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Journal-Schools of economic Thought and Methology

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Presentation of the content

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An opportunity to develop the skills of the students, "Marketing in Action" a collective meeting place

Una oportunidad para desarrollar las competencias de los Estudiantes, “Marketing in Action” un lugar de encuentro colectivo

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Abstract

Goals. Demonstrate the impact and benefit caused by the Mkt in Action institutional event, which is organized by the Business Development career, and which seeks the active participation of the student body. Involve the participation of students to demonstrate the strengths and areas of opportunity through the participation of expert speakers in the area, including the participation of alumn. Promote public relations of the student body of the business career with the business group of the region. Methodology. A quantitative approach to data collection and statistical analysis is used. Descriptive approach. Greater student participation is sought as an audience and as organizers; as well as demonstrate the result of public relations that generate the involvement of the business sector towards the event. Quantitative approach. Population of the Business Development Educational Program of 331 people; with a sample of 116 participants. Investigation. What is the impact and benefits generated by the Mkt in Action for the development of the students of the Educational Program? Contribution. Students carry out activities related to logistics, administration, design, audiovisual production, management of social networks and management of sponsors in order to generate strategic synergy with local companies.

Development, Analyze, Skills

Resumen

Objetivos. Demostrar el impacto y beneficio que provoca el evento institucional Mkt in Action, el cual es organizado por la carrera de Desarrollo de Negocios, y que busca la participación del estudiantado. Involucrar a los alumnos con el fin de demostrar las fortalezas y áreas de oportunidad, mediante el apoyo de conferencistas expertos en el área, incluyendo la participación de exalumnos. Fomentar las relaciones públicas del estudiantado de la carrera de negocios con el grupo empresarial de la región. Metodología. Se utiliza un enfoque cuantitativo de recolección de datos y análisis estadístico. Enfoque descriptivo. Se busca mayor participación de los estudiantes como audiencia y como organizadores; así como demostrar el resultado de las relaciones públicas que generan el involucramiento del sector empresarial hacia el evento. Enfoque cuantitativo. Población del Programa Educativo Desarrollo de Negocios de 331 personas; con una muestra de 116 participantes (Malhorta, 2008). Investigación. ¿Cuál es el impacto y beneficios que genera el Mkt in Action para el desarrollo de los estudiantes del Programa Educativo? Contribución. Los alumnos llevan a cabo actividades de logística, administración, diseño, producción audiovisual, manejo de redes sociales y gestión de patrocinadores a fin de generar una sinergia estratégica con las empresas locales.

Desarrollo, Análisis, Competencias

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† Researcher contributing as first author.

Introduction

Mkt in Action is an academic activity, and consists of holding an event annually made up of a cycle of conferences organized by and for the students of the Educational Program for Business Development, Marketing area of the Cadereyta Technological University, which aims to reinforce knowledge , and achieve skills and competencies in the field of training.

The series of lectures allows the student's vision to open up to a real scenario, and this has to do with the space they need to put the knowledge and skills they develop throughout their academic career to the test.

An added value is the testing of the synergy that must exist between the business group and the students of the Cadereyta Technological University.

The link between the student and the business group is based on getting the participation of the latter as a sponsor, and in return the student must assume his role as a disseminator of the brands (Barquero, 2005), and also manage the resources obtained from said sponsorship.

Among the activities for the development of the student are the management of social networks, financial management and control, and the planning, organization and development of the MKT in Action event (David, 2017).

As a hypothesis, it is proposed that the MKT in Action space is a trigger that causes a reaction to develop knowledge and skills on the part of the Business Development student (Sampieri, 2008).

The sections that make up this article are presented in the following order, first, to carry out the Mkt in action, a work plan is prepared that begins with the analysis of trends (Pantone, 2022) and tastes in the market in order to identify topics of interest to the participating community. Subsequently, the activities that correspond to the students of the fourth, ninth and eleventh quarters are assigned, who are in charge of direct participation as organizers of said event.

Secondly, a program is carried out that must be followed, where the participation of the speakers is reflected, as well as the interaction spaces of the audience.
And finally, an output analysis of the tools used to obtain information is carried out and thus determine the levels of study.

Development of Sections and Sections of the Article with subsequent numbering

Workplan

The work plan that is prepared to carry out the MKT in Action starts 7 months prior to the date established for the event. During the beginning of said plan, factors that are determinant for the positive result of the activity are taken into consideration, such as identifying trends in topics of interest both for the student, as well as for the participating audience.

The distribution of activities plays an important role for the development of the student, since there will be involved the strengthening of their skills and knowledge regarding the competencies that are promoted within the educational program, for this it is always taken into account that what is requires the student to be consistent with the knowledge he has acquired since the beginning of the career; for example: the management of resources, public relations, the creation, production and edition of the content for the event, contact with the speakers, as well as the logistics of the event. In order to obtain the resources, it is necessary to manage to obtain sponsorships, since for the event expenses are incurred for its development, such as payment of speakers, rental furniture, and various supplies. Within the sponsorship management activity, the student offers packages with benefits to the company, which range from interviews, publication on social networks, design of electronic advertising (Kotler, 2021), creation or improvement of logos; all to the extent of the amount contributed by the sponsor.

Development of the Event (registration of participation)

The event starts at 8:30 am. with the presentation and opening of the first speaker who opens the conferences at 9:00 am. In order to control audience participation, they register in a logbook as they arrive at the conferences. (participation record attached).

Analysis of the obtained results

Once the management stage of the entire event has been completed, the analysis of the results that have been generated is carried out, which in comparison in the 2020 and 2022 edition, the following is presented: greater participation of businessmen, greater number of speakers, greater audience participation, increase in reach and participation in social networks, and most importantly, the application of skills by the student body.

Graphic 1 Results of Reach and Visits in Social Networks
Source: Facebook, Marketing in Action

Figure 1 Mkt in Action Logo
Source: Own image without attribution required.

Comparison of participating sponsors				
Total number of sponsors MKT in Action 2020	Number of sponsors maintaining their participation from 2020 to 2022	Number of new sponsors MKT in Action 2022	Total number of sponsors MKT in Action 2022	Percentage of increase in MKT in Action 2020 to 2022 sponsorships
19	9	38	47	100%

Table 1 Comparison of MKT in Action sponsors 2020 to 2022
Source: Own Elaboration Business Development Marketing area

Comparison of student attendance and participation	2020	2022
Total student enrollment during MKT in action.	372	331
Number of students attending and participate in the MKT in action.	67	116
Percentage of participation in MKT in action.	18%	35%

Table 2 Comparison of student attendance and participation in MKT in Action 2020 and 2022
Source: Cadereyta Technological University, Business Development Marketing area

Methodology to develop

Using the quantitative approach (La Fuente, 2008), through the survey tool, data was collected both from the participating students, with a population of 331 people from the Business Development Educational Program; with a sample of 116 participants; as well as of each one of the sponsors, in the case of the students, the data collected were, name, address and telephone number; and in the case of sponsors, the data to be collected were, name of the sponsor, amount to contribute either in cash or in kind, and the list of benefits that corresponds to receive from the Mkt in action team.

Descriptive approach

Greater student participation is sought as an audience and as organizers; as well as demonstrating the result of the important involvement and public relations generated by the involvement of the business sector towards the event (Malhorta, 2008).

It is worth mentioning that the participation of the business sector as a sponsor will also help to put into context what will be the starting point to be measured; the achievements and results that students must develop are taken into account according to the magnitude of the scope that the activity must have.

Results

Workplan

The distribution of activities within the work plan in the participation of the MKT in action, is done waiting for an active reaction from the student, for this an analysis is made of the skills that they have and that they can reinforce in order to meet the competence academic.

It can be seen, how the student is able to carry out the management of the event, since it involves various activities within it, such as scheduling and organizing the participation of the speakers, carrying out invitation activities for the audience, managing social networks (Clown, 2010), and of course the public relations that are reflected in the number of sponsors that get involved in the event. To all this, it can be said that from 2020 to 2022 good results were obtained, such as the increase in the number of reaches and visualizations on social networks (Kotler, 2021), as well as the participation of sponsorship that from 2020 to 2022 was of a 100%. These results are very important to be taken into account as a starting point and indicators that should continue to increase.

