels, in each of the programs and study plans through the curriculum, each of the entry profiles are explicitly mentioned, together with the graduation profiles (currently translated into skills and competencies). According to Gonzalez, Lara, Pinedo and Crespo (Gonzalez, Lara, Pinedo and Crespo), the entry profile is defined as:

Conceptual description of the desirable characteristics of the new student in terms of knowledge, skills and favorable attitudes to study and finish with greater chances of success the studies he/she starts. In addition, it gives an account of the academic options taken, academic grades obtained and sociological data of interest (p. 13).

Each university has the autonomy to build the entry profile according to the career and area, however, this task does not exempt from considering aspects and guidelines on which each of them is based; in this regard, in the labor field, employers are generally consulted in order to identify the problems, needs and current issues to be addressed and resolved by health professionals, on the other hand we must consider the educational policies and the competencies required both generic and specific in a global context;

Hence the emergence of one of the most praiseworthy and innovative projects in which are reflected, described, discussed, argued and oriented in this sense in the field of higher education, this project is called Tunning-Latin America (2004-2007) in which the main objective is to achieve convergence with a guiding axis in which the aforementioned aspects are exposed and described.

Academic performance

In another order of ideas, one of the variables that should be addressed is academic performance, defined by Pilco (2022) as "the result of the student's capabilities, which shows what he/she has learned in the teaching-learning process" (p. 17), since the student's school career is measured both in a quantitative and qualitative aspect; when the quantitative term is referred to, it means issuing a grade, which is to provide a hard and fast score. 17), since the student's school career is measured both in a quantitative and qualitative aspect; when referring to the quantitative term, it means to issue a grade, this is to provide a hard data, which is represented by the number 0 to 10 according to the measure used, which categorizes the level of knowledge and/or learning obtained in a subject, subject or until the completion of formal education, as is the degree, in other words is to answer the question "how much did the graduate learn? On the other hand, when addressing the qualitative aspect, it is alluded to indicate what the graduate knows how to do, in observable terms, here also come into play, the skills and competencies acquired, in this regard Gutiérrez, Granados and Landeros (2011) define academic performance as: "The number of subjects passed by a student in a career, in others by the result of a specifically designed test, as well as by the average of grades of the subjects taken" (p. 18).

However, the qualification is an aspect in which there are several factors, such as the student's ability to learn, study habits, intrinsic motivation, extrinsic motivation and motivation, the latter coined by Usan and Salavera (2018) learning styles, vocational definition, factors related to health, family type, socio-cultural level, geographic location, to the teaching practice, which entails, the teacher's personality style, didactics, training, educational planning and the type of evaluation that is performed;

Therefore, it is complex at the moment of assigning a grade, since it is also implicit in several occasions values of judgment on the part of the teachers. Likewise, Chadwick and Reyes (cited in Carpio, Henríquez and Pacheco, 2022, p. 38) point out that "academic performance is related to the expression of skills and psychological factors of the student...".

Therefore, despite all the elements implicit in the academic performance, the average is important because even at the social, labor, family and personal level, a person who concludes with a high average at the end of any educational level, the expectations placed on him/her will be significant, and if it is a profession, it will not be the exception, since it would be expected that he/she is a well prepared, intelligent professional, with mastery of his/her area among other aspects; on the other hand, he/she could benefit to continue with postgraduate studies in programs attached to the National Council of Science and Technology (CONACYT) sponsored by the Federal Government.

Method

The present study was developed with a quantitative approach according to Hernández, Fernández and Baptista, (2015), the scope of the research is correlational, since it is intended to identify whether there is a relationship or association between one or more variables. In this case, the correlation between the entry profile, values, aptitude level and academic performance at the end of the course is addressed.

The type of design is non-experimental since there was no manipulation of the variables at any time, with transectional cohort, since the data are collected at a single moment. The unit of analysis was constituted by the applicants of the 2014-2019 generation, to enter the Bachelor's Degree in Psychology (UAP) of the Universidad Autónoma de Zacatecas (UAZ).

Procedure

Initially, we turned to the coordination of the Center for Attention and Student Services (CASE) of the Autonomous University of Zacatecas (UAZ), formerly known as the Undersecretary of Attention to Young University Students;

In 2000, the Assessment Booklet of the Comprehensive Profile of the Young University Student was proposed for the first time; this booklet was composed of: 1) a psychopedagogical questionnaire, 2) a psychometric test of general intelligence and 3) a comprehensive diagnostic questionnaire. In 2005, the booklet was reintroduced for the selection of applicants for some careers.

As of 2009 (due to an institutional policy), it is designated as the sole responsible for building and carrying out the admission process of applicants for the entire university (previously it was only for some careers). After the above, the following instruments were applied for the generation under study: 1. Tea Ediciones Personality Test (this was not part of the Diagnostic Booklet), 2. Study Habits Test: "I learn to know myself as a student", 3.

For the purposes of this research, the CASE provided the information of the applicants to enter the psychology career only, for this purpose the data were of 443 people, however, the final sample consisted of 106 cases, 89 women and 17 men, since all those cases that did not have complete information in each of the aspects to be considered in the entrance profile were purged (the information was provided digitally on a USB, since the content was stored in an Excel sheet).

Once this information was available, we went to the School Department of the Psychology Academic Unit, in order to request the lists of the graduates, which contained the final averages of that generation. After this, we proceeded to perform the corresponding analysis through the SPSS statistical package, considering on this occasion the specific information of the results of the values test, the level of aptitude upon entering the career, as well as the average grade obtained at the end of the career, a contingency table was prepared to identify the data and thus perform the corresponding cross and identify the correlation by means of (chi2).

They were classified by dimensions according to the previously mentioned evaluated values, in which they were classified with aptitude levels (at the entrance of the career), as well as a number was assigned (1=not apt), (2=averagely apt) and (3=apt), to validate the average at the end of the career.

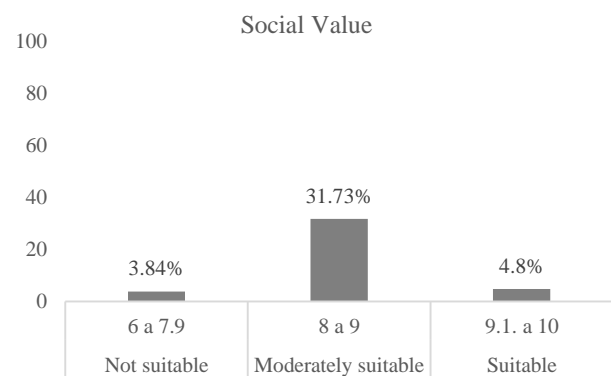
It was categorized as follows, those who obtained an average of 6 to 7.9 were considered low, the average of 8 to 9, was considered as medium and finally, those who obtained a grade of 9 or more, were considered as high.

Instrument

The Gordon W. Allport Test is a scale that was designed primarily for use with college students or adults who have some type of college-level education. It is Likert-type and its objective is to determine the relative importance of the six basic interests or motives, the values evaluated are six: 1. theoretical value, 2. economic value, 3. aesthetic value, 4. social value, 5. political value, and 6. religious value. It consists of 120 items (Allport, Vernon and Lindzey (2001; cited in García, 2018, p. 449).

Results

In this section we will present the results of each of the values, levels of aptitude and academic performance in the students of the 2014-2019 generation, graduates of the psychology career of the UAZ, for the first instance, the social value is shown (Graphic 1).

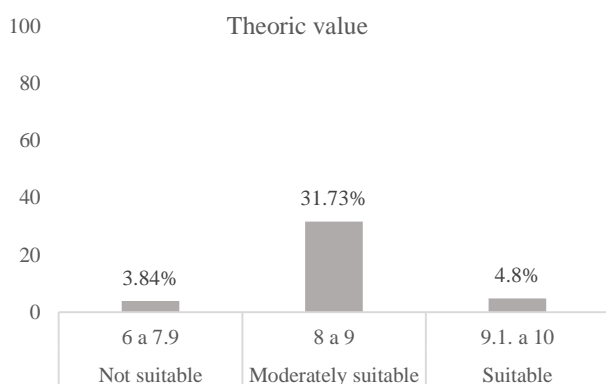


Graphic 1 Social value, level of aptitude and academic performance

As we can see, the students who were considered unsuitable for the entrance profile, in relation to the final academic performance was low, this corresponds to 3.84% equivalent to 4 students, with respect to the applicants who were in the moderately suitable range, upon entering the career, 31.73% equivalent to 33 students were obtained. 73% equivalent to 33 students, finally, those who were apt to enter the career, 4.8% equivalent to 5 students, therefore it is a significant data since although in the social value they were moderately apt.

The average is adequate, although it is not the average, high, at least it is important as a qualification.

Regarding the theoretical value (Graphic 2) shows the results on the level of aptitude when entering the career and the academic performance at the end of it.

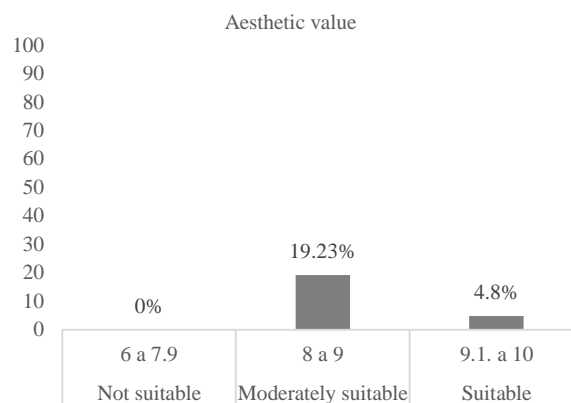


Graphic 2 Theoretical value, aptitude level and academic performance

As we can see, when entering the career, 0.9% of the students were considered unfit, being 10 students, with respect to the entrance profile, in relation to the final academic performance was low, of the applicants who were in the moderately fit range, when entering the career, 3.8% were obtained, equivalent to 4 students, finally, those who were fit at the entrance to the career, 1.9% equivalent to 2 students, therefore, the final academic performance was low.

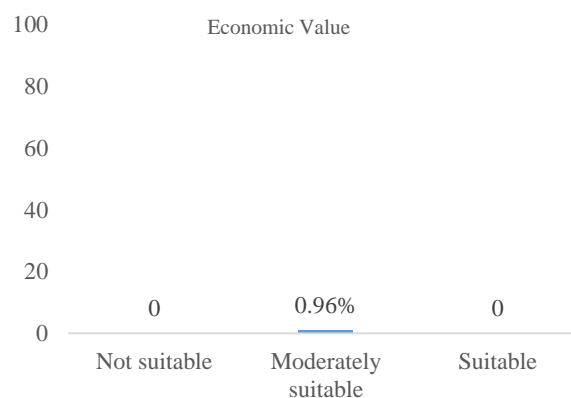
Finally, those who were apt to enter the career, 1.9% equivalent to 2 students were observed, therefore it is a significant data since although in the social value they were moderately apt, the average is adequate, although it is not the average, high, at least it is important as a qualification.

Regarding the esthetic value, the level of aptitude and school performance (Graphic 3) shows the results.