Development of the event (registration of participation)

For the development of the event, during that day information is retrieved through a register of the attendees, with said information it can be verified that the audience increases; It is important to clarify that this value does not depend entirely on the student's own activities, since the amount enrolled up to that moment in the Business Development career must also be considered, who are involved as part of the audience. It should be clarified that this record presents an area of opportunity, where through an exit survey, discover, for example, what topics during the conferences were of interest to the audience.

Analysis of the results

The team of teachers that determines that this activity should be carried out annually each cycle from September to December, does so taking into account that the advances in value of knowledge that it contributes are significant, therefore; each year it is expected that areas of opportunity will arise, which will allow a work plan to be made with new demands and that, in turn, will mark an improvement in the results of the student's performance, since in the end, that is the objective for which this activity is taking place.

Gratitude

We thank the Cadereyta Technological University for providing its facilities to carry out the coordination and management of this activity.

Financing

The research does not properly require any type of financing, since the information that emerges from the result of the activities that the students carry out according to the Academic Program.

The assignment of activities of each teacher is within their academic load, therefore,

This research project does not require any funding.

Conclusions

In conclusion, we can comment that during the search for strategies and ways to continue offering the student all the opportunities to demonstrate how they are growing in their performance and academic skills, the event whose name as an activity is "MKT in action", since an important result has been obtained from this, since it has shown a great evolution from its 2020 edition to the last one, which was in 2022.

When talking about evolution, reference is made to the fact that it has been possible to demonstrate that it has had a great result in student participation and, above all, their interest in participating, in addition; that it was possible to see that the student audience is increasing and with this it shows that their knowledge is reinforced.

Also, it is observed that in the question of participation of the sponsors it was on the rise, this was due to the fact that the students are improving in their work of seeking public relations, so, as an academic competition, a good result can also be seen in their performance and knowledge acquired.

Within all this analysis that was carried out, it can be said that despite the fact that the students in charge of managing the event are offering good results, there are still areas of opportunity that must be improved as more editions are made; For example, you can look for the possibility that the event is open to the entire community of the Technological Universities in the Business Development area, and in turn be a model for the other Technological Universities to emulate it to carry it out in their own facilities.

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High-performance teams in the institute of education the state of Guanajuato, México

Equipos de alto rendimiento en una Institución de educación superior del Estado de Guanajuato

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Abstract

The purpose of this project is to identify the factors that impact the development and consolidation of high performance teams in a higher education institution in the state of Guanajuato during the year 2022. A diagnostic of organizational climate was elaborated to know the perception that workers have of their work dynamics, a questionnaire was applied to a sample of 128 collaborators from a population of 189 workers, using the Likert scale, considering a total of 40 topics the sample is representative having a confidence level of 95% with a margin of error of 5%. Para interpretar los resultados se empleó medidas de tendencia central como la moda, medias y medianas, de la manera siguiente: respuestas positivas (niveles 4 – de acuerdo y 5 – totalmente de acuerdo) y negativas (niveles 2 – en desacuerdo y 1 – totalmente desacuerdo). The results showed the need to establish leadership strategies, consolidate learning curves, boost motivation, promote creativity and communication that impacts on quality in service and belonging to the organization.

Consolidation, collaborators, Diagnostic

Resumen

El presente proyecto tiene como propósito la identificación de los factores que impactan en el desarrollo y consolidación de equipos de alto rendimiento en una Institución de educación superior del estado de Guanajuato durante el año 2022. Se elaboró un diagnóstico de clima organizacional para conocer la percepción que los trabajadores tienen de su dinámica laboral se aplicó un cuestionario a una muestra de 128 colaboradores de una población de 189 trabajadores, mediante la escala Likert, considerando un total de 40 reactivos la muestra es representativa teniendo un nivel de confianza de 95% con un margen de error del 5%. Para interpretar los resultados se empleó medidas de tendencia central como la moda, medias y medianas, de la manera siguiente: respuestas positivas (niveles 4 – de acuerdo y 5 – totalmente de acuerdo) y negativas (niveles 2 – en desacuerdo y 1 – totalmente desacuerdo). Los resultados arrojaron la necesidad de establecer estrategias de liderazgo, consolidar curvas de aprendizaje, el impulso a la motivación, el fomento de la creatividad y la comunicación que impacta en la calidad en el servicio y pertenencia a la organización.

Consolidación, Colaboradores, Diagnóstico

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Introduction

Teamwork in organizations is of utmost importance given the complexity of the dynamics of organizations where factors that affect the performance of workers interact, if the work environment is not measured and actions are not established in the management of human capital, organizational chaos and lack of strategic vision for the achievement of objectives are generated, hence the relevance of this study which seeks to promote discipline and a culture of continuous improvement in collaborative work.

The dimensions considered in this study are: Leadership, belonging, communication, learning, ergonomics and service quality.

The added value of this research is to identify the causes and strategies that impact the performance of work teams in a higher education institution.

Given the relevance of the educational service offered by the educational institution in the comprehensive training of future professionals, it is necessary to consolidate a relevant method to evaluate and implement high performance team techniques and strengthen personnel management to achieve institutional objectives by optimizing the human factor through the articulation of collaborative work.

The management of human talent must follow a strategy that allows the good development of the organization, orienting it towards the creation of an environment of freedom, respect and trust, and at the same time coordinated with the organizational structure of the institution based on its philosophical platform (Palamary-D'Aguillo, 2012). The institutional mystique, clear objectives, an adequate organization in collaborative teams and a conducive environment potentiate efficiency and effectiveness to achieve the objectives in the best way.

Collaboration within groups is associated with the need to improve productivity and effectiveness: it implies greater work capacity and the diversity of perspectives and specializations, tends to enrich its product, interaction results in learning and innovative contributions; as a whole, it promotes the fulfillment of broader professional objectives (López Carrasco & Beli, 2023).

The management of high performance teams, involves maturing in stages and monitoring how they behave and develop, there are four stages of maturity before reaching their maximum effectiveness: formation, discussion, organization and resolution; Each of the stages requires a different leadership style, it is necessary to identify in which stage the group is in order to exercise the type of leadership that supports its evolution (Tuckman, 1965). Subsequently, Tuckman and Jensen (1977) redefined and developed the model by adding a fifth stage: dissolution.

The design of work is constantly being transformed by technology and the requirements for workers is that they are versatile, so it is relevant for companies to implement self-management teams and its effects can achieve high performance in organizations. (Pinheiro de Lima & Frega, 2021).

In addition, it is important to recognize that the main areas of opportunity for work teams are training, communication, definition of channels and dissemination, systems for establishing and clarifying goals and objectives, as well as a system of incentives for which elements to evaluate and knowledge management are required (Díaz-Calzada, Morgan-Beltrán, & Arredondo-Morales, 2020).

To form high-performance teams in the institution, is to have staff committed to accept responsibilities together, be able to work as a team, be willing to assume and face productive conflicts, work in the pursuit of achieving both the objectives and organizational goals above their own (Molina Quiroz, 2019). It is necessary to establish an effective and transformational leadership that potentiates individual, group and organizational capabilities.

To implement the project, a diagnosis of organizational climate was made, which allows identifying and delimiting the problems of the work situation in a collaborative manner, allowing to propose the possible solution through the generation of high performance teams and the articulation of the relationships that affect the performance and productivity.

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The context of application is a higher education institution which, by increasing the number of workers, was forced to make a diagnosis of teamwork and identify which are the factors that impact on their performance to achieve the objectives, because the requirements of the service, technology, time management, organizational, professional and personal profile affect the collaborative work during the period of the year 2022.

Working hypothesis

H1: The organizational climate diagnosis contributes to the articulation of high performance team strategies in the higher education institution.

H0: The diagnosis of the organizational climate does not contribute to the articulation of high performance team strategies in the higher education institution.

Methodology to be developed

The paradigm used is mixed, it is hypothetical deductive and inductive interpretative, it is based on descriptive statistics in the application of the diagnosis of the climate and it is comprehensive interpretative in the application of the strategy for the conformation of high performance teams in the dynamics of the workers in their social-labor environment; the control criterion is observational; the temporality criterion: it is retrospective; the dimensionality criterion: it is transversal, the data were collected only once; the comparability criterion: it is descriptive since the study was carried out in the teams of high performance in the dynamics of the workers in their social-labor environment: it is retrospective; The criterion of dimensionality: it is transversal, the data were collected only once; The criterion of comparability: it is descriptive since the study was carried out in the work teams of a higher education institution.

In the application of the organizational diagnosis, a sample of 128 collaborators was considered out of a population of 189 workers, using the Likert scale, considering a total of 40 items, the sample was representative with a confidence level of 95% and a margin of error of 5%.

The average response time for each employee was 25 minutes, at the time of application there was no problem in understanding the questions, and the instructions for filling out the questionnaire were made known.

The following dimensions of analysis were considered:

1. Collaborative teamwork: It is the strategy of the staff working collaboratively to achieve work objectives.

2. Decision-making: It is the characteristic of the staff to identify the context and perspective of the impact of making decisions in accordance with the normative criteria and assume the consequence with responsibility.

3. Leadership: It is the ability to influence the collaborators of the work team to achieve objectives voluntarily.

4. Job profile: The tasks and responsibilities assigned to the job profile.

5. Environment: Refers to the environmental conditions, tools and tasks that allow the good development of the activities within a work position.

6. Working conditions: It has to do with those working conditions that allow the worker to have a satisfactory experience.

7. Belonging: These are the feelings that individuals have regarding their identification with the objectives and values of the organization.

8. Recognition: When employees identify that their efforts are valued.

Results

The questionnaire was applied to 128 employees, of which 60.16% were women, 39.84% were men. Marital status 53% are married and 47% are single. In relation to age, 34.88% referred to the age of 45 years and older, 40.33% to the age of 35 to 45, 13.17% to the age of 30 to 35, 11.62% to the age of 25 to 30 years.

In schooling the data were also diverse. 43.75% have a master's degree, 28.88% have a bachelor's degree, 10.94% have a doctorate degree, 4.69% have a high school degree, 4.69% have a high school degree, 3.13% have an elementary school degree and 10.94% did not answer this question.

Figure 1 Schooling

The length of service in the company, 25% have been working for 0-5 years, 26.56% have been working for 20 or more years, 15.63% have been working for 10-15 years, 14.6% have been working for 5-10 years, 7.81% have been working for 15-20 years and finally 9.38% did not answer the question.

The position they occupy in the organization, 58.38% are teachers, 31.25% are administrative, 4.69% are assistants and 4.69% perform maintenance and maintenance activities.

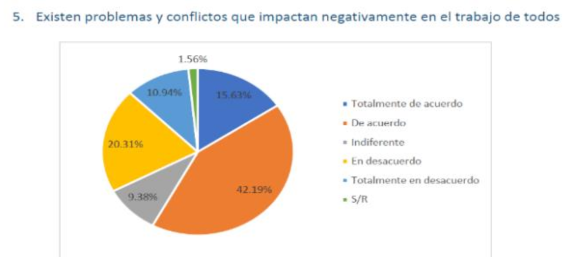
Collaborative teamwork

In relation to the first question, 59.38% totally agree in collaborating with others to achieve the objectives set, 40.63% chose to agree. Question 2. I like working with the people I work with, 45.31% responded that they totally agree, 40.63% agreed and 14.06% were indifferent.

Graphic 2 Question 3: I feel that I have to work harder because of the incompetence of my colleagues.

In the third question 32.81% agree that they feel they have to work harder due to the incompetence of their colleagues, 23.44% disagree, 20.31% strongly disagree, 6.25% strongly agree, 15.63% remain indifferent and there was a percentage of 1.56% of people who did not answer this question.

In question 4, I enjoy dealing with colleagues, 46.88% answered totally agree, 40.63% totally agree, 7.81% were indifferent.



Graphic 3 Question 5 There are problems and conflicts that have a negative impact on everyone's work.

In question 5, whether there are problems and conflicts that negatively impact the work team, 15.63% totally agreed, 43.75% agreed, 25% disagreed, 10.94% totally disagreed. 4.69% are indifferent,

Decision Making

Question 6 59.38% agree that they can decide how they will perform their work, 32.81% strongly agree, 7.81% disagree.

Question 7 I have the opportunity to do different things at work, workers answered: 51.56% agree, 36.72% strongly agree, 10.94% are indifferent, 7.81% disagree, 1.56% strongly disagree.

Question 8, I put my own ideas into action, 43.75% strongly agree, 35.94% agree, 14.06% disagree, 6.25% are indifferent.

Question 9: I can freely express my opinion on my work activities, 44.53% totally agree, 39.06% agree, 9.38% are indifferent, 7.03% disagree.

Question 10: The proposals and suggestions we make are welcome, the answers were: 45.31% agree, 30.47% totally agree, 7.81% are indifferent, 13.28% disagree, 3.13% totally disagree.

Leadership

The results for question 11: My immediate boss is competent, 48.44% strongly agree, 32.03% agree, 9.38% are indifferent. 10.16% disagree.

The results of question 12: There is good communication between my boss and the employees. 45.31% totally agree, 33.59% agree, 7.81% are indifferent, 7.03% disagree and 6.25% totally disagree.

Question 13: My immediate boss is committed and consistent, 42.19% strongly agree, 34.38% agree, 8.59% disagree, 7.81% indifferent 6.25% strongly disagree.

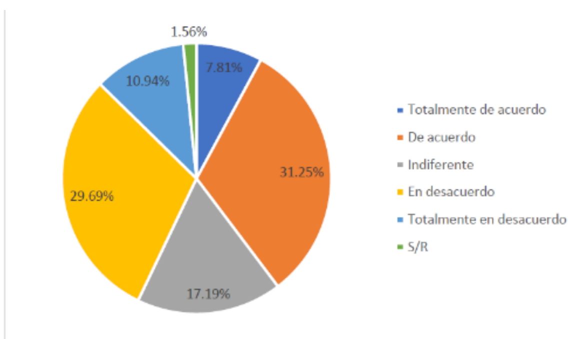
Question 14: There is feedback on my work performance, 42.97% agree, 25.78% strongly agree, 15.63% disagree, 10.16% are indifferent, 5.47% strongly disagree.

Question 15 Our superiors are respectful and tolerant, 48.44% strongly agree, 37.50% agree, 6.25% disagree, 3.13% strongly disagree and 3.91% are indifferent.

Job profile

Question 16 I feel confident in keeping my job, 35.16% strongly agree, 39.06% agree, 9.38% are indifferent, 12.50% disagree and 3.91% strongly disagree.

Question 17: I use most of the skills to perform the activities of my job, 54.69% responded strongly agree, 37.50% agree, 4.69% are indifferent. 2.34% disagreed and 0.78% totally disagreed.



Graphic 4 Question 18. We are victims of stress due to the demands of the job

Question 18: We are victims of stress due to job demands, 31.25% agreed, 7.81% strongly agreed, 29.69% disagreed, 17.19% were indifferent and 10.94% strongly disagreed. 1.56% did not respond.

Graphic 5 Question 19: I generally have a lot of work and little time to do it

Question 19: I generally have a lot of work and little time to do it, employees answered: 31.25% agree, 15.63% strongly agree, 26.56% disagree, 7.81% strongly disagree and 18.75% are indifferent.

Question 20: The goals of the institution are clear to me and I fully understand them, 45.31% agree, 28.13% strongly agree, 9.38% are indifferent, 14.06% disagree, 1.56% strongly disagree, 1.56% did not answer.

Environment

In question 21 the results to the question: The lighting, temperature and ventilation in the workplace are appropriate, 46.09% agree, 39.06% totally agree, 11.71% disagree, 1.56% are indifferent and 1.56% totally disagree.

In question 22: I have the appropriate space and tools to do my job well, 43.75% agree, 32.81% totally agree, 3.13% are indifferent, 18.75% disagree and 1.56% totally disagree.

In question 23: The conditions in the area where my work was performed are safe and appropriate, 50.78% agreed, 26.56% strongly agreed, 7.81% were indifferent, 11.71% disagreed and 3.13% strongly disagreed.

Question 24, my health is affected by the activities I perform in my job, 39.84% disagree, 29.69% strongly disagree, 7.81% are indifferent, 17.97% agree, 3.13% strongly agree and 1.56% did not answer.