Graphic 3 Aesthetic value, level of aptitude and academic performance

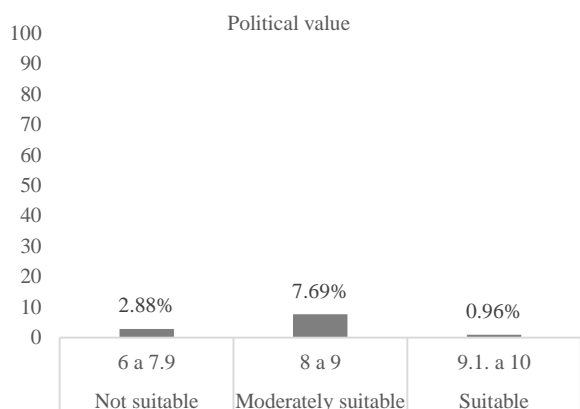
It is identified, the students at the entrance to the career that were considered not apt, regarding the entrance profile, in relation to the final scholastic performance is null, regarding the applicants that were in the moderately apt range at the entrance to the psychology career, with predominance by the aesthetic value, they obtained 19.23% equivalent to 20 students, finally, those that were apt at the entrance to the career, it is observed 4.8% equivalent to 5 students, therefore, it is a significant data since the scholastic performance is high. In the case related to the economic value (Graphic 4) shows the results.



Graphic 4 Economic value, level of aptitude and academic performance

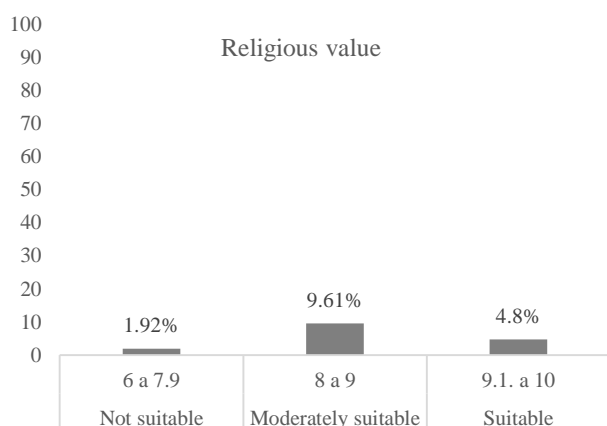
As we can see, the students who were considered unsuitable to enter the career, with respect to the entrance profile, in relation to the final academic performance is null, with respect to the applicants who were in the moderately suitable range to enter the psychology career, with predominance by the economic value, they obtained 0.96% equivalent to 1 student, finally, those who were suitable to enter the career, 0% equivalent to 0 students are observed.

In turn, Graphic 5 shows the results obtained in relation to the political value.



Graphic 5 Political value, level of aptitude and academic performance

The students who were considered unsuitable upon entering the career, with respect to the entrance profile, in relation to the final academic performance is 2.88%, corresponding to 3 students, with respect to the applicants who were in the moderately suitable range upon entering the psychology career, with predominance for the political value, they obtained 7.69% equivalent to 8 students, finally, those who were suitable upon entering the career, 0.96% equivalent to 1 student is observed. Finally, Graphic 6 shows the data in relation to the religious value.



Graphic 6 Political value, level of aptitude and academic performance

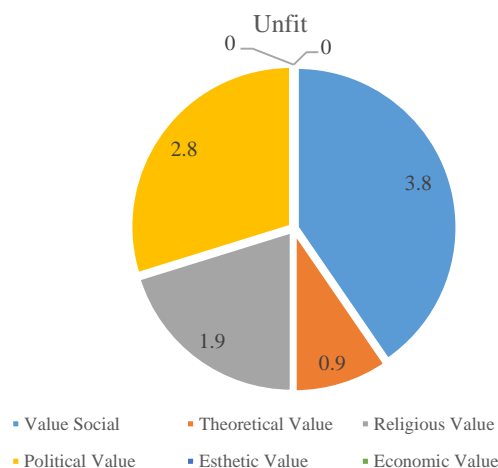
It can be seen that the students who were considered unsuitable to enter the career, with respect to the entry profile, in relation to the final academic performance is low, 1.92%, corresponding to 2 students, with respect to the applicants who were in the range moderately suitable to enter the psychology career.

With a predominance of religious value, they obtained 9.6% equivalent to 10 students, finally, those who were suitable to enter the career and obtained a high average of 9.1 to 10, corresponds to 4.8% equivalent to 17 students.

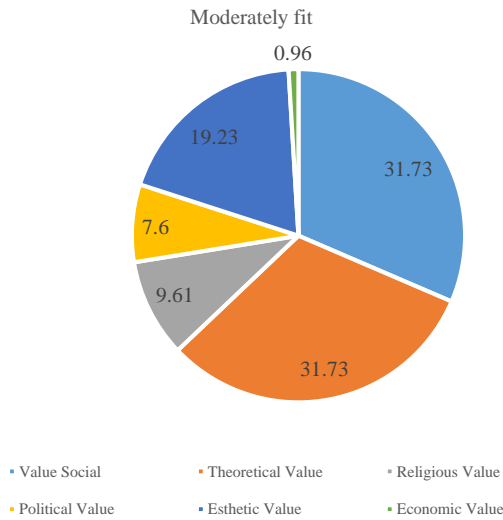
According to what was indicated in the CASE, the ideal values to enter the psychology career are the social value in the first instance and the social value, however, according to the results obtained in the sample, the bulk of the percentage presents a preference for the social value, second place for the aesthetic value and third place for the religious value.

This is a significant fact, since the psychology career is distinguished by the fact that the vast majority of the subjects are inclined to the review of paradigms, models or complex theories that are aimed at understanding the various problems related to biopsychosocial aspects that will influence the behavior of human behavior, in the case of this generation, their interest in the theoretical value was not high.

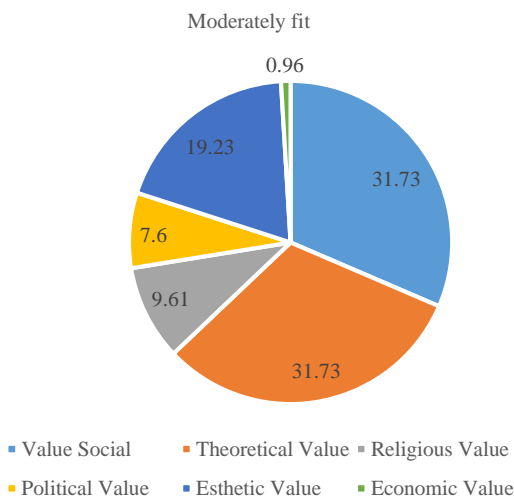
On the other hand, (Graphic 7) shows the percentage of students who were ineligible to enter the degree program in the different values, as well as the average at the end of the course, (Graphic 8) illustrates the percentage of students who were moderately eligible to enter the course and the final average, (Graphic 9) shows the applicants who were eligible to enter the course and the academic average. Graphic 10 shows the level of aptitude and academic performance in the 2014-2019 generation.



Graphic 7 Unfit students, values and school performance

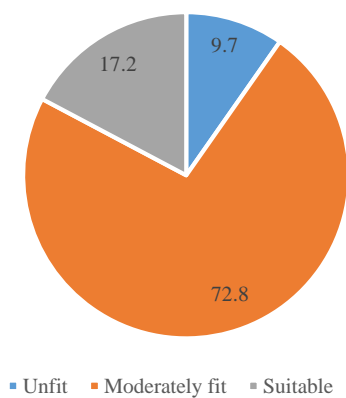


Graphic 8 Moderately fit students, values and school performance



Graphic 9 Able students, values and school performance

Aptitude levels and academic performance



Graphic 10 Aptitude level and school performance in the 2014-2019 generation

In the case of the value study instrument the ideal value for the entry profile is the social, as a second instance is the theoretical value, the results of the $[\chi^2=208.00, gl=28, p=.00]$, so no correlation is found between the social value and the career average.

Discussion and conclusions

While it is true that values are a key element in relation to the formation of young people, in view of the crisis currently being suffered about them worldwide, it is imperative to strengthen them, in all formal education, however significantly in higher education, since ethics is a fundamental aspect, in this regard Chapa and Martinez (2011) in their study on university values in young students point out "... it is transcendental that universities are prepared to organize the fulfillment of them and that it is one of the bases of principles and values to apply them in the productive sector where they work"(p. 5). In the case of the values variable, no significant correlation was found between the type of value and the academic performance of the students; although it is true that most of the applicants showed a preference for the social value, although they were categorized in the moderately apt dimension and with an average of 8 to 8.9.

After the above, our research hypothesis was not proven since there is no significant correlation between the values, the level of aptitude and school performance, at the end of the psychology career. However, this does not mean that values are not relevant at the moment of knowing the profile of the applicants, but rather that once admitted to the career, aspects that could be improved for a successful school career are identified. In this regard, according to some authors (Bartone *et al.* 2009; Arango, Clavijo, Puerta and Sánchez 2014; Moral 2011 and Beltrán, Torres, Beltrán, García, 2005), they are not useful in the construction of the university entrance profile since they are considered for other purposes.

Therefore, the findings found inform us that the values are not predictors of high academic performance in the school career of the university student. In the graduates of the 2014-2019 generation the predominant value was social which is a relevant data for the area of psychology.

This study is a precedent to consider admission policies, to follow up students, to identify those who could be vulnerable to drop out in the first years of the career; as well as aspects related to failure, learning difficulties, among others.

References

- Abella García, V., Lezcano Barbero, F., y Casado Muñoz, R. (2017) Evaluación de la jerarquía de los valores humanos de Schwartz en la adolescencia: diferencia de género e implicaciones educativas. *Revista Brasileña de Educación*, 22 (68), 123-146. <https://www.scielo.br/j/rbedu/a/s5KcN6Dxh7VbMMKtydNhqHb/?format=pdf&lang=es>
- Arango Tobón, O.E., Clavijo Zapata, S. J., Puerta Loera, I. C., y Sánchez Duque, J. W. (2014). Un estudio comparativo sobre valores éticos en universitarios. *Educación Superior*, 42 (169), 89-105. Recuperado 20 de noviembre de 2022 de: <http://resu.anui.es.mx/ojs/index.php/resu/citationstylelanguage/get/acm-sig-proceedings?submissionId=228>. DOI <https://doi.org/10.1016/j.resu.2015.01.003>.
- Beltrán Guzmán, F. J., Torres Fermán, I. A., y Beltrán Torres, A. A., y García Díaz, F. J. (2005). Un estudio comparativo sobre valores éticos en universitarios. *Enseñanza e Investigación en Psicología*, 10, 397-415. <https://www.redalyc.org/pdf/292/29210213.pdf>
- Blesedell Crepeau, E., S. Cohn, E., y Boyt Schell, B. A. (2005) *Terapia Ocupacional* (10 Edición). México: Editorial Panamericana. https://books.google.com.pa/books?id=mnHKR_1O7PgC&printsec=frontcover#v=onepage&q&f=false
- Carpio Valdés, U., Henríquez Lozano, E. M., y Pacheco Inca, J. D. (2022) Salud mental y desempeño académico en los estudiantes de educación de una universidad pública de Lima en el contexto de la COVID-19 [Tesis de Maestría, Docencia Educativa y Gestión Educativa]. https://repositorio.utp.edu.pe/bitstream/handle/20.500.12867/6092/U.Carpio_E.Henriquez_J.Pacheco_Trabajo_Investigacion_Maestria_2022.pdf?sequence=1&isAllowed=y
- Castro Solano, A., y Nader, M. (2006) La evaluación de los valores humanos con el Portrait Values Questionnaire de Schwartz. *Centro Interamericano de Investigaciones Psicológicas y Ciencias Afines*, 23 (2), 157-174. <https://www.redalyc.org/pdf/180/18023202.pdf>
- Chapa Alarcón, P., y Martínez Chapa, T. (2011). *Valores Universitarios en los Jóvenes Estudiantes de la Facultad de Ciencias Políticas y Administración Pública, UANL*. Recuperado el día 13 de noviembre de 2022. <https://www.ride.org.mx/index.php/RIDE/articloe/view/127/565>
- De Garay, A. (2003) El perfil de los estudiantes de nuevo ingreso de las universidades tecnológicas en México. *El Cotidiano. Revista Universidad Autónoma Metropolitana Unidad Azcapotzalco*, 12(122), 75-85. <https://www.redalyc.org/pdf/325/32512209.pdf>
- Diccionario de psicología (2002). Recuperado el 9 de noviembre de 2022 de: <https://saberespsi.files.wordpress.com/2016/09/galimberti-umberto-diccionario-de-psicolog3ada.pdf>
- García Anchorena, R., Grimaldo Muchotrig, M., y Manzanares Medina E. (2016) Jerarquía de Valores entre estudiantes de secundaria de colegio religioso y colegio laico de Lima. *Liberabit*, 22 (2), 229-239. Recuperado el 12 de diciembre de 2022 de: <http://www.scielo.org.pe/pdf/liber/v22n2/a10v22n2.pdf>
- García López, I. E. (2018) Valores, intereses y personalidad de los alumnos de la Licenciatura en Administración de la Universidad Autónoma del Estado de México. *RIDE, Revista Iberoamericana para la Investigación y el Desarrollo Educativo*, 8 (16), 439-463. Recuperado el 10 de diciembre de 2022 de: <https://www.ride.org.mx/index.php/RIDE/articloe/view/349>. DOI.org/10.23913/ride.v8i16.349
- González Velázquez, M., Lara Barrón, A., Pineda-Olvera, J., Crespo Knoppfler, S. (2014), Perfil de Ingreso de los alumnos de enfermería, Facultades de Estudios Superiores, Iztacala y Zaragoza UNAM. *Revista Enfermería Universitaria*, 11(1), 11-18. Recuperado el 13 de diciembre de 2022 de: <https://www.scielo.org.mx/pdf/eu/v11n1/v11n1a3.pdf>