The results to question 25: Have you had health problems because of work, 33.59% totally disagree, 26.56% disagree. Likewise, 11.71% are indifferent, 23.44% agree, 3.13% totally agree and 1.56% did not answer.

Working conditions

Question 26: There are induction and training processes that facilitate and strengthen the work, 32.31% of the respondents consider that they agree, 15.63% are indifferent, 20.31% disagree, 12.50% totally disagree, 15.63% totally agree and 3.13% did not answer.

In question 27 the results of: Has development opportunities in the institution, 40.63% agree, 28.13% totally agree, 12.50% are indifferent, 10.94% disagree, 7.81% totally disagree.

In question 28: Feels motivated to do the job, 46.88% agree, 37.50% strongly agree, 3.91% are indifferent and 8.59% disagree, 1.56% strongly disagree.

In question 29, health is good and work contributes to achieve it, 44.53% agree, 33.59% totally agree, 10.94% were indifferent, and 7.81% disagree, 1.56% totally disagree and 4.69% did not answer this question.

The results of question 30: The work is monotonous, tedious and boring, 39.06% strongly disagreed, 33.59% disagreed, 14.06% were indifferent, 10.16% agreed, and 3.13% strongly agreed.

Belonging

Question 31, I am proud to belong to the institution, 68.75% strongly agree, 25.78% agree. 2.34% disagree. 3.13% of the respondents did not answer this question.

In question 32, Agreements are reached when there are different opinions, 56.25% agree, 26.56% totally agree, 12.50% disagree and 1.56% totally disagree. Only 3.13% did not answer this question.

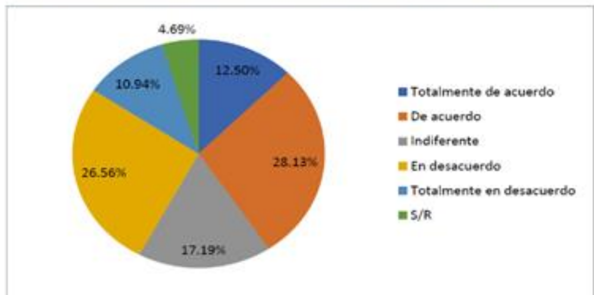
In question 33, values and dreams of the institution are shared, 37.59% agree, 22.66% totally agree, 19.53% are indifferent, 10.16% and 9.38% disagree and totally disagree. 0.78% did not respond.

In question 34, there is respect and tolerance, 48.44% agree, 28.13% totally agree, 7.81% marked the option indifferent, 9.38% disagree and 3.13% totally disagree.

In question 35, there are channels of communication in the institution, 42.19% agree, 10.16% totally agree, 10.94% are indifferent, 26.56% disagree, 9.38% totally disagree. 0.78% did not answer the item.

Acknowledgement

48. No existe reconocimiento a quien lo merece en esta Institución



Graphic 6 Question 36 When I do a good job, I receive the congratulations and recognition I expect.

Question 36, When I do a good job, I receive a congratulations and the recognition I expect, 23.88% totally agree, 21.88% agree, 31.25% disagree, 18.75% are indifferent, 3.13% totally disagree, and the remaining 3.13% did not answer.

In question 37, There is equity and equal opportunity in the institution, 29.69% disagree, 9.38% totally disagree, 26.56% totally agree and 17.19% agree, 14.06% are indifferent and 3.13% did not answer this question.

Question 38, There is no recognition for those who deserve it in the institution, 28.13% agree, 12.50% totally agree, 26.56% disagree, 10.94% totally disagree, 4.69% did not answer this question.

In question 39 the responses to: effort, commitment and work performance are rewarded, 28.91% disagree, 14.84% totally disagree, 23.44% totally agree, 25% agree, 2.34% are indifferent and 6.25% did not answer.

In question 40, The only time performance is discussed is when mistakes are made, 42.19% disagree, 25% strongly disagree, 9.38% strongly agree and 15.63% agree, 3.13% were indifferent and 4.69% did not respond.

Conclusions

The present work allowed to identify that for the higher education institution the measurement of factors through the organizational climate diagnosis allows to measure the dynamics of the work teams and to establish strategies focused on developing their growth to have a greater impact at the time of offering the educational service.

In the teamwork category, the relevance of collaboration on the part of the workers was visualized, there are problems in the lack of professional competencies of some colleagues, identifying them allows establishing training and coaching strategies to improve competencies, in addition to addressing issues in communication skills, active listening, collaborative work.

In relation to the category of decision making, empowerment is applied, since most employees describe freedom to work, they are given the opportunity to develop their ideas, all contributions are welcome, which generates in workers a greater commitment to feel part of the institution. In order to generate empowerment, it is necessary to delimit the scope of decision making, as well as alternative courses of action in case something does not work out.

In the Leadership category, they are applied in a pertinent manner for problem solving and project follow-up.

The workers consider that the bosses perform their work adequately, are respectful, and have good communication.

In the category of jobs at work, employees use all the capabilities to develop themselves, the goals are clear.

As an area of opportunity, an environment of stress is perceived due to the workloads and the short time they have to achieve their objectives, therefore, it is important to better organize the organizational structure, measure the workloads and improve competencies to obtain a better performance.

The conclusion of the Environment dimension is that there is a favorable work environment to develop the work. An ergonomics program must be designed to solve some situations of health problems associated with the job profile; it is important to constantly measure this variable given the dynamics of the organization.

In the dimension of working conditions, employees consider that they have opportunities to develop a life and career plan, they feel motivated, however, a strategic plan should be designed for the induction process and specialized training that will have an impact on the productivity of the job.

In the dimension of belonging, it is observed that most workers have a sense of commitment: There is respect and tolerance, they share values and dreams. Diversity of opinion is respected. However, internal marketing strategies should be designed to strengthen organizational synergy.

In the dimension of recognition, the critical point is the need to plan a program of incentives, art, culture and recreation according to the profile of human capital to improve employee motivation.

As a consequence of the above, it is concluded that the learning curve of the organization in relation to the formation of high performance teams is in the work group stage, where the leader's advice is required throughout the process of a project.

In relation to the working hypothesis:

H1: The organizational climate diagnosis contributes to the articulation of high performance team strategies in the higher education institution.

H0: The diagnosis of the organizational climate does not contribute to the articulation of high performance team strategies in the higher education institution.

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In accordance with the hypothesis statement we can conclude that the organizational climate diagnosis contributes to the articulation of high performance team strategies in the higher education institution and enables strategic action in relation to the dimensions that affect performance and better achieve the objectives with quality, productivity and efficiency.

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Analysis of Financial Education in university students from a university in Southern Sonora

Análisis de Educación Financiera en estudiantes universitario de una universidad del sur de Sonora

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Abstract

Talking about financial education today is more common, credits, exchange rates, solvency, liquidity are terms that people of adulthood often use, this research was carried out with students from a public University in the South of the State de Sonora specifically with the students of Industrial and Systems Engineering, an instrument was applied to them that is composed of 52 items that include 36 multiple choice questions, 8 about their opinions and decisions and 8 questions about sociodemographic data, it was applied to a sample of 170 subjects. The results with the greatest impact, it was found that the level of financial education is low, that the youngest subjects and those who have never worked have a lower level than those who have been part of the population economically for more years active, women denoted a lower level of financial literacy and the category with the lowest score was the one that has to do with investments

Financial Education, College students, Investments

Resumen

Hablar de educación financiera hoy en día cada día es más común, créditos, tipos de cambio, solvencia, liquidez son términos que las personas en edad adulta utilizan a menudo, la presente investigación se llevó a cabo con estudiantes de una Universidad pública del Sur del Estado de Sonora específicamente con los alumnos de la Ingeniería Industrial y de Sistemas, se les aplicó un instrumento que está compuesto por 52 preguntas que incluyen 36 preguntas de opción múltiple, 8 acerca de sus opiniones y decisiones y 8 preguntas sobre datos sociodemográficos, se aplicó a una muestra de 170 sujetos se llevaron a cabo modelos ANOVA para la presentación de resultados a través del software SPSS versión 19. Dentro de los resultados de mayor impacto se encontró que el nivel de educación financiera es bajo, que los sujetos más jóvenes y que nunca han trabajado tienen un nivel menor que aquellos que tienen más años formando parte de la población económicamente activa, las mujeres denotaron un menor nivel de alfabetización financiera y la categoría con más bajo puntaje fue la que tiene que ver con las inversiones.