Gutiérrez García, A., Granados Ramos, D., y Landeros Velázquez, M. (2011). Indicadores de la Trayectoria Escolar de los Alumnos de Psicología de la Universidad Veracruzana. *Revista Electrónica Actualidades Investigativas en Educación*, 11(3), 1-30. Recuperado el 13 de diciembre de 2022 de: <http://www.redalyc.org/articulo.oa?id=44722178009>

Hernández Sampieri, R., Fernández Collado, C., y Baptista Lucio, P. (2015). *Metodología de la Investigación, Mexico*, D.F. Mc Graw Hill. <http://dx.doi.org/10.1590/S1413-24782017226807>

Méndez Pilco, H. J. (2021) Factores externos y el rendimiento académico, en estudiantes del internado Rotativo de Medicina del Hospital General de Latacunga [Tesis de Maestría, Docencia Universitaria]. https://repositorio.ucv.edu.pe/bitstream/handle/20.500.12692/85153/Mendez_PHJ-SD.pdf?sequence=1&isAllowed=y

Moral Toranzo, F. (2011). Valores sociales y hábitos mediáticos. *Electronic Journal of Research in Education Psychology*, 9 (29), 711-730. Recuperado el 13 de diciembre de 2022 de: <http://www.redalyc.org/articulo.oa?id=293122840011>

Raiza García, A., Giamaldo, Muchotrigo, M., y Manzanares Medina, E. L. (2016) Jerarquía de valores entre estudiantes de secundaria de colegio religioso y colegio laico de Lima. *Universidad Peruana de Ciencias Aplicadas*, Perú. 1-10. Recuperado el 13 de diciembre de 2022 de: <http://www.redalyc.org/articulo.oa?id=68649318009>

Rodríguez Ortiz, M., Villagrán Rueda, S., Aldaba Andrade, M., y Jasso Velázquez, D. (2016) El perfil de ingreso y la trayectoria escolar de la generación 2009-2014, de los estudiantes de la Unidad Académica de Psicología. *Revista de Estrategias del Desarrollo Empresarial*, 2 (5), 1-12. Recuperado el 8 de noviembre de 2022 de: https://www.ecorfan.org/spain/researchjournals/Docencia_e_Investigacion_Educativa/vol3num7/Revista_de_Docencia_e_Investigacion_Educativa_V3_N7_5.pdf

Tuning América Latina 2004-2007 (s. f.) *Reflexiones y perspectivas de la Educación Superior en América Latina*. Recuperado el 12 de diciembre de 2022 de: http://tuningacademy.org/wp-content/uploads/2014/02/TuningLAIII_Final-Report_SP.pdf

Universidad Autónoma de Zacatecas (2005). *Modelo UAZ Siglo XXI*. Zacatecas: UAZ.

Universidad Autónoma de Zacatecas (2022) *Primer Informe de actividades: Administración 2021-2025 (Archivo PDF)*. https://www.uaz.edu.mx/wp-content/uploads/2022/09/1er_Informe.pdf

Usan Supervía, P., y Salavera Bordás, C. (2018) Motivación escolar, inteligencia emocional y rendimiento académico en estudiantes de educación secundaria obligatoria. *Revista Actualidades en Psicología*, 32 (125), 95-112. Recuperado el 10 de diciembre de 2022 de: <https://www.scielo.sa.cr/pdf/ap/v32n125/2215-3535-ap-32-125-95.pdf>
DOI:<https://doi.org/10.15517/ap.v3i125.32123>

Vargas, I., Ramírez, C., Cortés, J., Farfán, A., y Heinze, G. (2011) Factores asociados al rendimiento académico en alumnos de la Facultad de Medicina: estudio de seguimiento a un año. *Salud Mental. Instituto Nacional de Psiquiatría Ramón de la Fuente Muñiz México*, 34, (4), 301-308. Recuperado el 7 de noviembre de 2022 en: <http://www.redalyc.org/articulo.oa?id=58221317002>

Financial education in SMEs versus business failure

La Educación financiera en las PYME's versus fracaso empresarial

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Abstract

For SMEs, knowledge of good financial administration can mean their success or failure, since financial education corresponds to all their bank movements and cash flow, which corresponds to their control since they may run the risk of presenting "red numbers", if no control is established. The objective of this research is to recover information that allows evaluating the knowledge of financial education in SMEs to avoid their closure, which is why throughout this work a mixed investigation was used, the collection of information from Various authors who have knowledge of this topic, as well as, the conduct of surveys in the area of finance that allows analyzing the financial situation of SMEs. The results obtained made it possible to identify the factors that affect the financial situation of SMEs for decision making and generate strategies that lead to the optimization of their resources.

Resumen

Para las Pymes el conocimiento de una buena administración financiera puede significar su éxito o su fracaso, pues la educación financiera corresponde a todos sus movimientos bancarios y flujo de efectivo, que corresponde a su control ya que pueden correr el riesgo de presentarse "números rojos", de no establecerse un control. El objetivo de esta investigación es recuperar información que permita evaluar el conocimiento de la educación financiera en las Pymes para evitar su cierre, es por ello que a lo largo de este trabajo se utilizó una investigación de corte mixto, se realizó la recopilación de información de diversos autores que tiene el conocimiento de este tema, así como, la realización de encuestas en el área de finanzas que permita analizar la situación financiera de las PYME's. Los resultados obtenidos permitieron identificar los factores que repercuten en la situación financiera de las PYME's para la toma de decisiones y generar las estrategias que conllevar a la optimización de sus recursos.

Financial education, Finance, SMEs, Business failure, Entrepreneurship

Educación financiera, Finanzas, Pymes, Fracaso empresarial, Emprendimiento

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Introduction

(SAP Blog Innovación, 2021) According to the International Labor Organization (ILO), SMEs are units that in many countries represent more than 90% of the companies, and in most of the nations that make up the Organization for Economic Cooperation and Development (OECD), SMEs represent more than 50% of the Gross Domestic Product and are ranked as the companies that generate the most jobs.

In Latin America, only five countries have National Financial Education Strategies (ENEF,2022): Brazil, Chile, Colombia, Mexico and Peru. Each ENEF has formulated general and specific objectives, which differ mainly in their main focus. Some objectives are focused on financial education as an element that contributes to the promotion of financial inclusion, while others are based on a broader approach and seek to contribute in general to the good management of resources and responsible financial decision-making (Jay Vanegas, López, & Mugno Noriega, 2021).

According to (Bind ERP staff, 2022) the government should try to encourage entrepreneurship by offering better economic conditions to support them so that more people are able to create more companies of this type that contribute to the country's economy in general through profitable businesses that also meet the needs of Mexicans. Meanwhile, technology becomes their best ally, so it is crucial that entrepreneurs are always looking for cutting-edge solutions that help them attack their problems in a more scalable and cheaper way.

There are many entrepreneurs who have managed to get ahead despite the difficulties, so it is also a goal that can be achieved little by little. SMEs in Mexico will continue to grow and the idea is that they will be able to consolidate year after year, so their importance should not be overlooked.

State of the Art

Within financial education, various concepts and opinions are established: López Lapo, et al (2022) define financial education as the process through which consumers and investors improve their understanding of financial concepts and products.

And through information, instruction and objective guidance, develop skills and confidence to become more aware of financial risks and opportunities that allow them to make informed decisions, know where to turn for help and take other effective measures to improve their wellbeing and security. In his article "Financial Education in Latin America" (2022) he aims to overcome financial illiteracy in the population, since from several previous studies it was identified that there is a large margin of the population that does not fully understand the effective way to use financial services and products, resulting in decision making without appropriate information.

Its methodology aims to provide the reader with an overview of the financial education programs developed in Latin America and their impact on the population. The purpose of this type of review is to provide the reader with an update on useful concepts in areas of constant evolution. Primary and secondary sources were considered, with a validity of the last ten years. The results show that financial education can contribute in a limited way to improving the quality of life of the most vulnerable sectors, making a structural integration between financial education and state policies necessary. Although studies have been carried out in several countries, together with the above analysis carried out in Latin America, (Jay Vanegas, López, & Mugno Noriega, 2021) in his article "Financial education, an approach to growth and social development" carries out his study focused on Colombia, stating that "Financial education is one of the drivers of economic and social development in the world, since making the right financial decisions improves our standard of living".

It also states that the lack of financial education leads families to abuse credit and get into debt beyond their ability to pay. For this reason, financial education is essential, as it generates benefits for everyone at all stages of life. (Jay Vanegas, López, & Mugno Noriega, 2021) set out to demonstrate through international and national experiences, the different financial skills of people, in order to build a foundation that will serve as the necessary tools for an effective education of the Colombian population, all this was carried out through the implementation of financial education policies in the world, considering the European and Latin American context.

Then, in order to measure the financial capabilities of the Colombian population, a national survey on financial behaviors, attitudes and knowledge conducted by the World Bank, Banco de la República (2013), which was applied to 1,526 Colombian adults from all over the country in June and July 2012, was analyzed. At the end of this research, it was obtained that taking into account the basic financial concepts for an optimal financial education, it can be seen that the average Colombian does not have clear concepts as simple as the interest rate and credit. These results are alarming because of this lack of knowledge the population increased the bad financial decisions being this the main cause of the bad administration of resources of the population.

With regard to Mexico (Mungaray, González, & Osorio, 2021) establish that financial education is a process by which individuals acquire capabilities and skills in money markets allowing, among other things, to improve the understanding of the economy, access to banking products and investment opportunities.

According to their research "Financial education and its effect on income in Mexico", measuring the impact that financial education generates on the income of Mexicans, in people between 18 and 70 years old, capable of making financial decisions, they assure that a head of household with a higher level of financial education obtains significant increases in his or her income.