Educación financiera, Estudiantes universitarios, Inversiones

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Introducción

Financial education is the process by which individuals acquire a better understanding of financial concepts and products and develop the skills necessary to make informed decisions, assess financial risks and opportunities, and improve their well-being (OECD, 2005).

The Mexican Government's approach mentions that Financial Education not only contributes to improving the performance of institutions due to a more responsible and informed clientele, but can also generate a higher quality exchange of information between financial institutions and their clients. Thanks to financial education, users demand services adapted to their needs and financial intermediaries have a better understanding of users' needs, which leads to a greater offer of innovative financial products and services, increasing competitiveness and innovation in the financial system. Financial education is the process by which individuals acquire a better understanding of financial concepts and products and develop the skills necessary to make informed decisions, assess financial risks and opportunities, and improve their well-being, as defined by OECD (2005).

Raccanello and Herrera (2014) mention that since the 2008 crisis caused by subprime mortgages, the world experienced a maelstrom of financial problems that had an impact on all economies internationally. As a result, it became evident that the general population did not have the financial education (ef) that would allow them to make appropriate decisions; on the contrary, the lack of this understanding further deepened the housing bubble. They also describe that the lack of financial literacy causes uncertainty for individuals to invest in the stock market, resulting in precarious returns on their assets.

With the above mentioned, it is important to highlight that the 2008 financial crisis was the trigger to make financial education relevant in the classroom, as educational programmes focused on teaching how to read and write, but did not raise awareness of the importance of the subject.

In this regard, the National Commission for the Protection and Defence of Users of Financial Services (Condusef, 2009) mentions that the challenge in education is to teach how to take care of and establish the basis for the formation of personal and collective wealth, i.e. ef.

Promoting financial education is fundamental to increase the socio-economic wellbeing of the population. As an example, the economic citizenship model using Child and Youth Finance's Theory of Change (2012) combines three elements: ef, social education and livelihood education, which financially empowers children and youth, hopefully resulting in a more successful population. Equipping students with the skills to make appropriate choices about the use of their resources and their future involves engaging them with the local, national and international context, leading to improvements in their personal finances.

What students know about financial education is because they have learned it from their parents and families. According to the PISA test (OECD, 2014), in all countries and economies with available data, one in two students reported that they discuss money matters with their parents on a weekly or monthly basis.

The future of the world's economies rests on the financial decisions of children and youth, as they are the future economic actors (Child and Youth Finance International, 2012). Providing the youth sector with a thriving economic and financial environment has a positive impact on actors and their communities, as they will benefit from this new generation of individuals with the right spirit for entrepreneurship and responsible investment. According to Ban Ki-moon, Secretary-General of the United Nations (2007-2016), "access to financial and social assets is essential to help young people make their own economic decisions and escape poverty" (Child and Youth Finance, 2012). Therefore, having the ability and experience in sf at an early age allows to decrease the risk of poverty caused by debt.

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In this regard Chen and Volpe (1998) conducted a study to examine financial literacy; the relationship between literacy and student characteristics; and the impact of literacy on young people's opinions and decisions among 924 university students. The results showed that participants answered around 53% of the questions correctly. Students in non-business majors, women, students from lower class backgrounds, under 30 years old and with little work experience have lower levels of financial literacy. Students with less knowledge tend to have wrong opinions and make incorrect decisions. It was concluded that low levels of knowledge will limit their ability to make informed decisions.

Gutter, Copur and Garrison (2016) conducted a study assessing the effectiveness of state mandates with respect to financial literacy education in US high schools. Data were collected from college students aged 18 and older through a web-based survey from 15 college campuses in various regions of the United States. A stratified random sampling method was used. Overall, this study shows that college students' financial behaviours vary according to state high school financial education mandates, even when controlling for students' financial knowledge, financial socialisation and financial dispositions. In the current study, a "required course" policy was associated with financial behaviours in terms of regular savings, not "maxing out" and paying off credit card balances in full each month.

Another pilot study by Borden, Lee, Serido and Collins (2008) examined the influence of a financial education seminar on college students' attitudes, knowledge and intentions towards financial responsibility. With a sample of 93 young people the findings suggest that the seminar effectively increased students' financial knowledge, increased responsible attitudes toward credit, and decreased avoidant attitudes toward credit from the pre-test to the post-test. At post-test, students reported that they intended to engage in significantly more effective financial behaviours and less risky financial behaviours. Finally, demographic factors (e.g., gender and employment status) predicted students' financial knowledge, attitudes and behaviours. These results suggest that a seminar format may be useful for reaching a broader audience of university students and therefore warrants future longitudinal evaluation.

González and Gutiérrez (2017), state that students in finance-related majors are knowledgeable about the field, but their behaviour does not show relevant differences with students in other majors, as they have a very limited savings culture and show a generalised tendency to think only in the short term. Moreover, these authors point out that in Mexico there is very weak financial inclusion and individuals face significant difficulties in managing their finances, especially in long-term plans such as saving for retirement. Finally, López (2016) considers that having a society with relevant financial education has a positive impact on the country's economy, as it allows the population to take part in change, implementing collective decisions that converge with the economic and social policy objectives formulated by the government, which strengthens the persistence, momentum and expansion of bankarisation towards hitherto excluded segments of the population.

Financial inclusion in Mexico is weak and individuals face significant difficulties in managing their finances.

It is worth mentioning that the low levels of financial literacy of the Mexican population are largely due to a lack of financial education and bad habits at the time of acquiring them. The biggest problem that results from the lack of financial education is that the quality of life is very low, tending to live in poverty, since a population that does not know how to plan its income and expenses, does not have a savings culture and does not know how to get into debt without affecting its finances, cannot improve its social welfare and therefore does not contribute to the economic development of its country.

With the above described it is necessary to ask the question, what is the level of knowledge that students of a university in the south of the state of Sonora have about financial education?

The objective of this research is to determine the level of knowledge in terms of financial education and how it influences their opinions and decisions on personal finance of students at a university in the south of the state of Sonora, specifically those enrolled in Industrial and Systems Engineering, using an instrument.

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Methodology

This study uses a questionnaire designed by Chen and Volpe (1998), adapted to the terms and concepts of the Mexican financial system, covering the main aspects of finance. It includes financial literacy (general knowledge), savings, loans, insurance and investments. It consists of 52 items including 36 multiple-choice questions, 8 questions about their opinions and decisions and 8 questions about socio-demographic data. The instrument was validated by experts in the area of personal finance and the consistency of the survey through Cronbach's Alpha.

The responses of each subject were used to calculate the mean. According to the existing literature the mean percentage of correct scores are grouped into (1) more than 80%, (2) 60% to 79% and (3) less than 60%. The first category represents a relatively high level, the second category represents a medium level and the third a relatively low level.

The subjects under study are students of Industrial and Systems Engineering at a public university in the south of the state of Sonora, Mexico. A random sample was taken from a population of 411 students, and the questionnaire was sent electronically and answered by 170 subjects. Of these, 60 were male and 110 female.

Results

The results of Cronbach's alpha consistency denoted .83 which indicates that the instrument is feasible since the closer it is to the number 1, the greater the reliability of the instrument.

Table 1 shows the characteristics of the subjects under study, resulting in a response rate by gender of 64% female and 35% male. In the category of the subjects' years of work experience, the predominant percentage were those with two or less years of work experience. The predominant age category of the respondents was between 18 and 20 years of age and the income of the students was predominantly between $10,000 and 29,999, it is worth mentioning that this income could not only be composed of wages and salaries, but also scholarships, allowances from parents, among others

Characteristics of the Subjects		*Number of participants*	*Percentage*
A)	Demographic Characteristics		
a)	Gender		
	Male	60	35.30%
	Female	110	64.70%
B)	Experience		
a)	**Years of work experience**		
	None	31	18.00%
	Less than two years	78	46.00%
	Two or less than four years	39	23.00%
	Four or less than six years	22	13.00%
	Six or more years		
b)	**Years of age**		
	18 a 20	128	75.40%
	21 a 23	24	14.10%
	24 a 26	18	10.50%
C)	**Income**		
a)	**Last year's income**		
	Lees of $10,000	27	16.00%
	$10,000 at $29,999	61	36.00%
	$30,000 at $49,999	73	43.00%
	$50,000 or more	9	5.00%

Table 1 Characteristics of the subjects
Source: Prepared with own data.

Table 2 demonstrates the level of financial literacy of the young respondents which overall from the instrument falls in the low category with a score of 54.93. In the general knowledge category the average was 51, savings and loans scored 58.56, insurance 58.09 and investments 46.41 which demonstrates the overall average for this application.

Average Percentage of Correct Answers for each question in the questionnaire, each section and for the entire questionnaire				
		Level of financial literacy		
		Low below 60%.	Medio 60-79%	Alto Por encima del 80%
I.	General knowledge			
	Personal financial literacy	52		
	Spending vs. saving pattern		63	
	Current account reconciliation	50		
	Personal Financial Planning	53		
	Taxes	40		
	Average number of correct responses for the section	**51.6**		
	Median number of correct answers for the section	**52**		
II.	Savings and loans			
	Solvency	50		
	Credit Bureau		61	
	Compound Interest		63	
	Annual Percentage Rate		60	
	Credit Card Usage	58.8		
	Average number of correct responses for the section	**58.56**		
	Median number of correct answers for the section	**60**		
III.	Insurance			
	Car Insurance			86.47
	Determination to buy insurance		74.35	
	Features of medical insurance	48.7		
	Insurance Dispute Resolution	48.81		
	Characteristics of life insurance	32.14		
	Average number of correct responses for the section	**58.094**		
	Median number of correct answers for the section	**53.452**		
IV	**Investments**			
	Investing in Ordinary Shares	53.68		
	Retirement - Benefits of early investment	52.39		
	Return on investment of funds	45.35		
	Changes in interest rates and treasury bond prices		68	
	Investment diversification	30.09		
	Exchange rates	28.99		
	Average number of correct responses for the section	**46.4166667**		
	Median number of correct answers for the section	**48.87**		
	Average number of correct responses for the whole instrument	**54.935**		
	Median number of correct answers for the whole instrument	**52.39**		

Table 3 Percentage of correct answers ANOVA
Source: Prepared with own data.

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Percentage of correct answers for each section ANOVA results						
		General knowledge	*Savings and loans*	*Seguros*	*Inversiones*	*Muestra*
A)	Demographic Characteristics					
a)	Gender					
	Male	66.54	58.3	61.43	46.51	61.25
	Female	54.3	51.5	62.91	38.96	50.3
	Experience	(86.49)**	(30.58)**	(29.93)**	(95.36)**	(104.68)**
B)	**Years of work experience**					
a)	**None**					
	Less than two years	47.5	41.3	46.2	28.3	43.29
	Two or less than four years	46.2	52	53.14	37.8	46.59
	Four or less than six years	53	52.39	55.68	35.92	47.89
	Six or more years	58.5	54.65	62.3	40.5	48.42
	Years of age	58.96	62.9	69.21	51.3	61.95
	18 a 20	(23.32)**	(21.82)**	(19.99)**	(25.85)**	(38.93)**
b)	21 a 23					
	24 a 26	60.23	53.22	48.5	25.9	48.96
	Income	65.8	55.29	50.2	26.8	57.63
	Last year's income	68.9	58.5	54.5	35.9	51.16
	Demographic Characteristics	(14.5)**	(12.4)**	(12.53)**	(18.96)**	(21.19)**
C)	Gender					
a)	Male					
	Menos de $10,000	60.8	52.16	61.2	38.52	52.26
	$10,000 a $29,999	62.9	56.45	63.5	41.48	56.81
	$30,000 a $49,999	65.49	57.92	61.18	43.56	55.38
	$50,000 o más	68.7	59.89	63.6	47.5	58.3
	F Estadística	(3.69)*	(6.99)*	((0.76)	(3.35)*	(4.69)**

Table 2 Average percentage of correct answers
Source: Prepared with own data

In terms of participants by category, it can be observed that students with more work experience have a better knowledge in terms of personal finance (general knowledge), participants between 24 and 26 years of age demonstrate a better level than those between 18 and 20 years of age.

It can also be observed that female participants tend to be less financially literate than male respondents. Those participants with less work experience have a lower level of financial literacy than those with more than four years of work experience.

In the category of savings and loans, work experience has significant differences: those participants who have never worked have less knowledge about savings and loans than those who have been in the labour force for more than six years.

In the same sense, knowledge in the area of insurance is the dimension with the lowest level, with age being the most significant, with younger youth demonstrating a lack of knowledge on the acquisition, knowledge and management of insurance.

Finally, the investment category shows that again the age of the population is totally significant in the level of investment knowledge of the young respondents as those in the 18-20 age range have a score of 25.9 being the lowest score obtained in the sample.

The results obtained are consistent with the findings of Chen and Volpe (1998), where it is shown that women, younger and inexperienced young people have a low level of knowledge. In the same vein, as mentioned by Gonzalez and Gutierrez (2017), young people demonstrate a limited savings culture and a tendency to think only in the short term.

These results suggest that university students need to improve their financial literacy, even though some of the items are basic, the overall mean of the participants is 54.93, where less than denotes a low level, 60-79% means a medium level and above 80% demonstrates a high level of financial literacy. None of the overall scores per category exceed 65%, the weakest area being investments.

The lowest levels were scored by women, the youngest and those who have never had a job.

Borden, Lee, Serido and Collins (2008) confirm that the introduction of curricular or extra-curricular courses in upper secondary education to encourage responsible attitudes towards credit, savings and investment is nowadays imperative, as without knowledge young people are more likely to make mistakes in the real world.

In conclusion it can be said that having a low level of financial education leads to uninformed decision making, therefore consequences that can collaterally affect the quality of life of people in the short and long term, according to the World Health Organization (WHO, 1996) cited by Quiroz, Molina, García Lirios, Murillo and Acosta (2021), as the perception that each individual gives to their life position within the contextualisation of the cultural system, as well as the values they bring with them, relating it to the stipulated goals, life expectations, standards and the concerns they perceive associated in this case with their personal finances.

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Technology transfer through the development of a system for teacher evaluation

Transferencia tecnológica mediante el desarrollo de un sistema para la evaluación docente

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Abstract

This research is carried out at the School Normal Official (ENOI) for the Research area in charge of collecting and managing the data resulting from the evaluation of teachers. Currently, this department does not have a specialized software system for this process (it is carried out manually), for these third-party technologies are used, which are Google Forms and Microsoft Excel. Due to this, a large number of failures have occurred in the process, among the most frequent those related to the integrity, consistency and redundancy of the data. This results in a considerable loss of time, taking into account that the institution has 66 professors and for each one 2 documents are generated (1 Excel and 1 Word), in addition to 4 more spreadsheet documents to carry out the analysis. of the data and finally 4 documents for presentation of the results. Giving a total of 140 documents to be generated only by a single person. Taking these data, it is essential to manage the information, this allows to meet the needs of the institution in the shortest possible time, allowing strategies and work plans for the academic area to be carried out. ICTs give us the opportunity to create, modify and store information. Its development has evolved along with society, knowledge and education, allowing access to information at any time. The objective of this project is to develop an information system as a support tool to improve evaluation processes and provide a follow-up of teachers visualizing their academic work.

Process of evaluation, Administration, Software

Resumen

Esta investigación se realiza en la Escuela Normal Oficial (ENOI) para el área de Investigación encargada de recabar y administrar los datos resultantes de la evaluación a docentes, actualmente en este departamento no cuenta con un sistema de software especializado para dicho proceso (se realiza de forma manual), para esto se emplean tecnologías de terceros, las cuales son Google Forms y Microsoft Excel. Debido a esto se han presentado gran cantidad de fallos en el proceso, entre los más frecuentes se han detectado los relacionados con la integridad, consistencia y redundancia de los datos. Esto resulta en una pérdida de tiempo considerable, tomando en cuenta que la institución cuenta con 66 profesores y para cada uno se generan 2 documentos (1 de Excel y 1 de Word), además de 4 documentos más de hoja de cálculos para realizar el análisis de los datos y finalmente 4 documentos para presentación de los resultados. Dando un total de 140 documentos por generar únicamente por una sola persona. Tomando estos datos es primordial el manejo de la información, esto permite atender las necesidades de la institución en el menor tiempo posible, permitiendo realizar estrategias y planes de trabajo para el área académica. Las TIC nos da la oportunidad de crear, modificar y almacenar información. El objetivo de este proyecto es desarrollar un sistema de información como herramienta de apoyo para mejorar los procesos de evaluación y brindar un seguimiento de docentes visualizando su trabajo académico.