The methodology they used to reach this result was the collection of information from the National Survey of Financial Inclusion (ENIF, 2021) for formal credit, considering the number of credit cards that respondents have, the amount of payment they make and whether they have access to additional credit, with which they obtained that the lag in financial education of the Mexican population lies in the lack of social inclusion due to inequality and high levels of indebtedness, as this limits the success of public or private efforts made.

Another concept about SMEs is said by (Solis Granda & Robalino Muñiz, 2019) who states that SMEs are the small and medium-sized enterprises that have become the central object of study of administrative theory because they have a significant representation in the economies of a country.

Research has focused mainly on the analysis of the economic perspective and in the field of business management.

The research conducted by (Solis Granda & Robalino Muñiz, 2019) under the title "The role of SMEs in societies and their business problems" aims to investigate the management processes and the problems of SMEs through a documentary and deductive-quantitative research since in recent years the literature review, debate and discussion on the topic in question has expanded and deepened.

For the methodological part the research has two methods related to its particular characteristics, the first through documentary analysis with which it was possible to gather information for the subsequent analysis of the importance of SMEs and their business problems, the second method is a deductive-quantitative method that considers that the conclusion is implicit in the premises. The results obtained from the research revealed: (1) technological backwardness (2) lack of associativity of the SMEs, evidencing a deficiency in internal management and difficulty in facing national and international competitions.

The contribution of this research focuses on delving into the specific causes of these problems, to determine them and can help improve the productive development of entrepreneurs and microentrepreneurs.

The article "Financial evaluation of investment projects for SMEs" written by (Cevallos-Ponce, 2019) was created with the objective of putting the project in such scenarios and, at the same time, try to raise the challenges that this would imply, for the fulfillment of the initial goals. In this way, the project managers can introduce the changes that will improve the execution of the project.

The research has a descriptive level because it analyzes and describes the minimum structure necessary for the evaluation of investment projects for SMEs, thus characterizing the phenomenon in order to establish its structure or behavior.

Likewise, it has a non-experimental design, under the transactional or transversal modality, since there was no intentional manipulation or random assignment, and it will be studied directly, in order to collect data from the reality where the events occur in their natural context at a given time or period.

Regarding the implementation of the analysis of production processes. 76.5% of the SMEs evaluated indicated that this procedure was carried out for financial evaluation purposes, considering factors such as the activity involved in the production process, material and human resources, machinery and equipment, as well as the required infrastructure. For this last item, which is part of the tangible investment of the SMEs, it is necessary to define its dimensions, measures and prices.

With respect to business failure derived from the same income that people have, (Romero Espinoza, Melgarejo Molina, & Vera-Colina, 2018), gives a different meaning to what SMEs are and describes it as the small and medium enterprise defined as "any unit of economic exploitation, carried out by natural or legal person, in business, agricultural, industrial, commercial or service activities, rural or urban, which responds to the following parameters.

The objective of the article "Business failure of small and medium-sized enterprises (SMEs) in Colombia" is to identify the financial variables that explain the situation of business failure of small and medium-sized enterprises (SMEs) in Colombia. The database used in the analysis was constructed from accounting data issued by Colombian companies that report to the Colombian Superintendency of Companies.

For the results in relation to total sales revenues, they were cost of sales (67% and 78%), administrative operating expenses (18% and 14%) and sales operating expenses (9% and 13%), which means that the companies are mostly financed from the development of their corporate purpose. The sample selection is made in the SPSS 19 program where the 2013 Balance Sheet data are taken (10,804 companies; final base obtained, 5070 small and 5734 medium-sized); by means of the random sample function, 48 companies are selected managing to take a sample that best represents the total population.

Thus, the final database consisted of a group of 48 healthy companies and another of 48 failed companies. Entrepreneurial failure is associated with the discontinuity of ventures in early stages of development for not having met the objectives, is the opinion of (Dolores Dupleix, 2021) in her article "Effectiveness theory and entrepreneurial failure", This article responds to calls to examine and integrate the theory of effectuation with other theoretical concepts, models and theories related to entrepreneurship, with the aim of contributing to the understanding of effectuation, as well as to the broader field of entrepreneurship. In the present study, efficacy theory is used to analyze cases of failed ventures through an interpretative phenomenological analysis in the software and computer services sector in Argentina.

The results obtained thus open the debate on some assumptions that have been carried over time, and future research is needed to investigate in greater depth how, in what situations or in what decisions efficacy may be negative and, therefore, it may be convenient to apply a causal logic, or how both models can be combined to better represent the behavior of the entrepreneurial sector.

Methodology

The methodology to be used is qualitative and quantitative, using the technique of observation and documentary, how SMEs interact within society and the factors that most lead to a decline in their businesses, and quantitative research is carried out with the survey instrument to determine the knowledge of finance in the owners of SMEs, the approach in which this research is developed is an explanatory study in which is written about the phenomenon to be investigated, it is responsible for determining the causes of the events and phenomena surrounding this problem and to provide the most general explanation of the subject.

The methodology is applied with the intention of exploring a complex phenomenon such as failure in relation to a theoretical perspective little explored empirically, an interpretative phenomenological study was developed. This inductive method has been applied mainly in pedagogy and psychology research.

Results

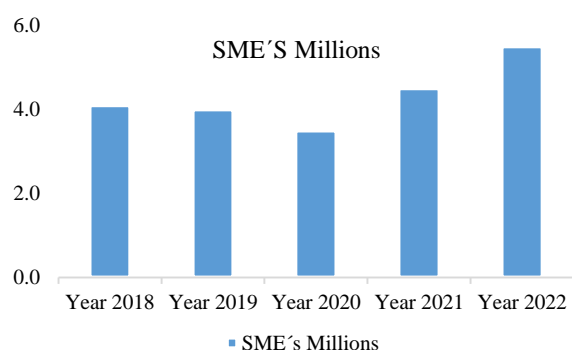
The results obtained from this research reflect that in Mexico in 2018 there were approximately 4.1 million SMEs classified in all sectors, with 97.3% belonging to microenterprises and 2.7% to small and medium-sized enterprises.

Size	Enterprices	
	Number	Participation %
Small Enterprises	4,057,719	97.3%
Small and medium enterprises (SME's)	111,958	2.7%
	4,169,677	100%

Table 1 Number of companies by size in 2018

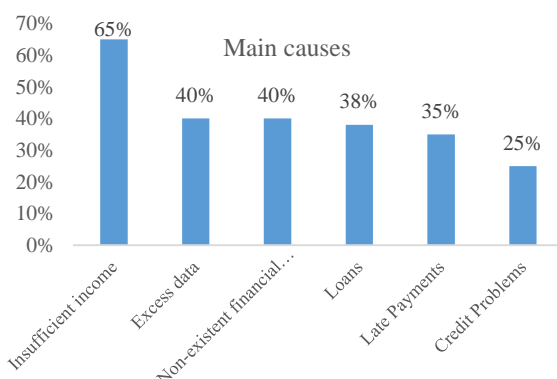
Source: INEGI, 2022

The National Statistical Directory of Economic Units (DENUE,2022) shows a total in the country of 5.5 million companies categorized as SMEs throughout the national territory, showing an increase of 34.1%. In the Córdoba area alone, there are 11,902 SMEs (see graphic 1).



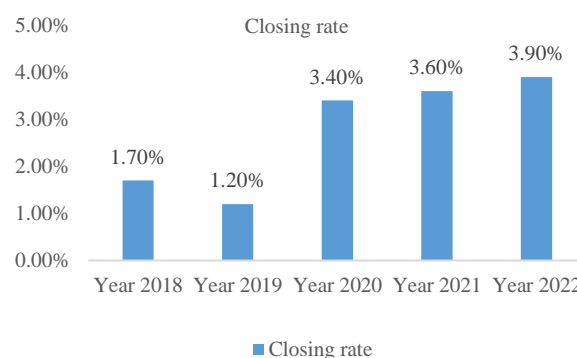
Graphic 1 SMEs in millions throughout the country from 2018 to 2022

However, many of the SMEs do not survive too long in the market for various reasons, of which the poor management of resources and lack of financial knowledge corresponds to 40%, which is why more than 30% of the companies have to close before reaching 5 years of age (see graphic 2).



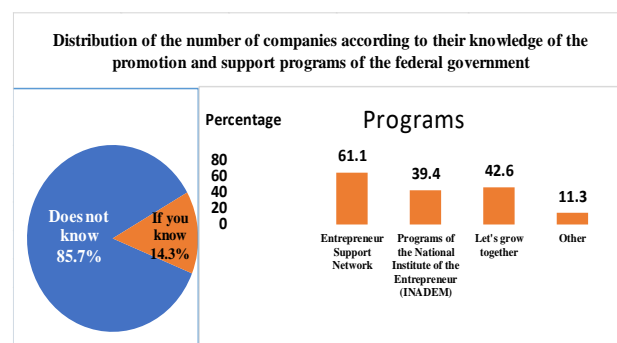
Graphic 2 Percentage of causes of business closures

On average, the increase in closures of micro and small businesses in 2019 has been the most representative, since it shows a closure of micro and small businesses by 2.20%, subsequently it has remained at a lower percentage, considering an average of 3.63%, showing a 0.50% increase in the last three years, according to graphic 3.



Graphic 3 Closure rate of companies from 2018 to 2022

Likewise, many of the companies are not aware of the various programs available to the government to acquire this knowledge, one of the most important being the "Cuida tu cartera" program, or financing programs of the government and financial entities, as shown in graphic 4.



Graphic 4 Percentage of knowledge of financial programs in companies

Source: INEGI, 2022

Conclusions

Financial education is key for companies to be able to have a longer permanence in the market and have an economic balance. Most companies in Córdoba do not have knowledge of financial education; however, with the promotion by the government and various financial companies, they are helping them to learn about it and be able to have results in the new companies that are entering the market.

It is also expected that with this improvement the life of the companies can increase in greater capacity and they can go from being SMEs to a company at state or national level, generating financial strategies that allow them to be competitive and the optimization of their financial resources for decision making.

Similarly, many of the companies are not aware of the various government programs available to acquire this knowledge, one of the most important being the "Cuida tu cartera" program, or financing programs of the government and financial institutions.

Therefore, it will be necessary as future work to generate dissemination strategies for SMEs in support programs and generate a financial culture, since providing them with knowledge to control their income, expenses and their optimal application will allow the care, control and supervision of the same according to their needs, considering a work in which the government sector, educational institutions and the business sector intervene.

References

- Bind ERP staff. (2022). bind erp. <https://blog.bind.com.mx/las-pymes-en-mexico>
- Cevallos-Ponce, A. (2019). Evaluación financiera de proyectos de inversión para las Pymes. *Ciencias económicas y empresariales*, 375-390. doi: <https://doi.org/10.23857/dc.v5i3.941>
- Cevallos-Ponce, A. (2019). Evaluación financiera de proyectos de inversión para las Pymes. *Ciencias económicas y empresariales*, 375-390. doi: <https://doi.org/10.23857/dc.v5i3.941>
- Desarrollo de las PYMES Organisation for Economic Co-operation and Development. (2022). OCDE <https://www.oecd.org/latin-america/programaregional/productividad/desarrollo-de-las-pymes/>
- Dolores Dupleix, M. (2021). La teoría efectual y el fracaso empresarial. *Innovar*, 139-154. doi: <https://doi.org/0.15446/innovar.v31n81.955811>
- Directorio Estadístico Nacional de Unidades Económicas. DENU. (s/f). Recuperado el 20 de noviembre de 2022, a partir de <https://www.inegi.org.mx/app/mapa/denu/default.aspx>
- Directorio Nacional de Unidades Económicas. DENU. (2014). *Censos Económicos 2014*.
- Encuesta Nacional de Inclusión Financiera (ENIF) 2021. (s/f). Recuperado el 20 de noviembre de 2022, a partir de <https://www.inegi.org.mx/programas/enif/2021/>
- Encuesta Nacional sobre Productividad y Competitividad de las Micro, Pequeñas y Medianas Empresas (ENAPROCE) 2018. (s/f). Recuperado el 20 de noviembre de 2022, a partir de <https://www.inegi.org.mx/programas/enaproce/2018/>
- Estrategia Nacional de Educación Financiera (ENEF) | Foro Internacional de Inclusión Financiera | Gobierno | gov.mx. (2017). Recuperado el 20 de noviembre de 2022, a partir de <https://www.gob.mx/forodeinclusionfinanciera/articulos/estrategia-nacional-de-educacion-financiera-enef?idiom=es>
- Herrera Tapias, B., & Reflexión Desde Las Políticas Del Banco Mundial El Papel De Las Instituciones, U. Y. (2013). Los procesos de desarrollo en Colombia: Una reflexión desde las políticas del banco mundial y el papel de las instituciones. *Advocatus*, ISSN-e 2390-0202, ISSN 0124-0102, No. 21, 2013, Págs. 51-69, 21, 51-69. <https://dialnet.unirioja.es/servlet/articulo?codigo=5982859&info=resumen&idioma=SPA>
- Jay Vanegas, W., López, J. L., & Mugno Noriega, A. (2021). Educación financiera, un enfoque al crecimiento y desarrollo social. *Revista ADGNOSIS*, 43-55. doi: <https://doi.org/10.21803/adgnosis.10.10.468>
- Luis López-Lapo, J., Elizabeth Hernández Ocampo, S., de Finanzas, C., Jurídica Social Administrativa, F., Ernesto Peláez Moreno, L., Jackeline Peña Vélez, M., Cecilia Cueva Jiménez, N., & Pablo Sánchez Loor, J. (2022). Educación financiera en América Latina. *Ciencia Latina Revista Científica Multidisciplinar*, 6(1), 3810-3826. https://doi.org/10.37811/CL_RCM.V6I1.1770

Mungaray, A., González, N., & Osorio, G. (2021). Educación financiera y su efecto en el ingreso en México. 55-79.doi: <https://doi.org/10.22201/iiec.20078951e.2021.205.69709>

Romero Espinoza, F., Melgarejo Molina, Z. A., & Vera- Colina, M. (2018). Fracaso empresarial de las pequeñas y medianas empresas (pymes) en Colombia. *Revista Suma de negocios*, 29-41. <http://dx.doi.org/10.1016/j.sumneg.2015.08.003>

SAP Blog Innovación. (2021). SAP News Center. <https://news.sap.com/latinamerica/2021/06/la-importancia-de-las-pymes-en-el-mundo-post-covid/#:~:text=De%20acuerdo%20con%20la%20Organizaci%C3%B3n,del%2050%25%20del%20Producto%20Interno>

Solis Granda, L., & Robalino Muñoz, R. (2019). El papel de las Pymes en las sociedades y su problemática empresarial. *Innovar*, 85-93. <https://doi.org/10.33890/innova.v4.n3.2019.949>

Analysis of the behavior of the consumption of multiscreens in generation Z, during the confinement by COVID-19. Case of the Universidad Politécnica de Francisco I. Madero

Análisis del comportamiento del consumo de multipantallas en la generación z, durante el confinamiento por COVID-19. Caso Universidad Politécnica de Francisco I. Madero

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Abstract

The pandemic caused by the SARS-CoV-2 virus is one of the most devastating of this century. In Mexico, the first case occurred in March 2020, causing a statement to be issued for the population to stay at home for the last few 18 months, including students and for this reason, a new distance education model was implemented. The objective of the research is to analyze the behavior of generation Z during this period. The approach of the methodology used during the investigation was quantitative, carried out through an online survey applied with google forms to 161 Financial Engineering students of the Polytechnic University of Francisco I. Madero, belonging to the aforementioned generation. As a result of this research, it was observed that generation Z had a greater impact in the use of audiovisual media, taking into account that they are characterized by mastering technology since almost all activities are mediated by the simultaneous use of screens. The use of multi-screens in times of Covid-19 increased, taking as a fundamental factor that most students spend more than 6 hours a day in front of a screen or a mobile device.

Behavior, Generation Z, Multiscreen, Technology

Resumen

La pandemia causada por el virus SARS-CoV-2 es una de las más devastadoras de este siglo, en México el primer caso se presentó en marzo del 2020, provocando que se emitiera un comunicado para que la población se quedara en casa durante los últimos 18 meses, incluidos los estudiantes y por tal razón, se implementó un nuevo modelo de educación a distancia. El objetivo de la investigación es analizar el comportamiento de la generación Z durante este periodo. El enfoque de la metodología utilizada durante la investigación fue cuantitativo, realizado mediante una encuesta en línea aplicada con google forms a 161 alumnos de Ingeniería Financiera de la Universidad Politécnica de Francisco I. Madero, pertenecientes a la generación ya mencionada. Como resultado de esta investigación se observó que efectivamente la generación Z, tuvo un mayor impacto en el uso de medios audiovisuales, tomando en cuenta que se caracterizan por dominar la tecnología pues casi todas actividades están intermediadas por el uso simultaneo de pantallas. El uso de multipantallas en tiempos de Covid-19, aumentó, tomando como factor fundamental que la mayoría de los estudiantes pasa más de 6 horas al día frente a una pantalla o un dispositivo móvil.

Comportamiento, Generación Z, Multipantalla, Tecnología

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Introduction

Today's society moves around technology as never before. Therefore, it is highly influenced by new emerging technologies, there is a close relationship between society and technology, education does not escape this reality and is greatly influenced by technological development, which comes to complement and improve the educational process of students, providing new learning tools that are used appropriately. For this reason, the aim is to carry out a research article to find out about the behaviour of multiscreen consumption in generation Z during the pandemic period of the students of the financial engineering degree, and to analyse the changes that have caused the student population to adapt to this new way of life and the continuous interaction with electronic devices, as well as the time they spend in front of a screen and which devices they use simultaneously. We also seek to observe how they have acquired new consumption habits, and the increase in time spent on entertainment, leisure and education.

Methodology

Approach

The quantitative methodology consists of contrasting existing theories based on a series of hypotheses arising from the same, being necessary to obtain a sample, either randomly or discriminated, but representative of a population or phenomenon under study (Tamayo and Tamayo, 2007).

Data collection tools

Data collection tools are any resource that the researcher can use to approach phenomena and extract information from them (Sabino, 2002).

The survey is a research tool that involves obtaining information from respondents through the use of pre-designed questionnaires to obtain specific information (Naresh, 2004). A representative online survey was conducted through google forms to assess the impact of multiscreen consumption during the confinement by Covid-19, this survey was structured in three sections, as first section the general data of the respondent, as second section the audiovisual consumption and finally the changes in consumption by Covid-19.

Having as population 279 students of Financial Engineering belonging to generation Z, obtaining a finite sample of (N= 160 participants) conducted from 04 to 20 November 2021.

Population and sample

Having the information regarding the size of the population (279 students), the formula for calculating the sample was applied, working with a confidence level of 95%, with a probability of failure of 50%, probability of success of 50% and standard error of 5%, as follows:

$$n = \frac{N * Z a^2 * P * Q}{e^2 * (N - 1) + Z a^2 * P * Q}$$

n=Sample size

N=Size of the population or universe

Z= Statistical parameter that depends on N

e=maximum accepted estimation error

P=Probability of occurrence of the event

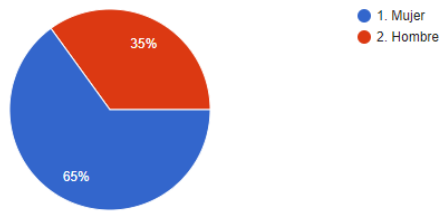
Q=(1-p)=probability of the event not occurring

Parameter		Sample size
N	270	n= 160
Z	1.96	
P	50%	
Q	50%	
e	5%	

Results

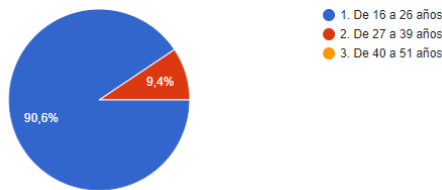
According to the first section of the survey, referring to the general data of the respondent, it was obtained that of the 100% of the students surveyed, 65% stated that they belong to the female gender and the remaining 35% stated that they belong to the male gender, this shows that most of the students who answered the survey are women, with an age range of 16 to 26 years, according to their occupation 87.4% of the respondents are currently studying and only 6. The predominant region according to the results was the municipality of Francisco I. Madero, in terms of the area, 74.5% were predominantly rural, while 25.5% said they belonged to an urban area.

A1. Sexo
160 respuestas



Graph 1 Question A1 Gender
Source: Own Elaboration

A2. Edad
160 respuestas



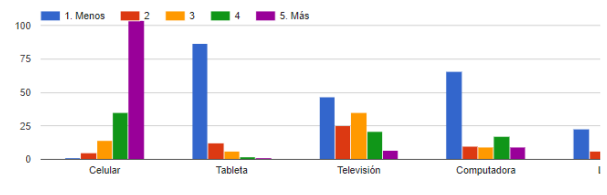
Graph 2 Question A2 age
Source: Own Elaboration

According to the second section of the survey, concerning audiovisual consumption, 97.5% of the students surveyed indicated that they have a mobile device and 60% of the students who responded indicated that they have interaction with a laptop or laptop, this shows that the use of electronic devices has increased significantly in recent years, and it seems to be a trend that is unlikely to be reversed, according to the use they give to the electronic devices they have.

According to the multiscreen consumption, 62% of the students surveyed stated that they have no difficulty using electronic devices, only 5% stated that they have some difficulty using them. 1% indicated that they use 1 or 2 devices simultaneously, while 10.1% responded that they use 2 or 3 mobile devices at the same time, and finally 1.9% of the population stated that they use 3 or 4 devices during the day, in terms of time spent, 40% stated that they spend more than 6 hours in front of a screen during the day, as a result of the various activities they do for school, work or entertainment, this derived from the fact that most people belonging to generation Z, have used the internet since they were very young and feel comfortable with technology and social networks, and use them more than three times a day.

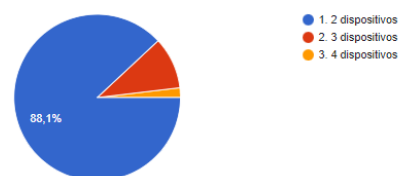
In second place, 31.3% of the population uses a screen for 5-6 hours for what they have pending to update, in third place, 18.1% only gets to be in front of a technical device between 3-4 hours because according to the survey only 15.1% use it at least once a day, and finally only 4% of the population use it only once a week, so it is clear that Generation Z is becoming increasingly familiar with technology and its advances and will not cease to amaze us, Generation Z has the ability to control different devices and use the internet in various tasks because according to the results 67.5% of those surveyed use the mobile phone and the computer at the same time, as a result of work to be done, meetings to be held or for their own entertainment, or for educational purposes. 73.8% of the population said that they do school work and 54.4% of the students send messages or listen to music via a mobile device, in second place they use a computer or laptop and Tablet with a percentage of 28.7%, to watch videos or films online and 24.4% indicated that while watching television they do another activity.