Procesos de evaluación, Administración, Software

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Introduction

Throughout time, evaluations have been a fundamental part of a student's a fundamental part for the evaluation of a student's school subjects, but, above all, to know the student's general performance. For these reasons, school grades are seen as an instrument for measuring student performance and not as a sole objective, since a high level of these is not synonymous with correct learning. On the other hand, this indicator functions as a method for discovering a student's abilities in certain subjects. When there is no control or correct management of grades, any possibility of obtaining information related to the performance and skills of students is lost.

Evaluations have the main purpose of promoting student learning by providing clear and concise information about their progress, alerting teachers about the academic needs of their respective students, verifying the degree to which students have performed in the tasks and competencies evaluated by teachers and schools.

Software

Instructions (computer programs) that when executed provide the intended characteristics, function and performance; data structures that allow the programs to properly manipulate information; descriptive information in both paper and virtual forms that describe the operation and use of the programs. (Pressman R., 2003)

JavaScript

JavaScript (JS) is a lightweight, interpreted, or just-in-time compiled programming language with first-class functions. While it is best known as a scripting language for web pages, and is used in many non-browser environments, such as Node.js, Apache CouchDB, and Adobe Acrobat; JavaScript is a prototype-based programming language, multiparadigm, single-threaded, dynamic, with support for object-oriented support for object-oriented, imperative and declarative programming. (Mdn, 2022)

Programming language

A programming language is a formal language that provides a set of instructions that allow a programmer to write sequences of commands and algorithms in order to control the physical and logical behavior of a computer to produce various kinds of data. This whole set of commands and data written by means of a programming language is known as a program (Vaca, 2011).

Database

A database or database is a set of data belonging to the same context and stored systematically for later use (Peréz & Gardey, 2014).

Html 5

It is the markup language we use to structure and give meaning to our web content, for example, defining paragraphs, headers and data tables, or inserting images and videos on the page (Mdn Web Doc, Network, 2005).

CSS

A style rules language that we use to style our HTML content, for example, setting background colors and fonts, and laying out our content in multiple columns. (Mdn Web Doc N. M.,2005).

JQuery

jQuery is a fast, small, and feature-rich JavaScript library. It makes things like HTML document traversal and manipulation, event control, animation, and Ajax much simpler with an easy-to-use API that works in a multitude of browsers. With a combination of versatility and extensibility, jQuery has changed the way millions of people write JavaScript (Foundation, 2021).

Life Cycle

The software life cycle consists of all the stages that precede and follow programming. The methods and techniques of software engineering fall within the framework delimited by the software life cycle, and, more specifically, by the different stages that are distinguished (Pressman R. S., 2010).

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PHP

PHP (recursive acronym for PHP: Hypertext Preprocessor) is a very popular open source language especially suited for web development and can be embedded in HTML. What distinguishes PHP from something client-side like Javascript is that the code is executed on the server, generating HTML and sending it to the client (Lerdorf, 2021).

MySql

It is the name of a system that allows database management. It is the most widely used option for web-based applications (Perez Porto, 2019).

Server

It is a program that offers a special service that other programs called clients can use locally or through a network. The type of service depends on the type of server software. The basis of communication is the client-server model and, as far as data exchange is concerned, service-specific transmission protocols come into play. (ionos.mx, 2020)

Web site

It is a set of web pages accessible via the Internet, conveniently linked and with a specific purpose. It is identified by a unique URL address, which is usually the home page or Home page. (GoDaddy, 2019).

Methodology

In this project is developed as support to the tutoring process within the Computer Systems Engineering career, by developing a progressive application that allows to keep a tutorial control of the students through the different educational models, by improving the individual accompaniment and thus strengthen the tutoring program in the coordination. For the realization of this project the waterfall model is implemented, sometimes called classical life cycle suggests a systematic and sequential approach to software development, which begins with the specification of requirements by the customer and progresses through planning, modeling and construction and deployment, to conclude with the support of the finished software. As shown in Figure 1.

Figure 1 Cascading life cycle
Source: Own elaboration

It has been decided to use the aforementioned life cycle as it is considered adequate for the time possible and allows the end user to make use of the system in a relatively short time, taking into account three important parts for its development: Programming, usability laboratory and proposals for application improvement, as shown in Table 1.

Activity	Stage
Requirements	Analysis
Design	
Implementation	Programming
Verification	
Maintenance	Final Visualization

Table 1 Stages of the project cycle
Source: Own elaboration

Analysis

As the first stage in the development of the teacher evaluation system the first step in the development of the teacher evaluation system is the analysis, for which the data collection technique will be by means of a survey to the personnel that will work with the software (administrative user) where the following instruments will be collected:

- What are your main responsibilities?
- What deliverable(s) do you need?
- Who is it for?
- Why does this problem exist and how is it solved now?
- What type of reports do you need to visualize?
- What platforms are used for this process?

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- What are your future plans for the system?

- What are your expectations regarding the usability of this application ease of use of this application?

- What types of printed and online documentation do you need?

- What are the security requirements?

For the web development and implementation, the option of setting up a server at the educational institution was chosen, so that only the services and software necessary for the proper functioning of the system will be installed and configured. This will also allow the available hardware resources to be dedicated solely to the project.

Likewise, the analysis of the database and the information of the Web Service requires configuring the communication between both for the proper functioning and it is necessary to make the relationships between the tables of the database for efficient processing and consultation, the design is done with the help of the server that will provide us with the services of MySQL, Apache Server and PHP to access, manage and easily organize the data, as shown in Figure 2 below.

Figure 2 Service management using XAMPP software
Source: Own elaboration.

Programming and final visualization

Within the programming it is important the graphical user interface, to establish a better communication between the user and the software system. This consists of different interfaces, which will be assigned to the user according to their profiles and access credentials.

Figure 3 shows the interface for the use of administrative personnel, in which they will have at their disposal a control panel for the activation or deactivation of the teacher evaluation surveys and downloading of reports.

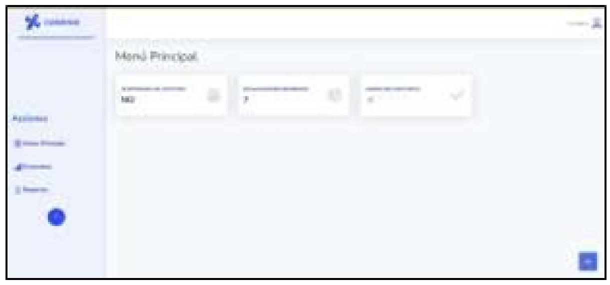

Figure 3 Main graphical interface for managing teacher evaluation
Source: Own elaboration.

For the teaching users, they will have the possibility of visualizing the general results of the evaluations made by the students to whom they teach, besides being able to download the specific reports of each subject they are teaching in the current semester, we can see this interface in figure 4.

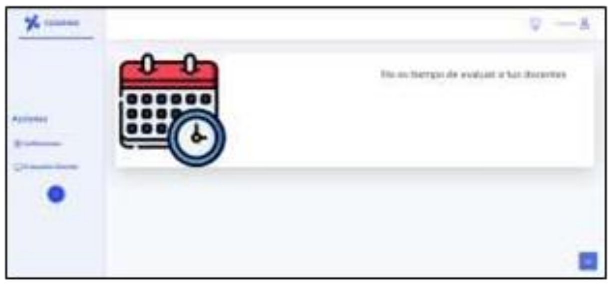

Figure 4 Student graphical interface for accessing teacher evaluation
Source: Own elaboration

Results

In Figure 5 we can see how information is provided on how many teacher evaluations have been received by the students during the teacher evaluation period information is provided on how many teacher evaluations have been received by students during the teacher evaluation period; this information was not previously available. Students had to be asked if they had already completed the corresponding questionnaires. Now with the support of this system all the information is obtained in real time, showing not only how many have been completed or were completed, but also how many are still pending and those that have not yet been completed.

Figure 5 Number of teaching evaluations performed by students
Source: Own elaboration

The report in Figure 6 shows one of the different results reports (reports) that can be obtained once the teaching evaluation season has ended. Among which we can find: Teaching Evaluation Scores (PED) by degree, PED by teacher, general PED.

So now the system provides a solution and reports on the individual performance of teachers in their respective subjects and degrees in which they are teaching.

Figure 6 Spreadsheet report generated by the system with the PEDs by teacher
Source: Own elaboration

Figure 7 shows a table where the personal access links of each student (organized by group and degree) were previously stored. As a result of this process, a spreadsheet file with 25 different tables was generated, the problem of working under this format lies in the difficulty of guaranteeing that each student accesses only the link assigned to him/her, that there are no duplicate accesses, etc.

LICENCIATURA EN EDUCACIÓN PREESCOLAR		
1°U		
No.	Docente	Liga de evaluación
1	Moreno Madrigal José Luis	https://forms.gle/ipvMssRgsrieTKAm6
2	Castillo Flores Laura Itzel	https://forms.gle/qgDJumVmi6w45qHA
3	Contreras Amador Arturo	https://forms.gle/tTBQJhfC8HjfP7R49
4	Pérez Becerril Berenice Guadalupe	https://forms.gle/t7vWqwP614ECeRLB
5	Diez González Irma	https://forms.gle/eLBgHq42J2zvlVpB7
6	Beltrán Mosqueda Alejandra	https://forms.gle/SWDRfgNftHye5fv9
7	Ramírez Espinosa Yared Holanda	https://forms.gle/fcJDcHM453dZW5CK9
8	Oliva Maciel Judith	https://forms.gle/mmRsJMUcxH3wPSgm7
9	Chay Ramírez Martín Fernando	https://forms.gle/EmrzqamaEukBYss59
10	Parra Sánchez Salvador	https://forms.gle/J2qxFkM13J59VG3r5
11	Mateos Guerrero Alberto	https://forms.gle/Yev2CH4qD3NFR3NT8
12	Gallardo Portillo Amanda	https://forms.gle/s7mrDp7mDos8yRWm8

Figure 7 Table of links to previously used teaching evaluations
Source: Own elaboration

This is solved and automated with the implementation of the following section of the teaching evaluation system, in which after the student logs in, he/she will be presented with his/her pending evaluations, the form used to capture the student's answers is shown in Figure 8.

Figure 8. Form displayed by the student to carry out the teaching evaluation
Source: Own elaboration

Conclusions

By establishing the use of new technologies allows us to transfer and develop a rp system, a strategy to obtain analytical results and dynamic graphic presentation to manage data and consolidate them in a manner consistent with a graphical presentation and to observe the weaknesses and opportunities that the teacher can bring to the student and strengthen their meaningful learning, without forgetting that the teacher must be prepared to meet the new demands in information techniques, as a student.

In this project the teacher is a fundamental part for the realization of a successful methodology, due to the incentive and innovation of processes so that the students learn and can develop projects by themselves, and thus create their own knowledge, to develop in the work and personal environment. Without forgetting that the student is motivated when there is a teacher with the vision of teaching, with the pillars of education "learning to learn, learning to do and learning to live", therefore, the teaching practice is one of the aspects that must be taken as a priority for the development of a society.

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

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

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

International Identification of Science - Technology and Innovation

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

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

Abstract (In English, 150-200 words)

Objectives
Methodology
Contribution

Keywords (In English)

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

Abstract (In Spanish, 150-200 words)

Objectives
Methodology
Contribution

Keywords (In Spanish)

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Citation: Surname (IN UPPERCASE), Name 1st Author†*, Surname (IN UPPERCASE), Name 1st Coauthor, Surname (IN UPPERCASE), Name 2nd Coauthor and Surname (IN UPPERCASE), Name 3rd Coauthor. Paper Title. Journal Schools of economic Thought and Methology. Year 1-1: 1-11 [Times New Roman No.10]

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† Researcher contributing as first author.

Introduction

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

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

What is your added value with respect to other techniques?

Clearly focus each of its features

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

Explanation of sections Article.

Development of headings and subheadings of the article with subsequent numbers

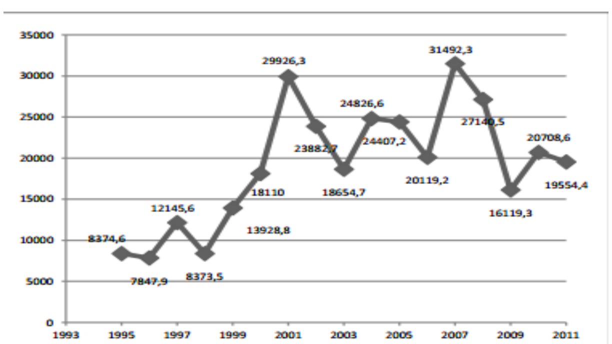
[Title No.12 in Times New Roman, single spaced and Bold]

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

Including graphs, figures and tables-Editable

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

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



Graphic 1 Title and Source (in italics).

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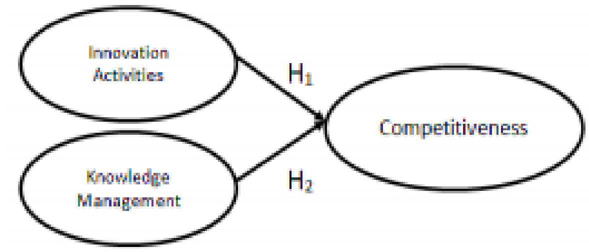

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			OLS	I-OLS	IM-OLS	OLS	I-OLS	IM-OLS
		λ	Panel A. Bias			Panel B. RMSE		
ρ = 0.0	γ = 0.0	1	−0.00011	−0.00003	0.00013	0.0267	0.0398	0.0378
		2	0.00051	0.00039	0.00015	0.0267	0.0414	0.0395
		3	−0.00091	−0.00143	−0.00065	0.0286	0.0461	0.0429
		4	0.00034	0.00041	0.00115	0.0301	0.0498	0.0471
		5	0.00011	0.00040	0.00018	0.0324	0.0537	0.0507
		10	−0.00010	−0.00079	−0.00013	0.0455	0.0861	0.0763
	γ = 0.3	1	0.01477	0.00378	0.00274	0.0342	0.0435	0.0360
		2	0.01778	0.00754	0.00618	0.0361	0.0472	0.0391
		3	0.02092	0.01064	0.00925	0.0388	0.0518	0.0438
		4	0.02340	0.01364	0.01236	0.0418	0.0555	0.0471
		5	0.02652	0.01721	0.01454	0.0448	0.0607	0.0516
		10	0.04198	0.03247	0.03146	0.0641	0.0952	0.0829
ρ = 0.3	γ = 0.0	1	−0.00085	−0.00021	−0.00073	0.0364	0.0545	0.0531
		2	0.00019	−0.00015	−0.00011	0.0374	0.0565	0.0550
		3	0.00015	0.00076	0.00046	0.0400	0.0627	0.0597
		4	0.00043	−0.00011	−0.00070	0.0417	0.0711	0.0668
		5	0.00165	0.00206	0.00213	0.0454	0.0791	0.0711
		10	0.00073	0.00136	0.00112	0.0661	0.1267	0.1128
	γ = 0.3	1	0.02299	0.00570	0.00458	0.0490	0.0643	0.0527
		2	0.02818	0.01123	0.01035	0.0523	0.0676	0.0561
		3	0.03264	0.01611	0.01445	0.0571	0.0720	0.0620
		4	0.03581	0.01957	0.01907	0.0591	0.0773	0.0690
		5	0.04081	0.02569	0.02416	0.0647	0.0872	0.0754
		10	0.06063	0.04727	0.04458	0.0914	0.1369	0.1187

Table 1 Title and Source (in italics**).**

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

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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.

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Tables and adequate sources thanks to indicate if they were funded by any institution, University or company.

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Explain clearly the results and possibilities of improvement.

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