B2. Del 1 al 5, siendo 5 el que más utiliza y 1 el que menos utiliza. Seleccione el dispositivo que utiliza con más frecuencia



Graph 3 Question 7 from 1 to 5, with 5 being the most frequently used and 1 the least frequently used. Please select the device you use most frequently
Source: Own Elaboration

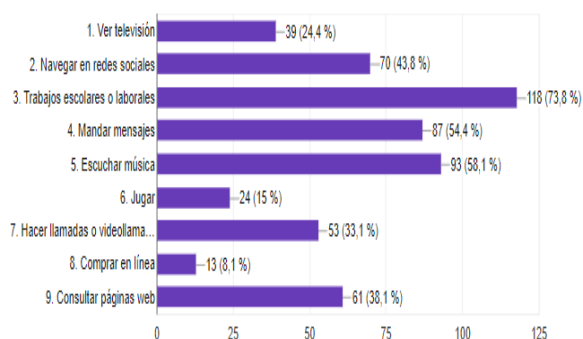
B3. ¿Cuántos dispositivos de los anteriores ocupa al mismo tiempo con mayor frecuencia?
159 respuestas



Graph 4 Question 8 How many devices do you occupy at the same time most often?
Source: Own Elaboration

B9. ¿Qué actividades realiza mientras ocupa más de un dispositivo a la vez? *Escoja una o más opciones

160 respuestas

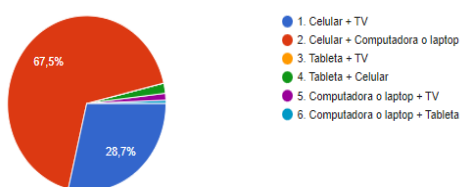


Graph 5 Question 12 Which combination of devices do you use most often?

Source: Own Elaboration

B7. ¿Qué combinación de dispositivos usa con mayor frecuencia?

160 respuestas

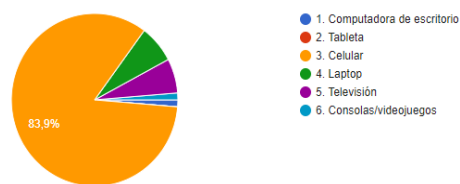


Graph 6 Question 14 What activities do you do while occupying more than one device at a time?

Source: Own Elaboration

B11. ¿Qué dispositivo consulta mientras ve televisión?

155 respuestas



Graph 7 Question 16: Which device do you consult while watching TV?

Source: Own Elaboration

According to the third section of the survey, concerning changes in consumption due to Covid-19, the results of the survey show that 85.5% of students claim to increase their screen and digital media time due to the Covid-19 pandemic before the quarantine, only 12% of the population considers that they continue to spend the same amount of time in front of the screen as before the pandemic, and only 1.9% consider that their usage decreased.

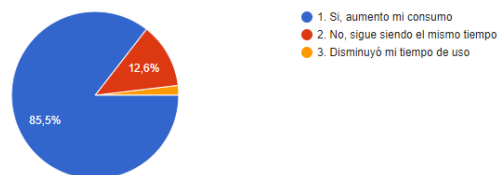
The survey also reveals that 47.2% of the population did not purchase online entertainment service accounts during the pandemic time, preferring not to spend, and 45.9% of the population hired online entertainment services because they needed to be distracted by something, according to the survey 6.9% of the students think about purchasing an entertainment service because they are tired of the programming offered by traditional television. According to the survey, 38.4% of those surveyed did not purchase or buy any audiovisual device, while 7.5% made their purchase for work or school and for entertainment, and only 3.8% purchased or bought for simple entertainment.

Finally, the survey revealed that 39.6% of respondents prefer to learn about the pandemic through Facebook, 32.1% of respondents prefer television as the main source of information, according to a study published in the latest issue of the journal Current Medical Research & Opinion, people who consider Facebook and television as reliable means to learn about the coronavirus have worse knowledge about the disease, the survey found that there is a 20.1% of the population prefer to be informed through the use of web pages, only 6.3% are informed through twitter and 1.3% through radio news.

Finally, according to the students' criteria, it is considered that studying as a digital media activity led to an increase in multiscreen consumption, as during the contingency generated by Covid-19, young people and adolescents increased their time in front of screens for educational reasons by an average of 2.5 to 3 hours. Other important factors were the use of social networks, research and online procedures, with a percentage of 47.8%, multiscreen consumption for work was considered at 35.2% and multiscreen use for leisure or entertainment at 27.7%.

C1. ¿Considera que ante la pandemia por Covid 19 aumentó su tiempo frente a la pantalla?

159 respuestas

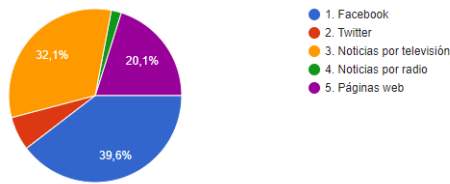


Graph 8 Question 18 Do you think that in the face of the Covid 19 pandemic you increased your screen time?

Source: Own Elaboration

C2. ¿Qué medio prefiere para informarse sobre la pandemia por COVID-19?

159 respuestas

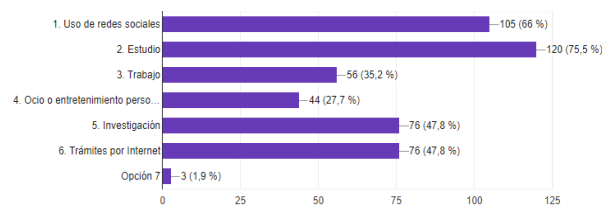


Graph 9 Question 19 Which medium do you prefer to use to find out about the covid19 pandemic?

Source: Own Elaboration

C5. Con base en su experiencia de consumo multipantalla durante la pandemia ¿Cuáles actividades con medios digitales cree usted que aumentaron en su vida diaria? Escoja una o más opciones

159 respuestas



Graph 10 Question 20 Based on your experience of multiscreen consumption during the pandemic, which digital media activities do you think increased in your daily life?

Source: own elaboration

Conclusions

According to the results of the surveys and the diagnostic analyses carried out, it can be concluded that the use of multiscreens in Covid-19 times has increased, taking as a fundamental factor that most students spend more than 6 hours a day in front of a screen or a mobile device, and this has led to the use of technology being considered an everyday occurrence, They have also had to adapt to the new normal and so have been able to give a positive response to the changes that the world has undergone, society has moved from traditional consumption to many different ways of viewing the content of their choice, i.e. on many different devices, entertainment devices and even devices such as tablets and mobile phones.

Through real-time electronic or virtual online media and this allows them to multitask while watching the content of their choice. According to the analysis, Generation Z young people watch TV as their first screen, interact with their friends on mobile devices as a second screen, watch or listen to an advertisement on their first active screen and seek to relate the content to the second screen and even to a third screen (laptop, PC, video games or tablet).

They can switch between being on their computer or laptop and at the same time using their mobile phone, many of them confirmed that they use it because they are engaged in sending messages or listening to music, others as a consequence of work to be done, Another very frequent combination is that of using their mobile phones to watch television and use their mobile phones, stating that while watching television they use their mobile phones to complement the information on the web with what they have seen on television advertisements or play online games with their mobile phones with other people.

Similarly, it was observed that most people make simultaneous use of screens more than 3 times a day, among the daily activities they carry out with different devices at the same time are school work, listening to music, sending messages using social networks, consulting web pages, making video calls and shopping online, during the pandemic, according to the analysis, half of the surveyed population made purchases of audiovisual devices for work and education purposes, and it was also observed that in terms of hiring content on digital platforms such as Blim, Netflix, Crunchyroll, In terms of multiscreen consumption during the pandemic, the digital media activities that led to an increase in the use of digital media in their daily lives were mainly study, due to the fact that a large part of the measures that schools have adopted in the face of the crisis are related to the suspension of face-to-face classes at all levels, which has given rise to the deployment of distance learning modalities, through the use of a diversity of formats and platforms, increasing the use of screens simultaneously.

Another activity was the use of social networks, as most of those surveyed were informed of important events in the pandemic through Facebook, while online research and procedures also led to an increase in their consumption, and finally multi-screen consumption for leisure or entertainment was also responsible for the increase in this period of confinement by Covid-19.

References

- Brown, k. M. (2017). Las tendencias que deloitte digital y warc preveen para 2017. *Marketers*, 1.
- Daniel martínez pedrós, a. M. (2005). La elaboración del plan estratégico y su implantación a través del cuadro de mando integral. Mexico: diaz de santos.
- Dyson, r. G. ((2004). Strategic development and swot analysis at the university of warwick. Europa.
- Escobar, k. (2018). Influencia de la publicidad en medios multipantalla en el comportamiento de compra del consumidor de dos segmentos de mercado”. Bachelor's: universidad autonoma del occidente.
- Fred, r. D. (1997). Conceptos de administración estratégica, "el marco analítico para formular estrategias". Mexico: prentice hall nispano americano.
- Gavoto, l. (05 de 11 de 2020). Pantallas, niños y confinamiento en pandemia: ¿debemos limitar su exposición? Recuperado el 11 de 11 de 2021, de fundación mf.
- Gennari, t. (2017). Chief bussiness intelligence officer. México: patria.
- Grace, m. (2009). Generacion z century in the making. Mexico: routledge.
- Guajardo, e. (2015). Administracion de la calidad total. Mexico: pax mexico.
- Gutierrez, a. M. (2012). Analisis del entorno. Diaz de santos.
- Henry jiménez guanipa, m. A. (2020). La emergencia sanitaria covid-19. Bogotá - colombia: fundación heinrich böll.
- Ishikawa, k. (2003). ¿Que es el control total de calidad? Bogotá: grupo editorial norma.
- Kangas, j. (2003). Evaluating the management strategies of a forestland estate—the sos approach. *Environmental management*.
- Keiht davis, j. W. (2003). Comportamiento humano en el trabajo. México: mc. Graw-hill.
- Moreno-galindo, e. (2021). La población en una investigación. Ciudad de méxico: metodología de investigación, pautas para hacer tesis.
- Naresh, m. (2004). En m. Naresh, investigación de mercados un enfoque aplicado (págs. 115-168). Pearson educación de méxico.
- Ramírez. (1999). Marco metodológico. Ciudad de méxico: capítulo iii.
- Rodriguez peñuelas, m. (2010). Metodos de investigacion. Mexico: universidad autonoma de sinaloa.
- Rodriguez, a. P. (2016). Conceptos sobre televisión. Ciudad de méxico: siglo xx1.
- Roldán, j. M. (2017). Diagrama de ishikawa o espina de pescado. Colombia: iberoamericana.
- Sabino, c. (2002). El proceso de investigación. En c. Sabino. Bogota: ed. Panamericana.
- Sánchez, m. S. (2016). El diagrama de ishikawa: solucionar los problemas desde su raíz. Mexico: 50 minutos es.
- Sandhusen, r. L. (2002). Mercadotecnia. Mexico: cecsa (editorial continental).
- Santana, m., franco, p., & hernandez, r. (2014). Rol de las redes sociales en la eleccion de una universidad. Lima, peru: esan ediciones.
- Tai, z. &. (2007). Media dependencies in a changing media environment: the case of the 2003 sars epidemic in china. China: new media & society.
- Tamayo y tamayo, m. (2007). El proceso de la investigacion cientifica, evaluacion y administracion de proyectos de investigacion. Mexico: limusa.
- Thompson. (1985). Conceptos y técnicas de la direccion y administracion estrategicas. Strickland: mc graw-hill.
- Thompson. (1998). Direccion y administracion estrategica. Mexico: macgraw-hil interamericana.
- Yin, r. K. (2002). Case study research. Design and methods – fourth edition.

Implementation of the 5'S methodology in SMEs during the process of the TSU Industrial Processes Stages of the UTNA

Implementación de la metodología 5'S en pymes durante el proceso de Estadias de TSU Procesos Industriales de la UTNA

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Abstract

The present study is a demonstration of the application of the 5'S in the stays of students of the career of Industrial Processes, Manufacturing and automotive area. Its purpose is to present the most important points in the application of 5'S in SMEs in the region. The 5'S is a Japanese methodology composed of 5 stages: Select, Order, Clean, Standardize and Discipline. The application of the 5'S in SMEs allows for cleaner, more orderly, standardized workspaces and thus to be able to do work faster in the organization. This methodology allows the auditors of 5 to be able to have goals on the increase in problems found in each audit.

5'S, UTNA, SMEs, Productivity, Standardization

Resumen

El presente estudio es una demostración de la aplicación de las 5'S en las estadias de estudiantes de la carrera de Procesos Industriales área Manufactura y automotriz. Tiene como fin presentar los puntos más importantes en la aplicación de 5'S en pymes de la región. Las 5'S es una metodología Japonesa compuesta de 5 etapas: Seleccionar, Ordenar, Limpieza, Estandarización y Disciplina. La aplicación de las 5'S en las pymes permite tener espacios de trabajo más limpios, ordenados, estandarizados y con ello poder hacer el trabajo más rápido en la organización. Esta metodología permite a los auditores de 5's poder tener metas sobre el incremento de issues resultados en cada auditoria.

5'S, UTNA, Pymes, Productividad, Estandarización

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Introduction

This research is a demonstration of the application of the 5'S in SMEs in the region of Northern Aguascalientes.

It aims to present the methodology that has been followed and has improved the application of 5'S in SMEs that students of the Universidad Tecnológica del Norte de Aguascalientes during the last 6 years of the TSU Industrial Processes, Manufacturing and Automotive area.

This methodology has been applied in a number of 10 internships in charge of the MIP. Rosa Inés Vázquez Gutiérrez, full-time lecturer at this university.

The benefits of the application of this methodology have been reflected in the SMEs by increasing order, cleanliness and productivity that goes hand in hand with having a work area where the 5'S methodology is applied.

Raising awareness of the importance of the application of the 5'S methodology has been a fundamental step for the students who have completed their TSU studies in these SMEs.

1. Methodology

The methodology that was carried out was applied research, based on the application of the 5'S in stays of TSU students studying the career of industrial processes in the manufacturing and automotive areas.

2. Sampling

The following shows the students who have implemented 5's and the corresponding SMEs in the stages from 2016 to 2022. The following is taken as demonstrative evidence of the stay of the student DIAZ AVALOS, Mara Alondra.

Stay in the SME	Student	Year
Tektros	Carlos David Esparza Noyola	2022
Diaz Workshops	Mara Alondra Díaz Avalos	2021
Maquinados Durfor	Mauricio Palomar Aguilera	2021
Sale of construction materials "la alameda".	Rogelio Abdel Lara Lazarin	2021
Macro Company	Jaqueline Velazquez Cruz	2020
Lácteos Ticoy S.A. de C.V.	Daniela Montserrat Calzada Esparza	2019
Rhen Engineering and Design	Isaac de Jesús Mendoza Medina	2018
Sacrosa Triturados de Aguascalientes	Ana Rosa Gutierrez Hernandez	2017
San Jacinto Group	Mireya Basurto Mauricio	2017
El Arriero de Aguascalientes S.A de C.V.	Fernando González Quezada	2016

Table 1 Students who were in internships

Note: In each of the internships, more engineering tools are applied in addition to 5'S

Background

The 5'S methodology is a method created in Japan as a model of industrial productivity that has spread in the last decades its application in western enterprises.

Japanese name	Meaning
Seiri	Selection or sorting
Seiton	Order
Seiso	Cleanliness
Seiketsu	Standardisation
Shitsuke	Discipline

Table 2 5'S and its meaning

The 5'S aims to improve and maintain the working area in order, cleanliness and tidiness. The main point is to improve the working conditions in terms of safety, staff motivation and consequently to improve productivity, quality and competitiveness.

Symptoms to apply the 5'S

Some of the symptoms that show the need for the application of the 5'S in a company are:

- Clutter in the aisles, loose cables, piled up tools.
- Shelves full of unidentified items.

- Dirt in offices and workshops, such as leaks, blockages, objects in disarray.
- Faulty equipment.
- Disinterest of staff in their work area.
- Unidentified spare parts and materials.
- Common areas dirty and in disarray.
- Too much inventory.
- Among others.

Definition of each S.

1 S Seiri -Sorting or classification

Mainly refers to accumulating various things, i.e. having excess materials, machines, products, papers, books, etc.; things that can be used at another time but will probably never be used. When you have this surplus, problems are mainly caused by lack of space for what is needed, loss of time in locating what is needed, safety risks, accidents, stress and frustration in the staff.

Seiri means to identify, classify and separate the necessary items from the unnecessary ones, and to remove the latter from the work area, as they are not required for work.

Rules for the application of Seiri

1. Separate the necessary items from the unnecessary ones in your workplace.
2. Dispose of unnecessary items.
3. From what is necessary you should separate: what is infrequently used; and dispose of: what is deteriorated; what is obsolete; what you have in excess.

Use of red card

The red card is used to indicate items that are not needed in the area.

Figure 1 Red card

2. S Seiton –Select or Sorting

After removing the items that are not needed, the next step is to organize the items classified as needed so that they stay in the most suitable location. Sorting, consists of establishing the way in which the articles, materials and machinery that are necessary should be located and identified.

This allows its use, identification, as well as its return to be facilitated, since the most important thing in the application of these S is that the articles remain in the place that was assigned. By having a correct location, the phrase "a place for everything and everything in its place" is fulfilled.

Seiton Application Rules

1. Assign a place for everything. Arrange according to order of use.

2. Determine the exact amount of items you need (avoid excesses), make sure that your container or area is adequate for this amount.
3. Make sure that each item is ready to be used. And create the means to ensure that it returns to its place.

3. S Six-Cleaning

The third S refers to taking the necessary actions to leave the areas in optimal conditions of use, eliminating the sources of dirt and contamination, making sure that everything is always in a perfect state of use.

Seiso means removing dust and dirt from all the elements of a factory or an office, when this is not done, you can end up having:

- Bad image of areas and people.
- Items that are dirty and/or difficult to clean.
- Constant cleaning events because it is not maintained.
- Bad indicators of efficiency, quality and, above all, safety.
- Failures in equipment and tools.

Seiso Application Rules

1. Ensure that the necessary cleaning supplies are available. These must have a place and be ordered and aligned (cans, brooms, mops, cleaning material).
2. If the process generates garbage, you must place a container for it to be deposited there.
3. Keep the areas clean, the garbage must be in the cans and NOT on the floor. (if I drop something, I pick it up, I don't leave it on the floor).

4. S Seiketsu-Standardize

In order to achieve the expected order and cleanliness, operations must be visually standardized.

In companies it is necessary to standardize to carry out the following points:

- Sensitize staff on the best way to do tasks.
- Define visual instructions on how to carry out the tasks.

- Establish controls that detect the origin of the problems.
- Assign resources to carry out tasks.
- Being able to control what happens in the different work areas.
- Some of the visual controls carried out by companies are:
 - Place for raw material.
 - Parameters to control the process
 - Visual cleaning procedures
 - Process indicators
 - Tags
 - Etc.

Seiketsu Application Rules

1. Establish procedures, standards and regulations that must be visible in the area.
2. Perform weekly Self-Reviews
3. Carry out audits with indicators
4. S Shitsuke-discipline

This S consists of working permanently to carry out the application of the established norms, committing the staff to maintain the previous 4 S and thus improve the level of organization, order and cleanliness in the activities involved in the daily operation at work, becoming this in a habit

Shitsuke Application Rules

1. The basic rules established here must be complied with on a daily basis.



Figure 2

2. There must be a willingness to receive/perform audits according to the program.
3. The results of the audits must be published.

4. Results

Below is an example of the methodology that has been used to implement the 5'S in SMEs in the northern region of Aguascalientes during the stays of the TSU in the Industrial Processes, Manufacturing area and Automotive area careers.

4.1. Initial diagnosis stage

During the initial diagnosis, the student is asked to take photographs of all the areas that offer opportunities to apply the 5'S.

The example of the stay of the student Mara Alondra Diaz Avalos is shown.

Workshop Analysis – Initial Diagnosis

The tour of the workshop was carried out and some photographs of the different work areas were taken. With these photographs it was possible to carry out a diagnosis with the main problems found in the workshop, and with this verify why it was necessary to carry out the implementation of the 5'S methodology, the development of plant distribution, and the design of a tooling for transport.

Below is a sample workshop diagnosis.



Figure 3 messy tool

- Tool in disarray. The tool is in disarray and in places where it is difficult to find it, as well as accumulating dirt in the places where it is located.
- Objects between aisles. Some of the tools are stored in jars and these are found between the aisles where the worker carries out his activities.

- Rubbish. Accumulation of rubbish in the place where clients are received, which gives the workshop a bad image and a lack of hygiene.
- Use of red cards. Red cards were used for objects that were found, with their respective annotations such as general information, category, reason for the card, and action required.



Figure 4 Tool in disarray

5'S training stage

In order to do the 5's training, the students are asked to develop the training material which consists of the following elements:

- Power point presentation
- Triptych
- Examination

A day is chosen, and the training is given at the premises of the SME.

Evidence of the training in the mentioned stay. Tool in disarray.

4.3. 5'S training stage

In order to do the 5's training, the students are asked to develop the training material which consists of the following elements:

- Power point presentation
- Triptych
- Examination

A day is chosen, and the training is given at the premises of the SME. Evidence of the training in the mentioned stay..



Figure 5 Training and evaluation of staff

4.3. Stage Selection of the Audit Teams in the SME

At this stage, the student is asked to divide the SME into 3 areas in order to have at least 3 teams for the cross auditing, a day a week is established with a specific time where the audits will always be carried out.

Evidence of the stay.

Teams for 5'S Audits

Working teams were created, made up of the same workshop staff.

The teams created were as follows:

Team	Team members
A - Warehouse	Marina Rodriguez Velázquez Agustín Chávez
B - Production	Juan Manuel Rivera Juan Carlos Díaz
C - Administration office	Mara Díaz Avalos

Table 3 Audit teams

The evaluation will be as follows:

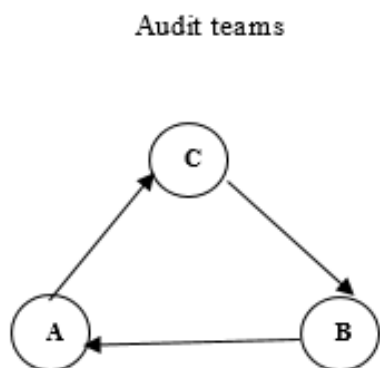


Figure 6 Audit teams

- Each team should evaluate the following:
- The working conditions are analyzed and evaluated
- Each of the concepts of the 5's for which they were previously trained are put into action.

The audits will be carried out every Friday, with a schedule from 8:00 a.m. to 5:00 p.m. to 9:00 a.m., each leader will be in charge of evaluating the other team and recording the new findings and the findings that have been resolved.

4.4. Stage presentation of findings

During this stage, a format for the presentation of findings is made, after making the findings in the format, the number of findings found is presented in a bar graph to observe weekly the progress of the application of the findings in the SME.

Evidence of stay

Presentation of findings

They will be given the format that will be used for the audits and the requested data will be filled out, this must be done by each team leader to deliver it to the appropriate person at the end. The format will be as follows:



Diaz workshops
 Presentation of findings
 Team: _____
 Leader's name _____

No.	Descripción de hallazgo	Fecha	Revisión

No. of findings found	Resolved findings		
	1 ^{er} Week	2 ^{da} Week	3 ^{er} Week

Auditor's signature

Figure 7 Format of findings

4.5. Audit verification stage

In this stage the learner is asked to record the percentage of compliance of the audits carried out each week. He/she is asked to carry out at least 3 audits before the end of his/her stay in the company and thus obtain the corresponding graphs.

Verification of audits

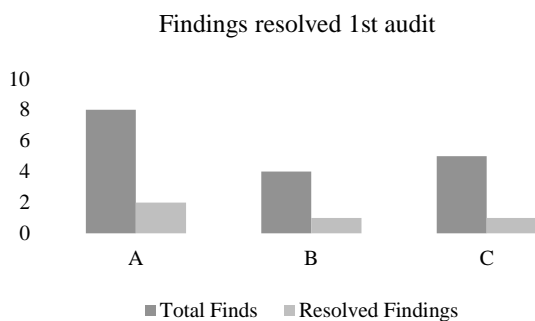
According to the formats where the record of findings was kept, graphs were made to analyse and evaluate the results obtained per week.

1st audit week

At the end of the first audit applied on July 4th, 23% of the total number of findings were solved.

Team	Total findings	Resolved findings	Percentage
A	8	2	25%
B	4	1	25%
C	5	1	20%
	Total		23.33%

Table 4 Results 1st audit



Graph 1 Findings resolved 1st audit

2nd Audit week

After concluding the second audit applied on July 11, it is possible to solve 40% of the total findings.

Team	Total findings	Resolved findings	Percentage
A	8	6	75.50
B	9	7	77.77
C	6	5	83.33
			78.70%

Table 5 Results 2 of the audit



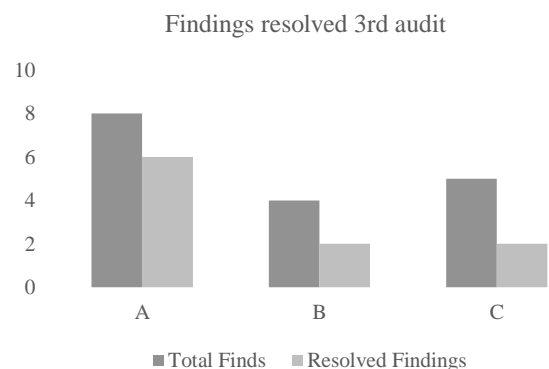
Graph 2 Resolved findings 2nd audit

3rd Audit week

Finally, at the end of the third audit on July 18, 81.66% of the total number of findings were resolved.

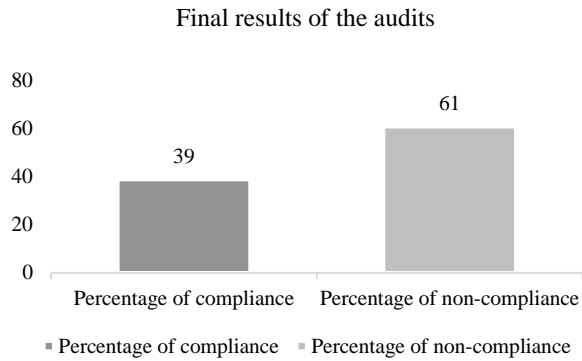
Team	Total findings	Resolved findings	Percentage
A	10	7	70%
B	7	7	100%
C	8	6	75%
			81.66%

Table 6 Results 3rd audit



Graph 3 Findings resolved 3rd audit

At the end of the implementation of the findings the overall results were:



Graph 4 Final results of the audits

4.5. Evaluation of the SME

Final evaluation of the workshop

In this stage the student evaluates the SME according to an evaluation that includes the 5'S elements.

Evidence of the stay

The final evaluation is presented after the application of the 5'S methodology, in order to verify if each of the stages of the 5'S methodology is being fulfilled.

The table of evaluations is attached so that it can eventually be applied as an evaluation of staff compliance with the 5'S methodology.

Area: Workshop					
Evaluation date: 25 July					
Score:	3 = Good				
1 = Not very good	4 = Very good				
2 = Acceptable	5 = Excellent				
Classification assessment (seiri)	Score:				
	1	2	3	4	5
What is the classification of equipment, machines, etc.?				4	
How is the raw material classified?				4	
What is the classification of tools and working instruments?					5
Overall, how would you rate the workshop?					5
Subtotal	18				

Table 7 Classification assessment

Evaluation of order or organisation (SEITON) Score:					
Are the work teams correctly identified?					5
Are circulation areas free of objects?				4	
Is the location of tools and work objects signposted?					5
Subtotal	14				

Table 8 Order assessment

Evaluacion de limpieza (SEISO)	Score:				
	1	2	3	4	5
¿Cómo es la limpieza de los equipos de trabajo?				4	
¿Cómo es la limpieza de las herramientas de trabajo?				4	
¿Los materiales están limpios y etiquetados?					5
Subtotal	13				

Table 9 Evaluación de limpieza

Standardisation evaluation (SEIKETSU)	Score:				
	1	2	3	4	5
Is the work tool properly sorted?				4	
Is the rubbish deposited in its place?					5
Is the work equipment well marked out?				4	
Subtotal	13				

Table 10 Standardisation evaluation

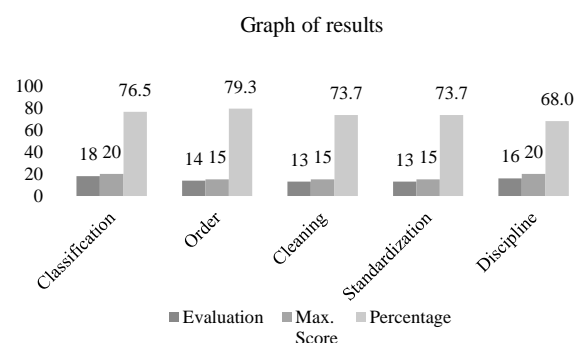
Discipline assessment (SHITSUKE)	Score:				
	1	2	3	4	5
How is compliance with tidiness?				4	
How is compliance with cleanliness?				4	
How is filing compliance?				4	
How is compliance with the use of PPE (Personal Protective Equipment)?				4	
Subtotal	16				

Table 11 Discipline Assessment

The overall results of the 5'S implementation are shown below.

5's' stage	Evaluation	Max. Score	Percentage
Classification	18	20	76.5
Order	14	15	79.3
Cleaning	13	15	73.7
Standardization	13	15	73.7
Discipline	16	20	68.0
Total	74	85	74.23

Table 12 Overall assessment



Graph 5 Overall Assessment Chart

4.6. Etapa de análisis de los resultados

At this stage the learner is asked to make a comparative table illustrated with photographs of before and after the application of the 5'S in the SME.

Evidence of the stay

The before and after of the areas where the 5'S methodology was applied is shown in a comparison table for a better appreciation of the results obtained.

Only 2 examples are presented



Figure 8 Before and after 5'S on dirty and messy tools



Figure 9 Before and after 5'S tool labelling

4.7. Stage of improvement proposals

During this stage the student is asked to make improvement proposals for the company, which the SME will have to consider in order to continue with the implementation of the 5's.

Evidence of the stay

Proposals for improvement

Take responsibility for the implementation of the 5's.

Respect the conservation standards of the workplace.

Participate in the formulation of continuous improvement plans.

Continue with the application of monthly evaluations in order to have an analysis of the workshop.

A proposal and quotation is made for the acquisition of shelves to organise the material for which there is still no destination.

The proposal is made through the free market App, as they deliver to the home and have different payment facilities, which can be convenient for the workshop owner.

Conclusions

The development of an internship in an organisation is of utmost importance so that students can carry out the generation of practical knowledge about the engineering tools seen in class and with this they can develop successful projects.

Nowadays all types of industries are governed by the culture of continuous improvement, one of them is the implementation of the 5's methodology, with this application results are obtained such as increased efficiency, control and organisation of work areas, as well as standardisation of manufacturing or administrative processes.

After carrying out the process of implementing the 5'S in the SMEs of the mentioned region, it can be concluded that the process of implementing the 5'S is an activity that helps to improve the appearance in the work areas, which allows to increase the productivity since the worker will be working in a better way. Likewise, it has been interesting to find out how to implement the 5'S in SMEs, as it has often been a challenge due to the lack of information that workers sometimes have in the companies. Finally, we can emphasize that in our system of Technological Universities it is of great importance the presence of the future professionals in the labour field, with this it can be guaranteed the application of methodologies in the labour field with the solution and proposals of improvement of some project given by the SMEs with a stay of 4 months, as the implementation of the 5'S has been.

References

Benítez, J. (2009). Higiene y Seguridad Industrial. México: Instituto Politécnico Nacional.

Cantú, H. (2011). Desarrollo de una cultura de calidad. México: McGraw-Hill.

Contreras, A. V. (2007). Manual de Lean Manufacturing: Guía Básica. México: Lumisa.

Harrington, H. (1993). Mejoramiento de los procesos de la empresa. Colombia: Copyright.

Hernández, J. C. (2013). Lean Manufacturing. Concepto, Técnicas e Implementación. Madrid: EOI Escuela De Organización Industrial.

Sacristán, F. R. (2005). Las 5S: orden y limpieza en el puesto de trabajo. España: fundaciónconfemetal.

Socconini, L. (2010). En L. Socconini, Lean Manufacturing Paso a PASO. Estado de México: NORMA.

Velázquez, G. (2008). Administración de los sistemas de producción. México: Limusa.

Villaseñor, A. C. (2011). En A. C. Villaseñor, Sistema 5'S Guía de implementación. Monterrey: Limusa.

Instructions for Scientific, Technological and Innovation Publication

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Abstract (In English, 150-200 words)

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Contribution

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* Correspondence to Author (example@example.org)

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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

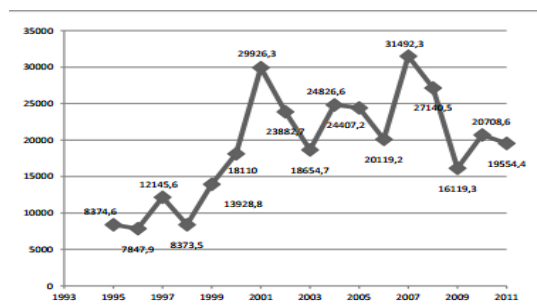
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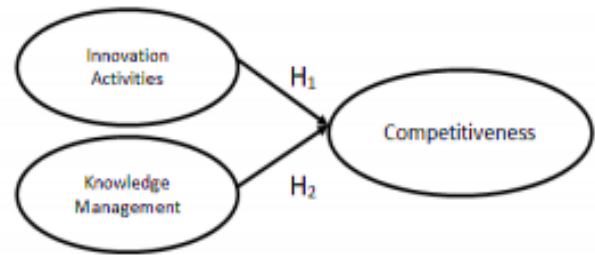


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Each article shall present separately in **3 folders**:
a) Figures, b) Charts and c) Tables in .JPG format, indicating the number and sequential Bold Title.

For the use of equations, noted as follows:

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

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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 to indicate if they were funded by any institution, University or company.

Conclusions

Explain clearly the results and possibilities of improvement.

Instructions for Scientific, Technological and Innovation Publication

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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.

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

Journal Name

Article title

Abstract

Keywords

Article sections, for example:

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2. Description of the method

3. Analysis from the regression demand curve

4. Results

5. Thanks

6. Conclusions

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