

## Impact of creativity and innovation in the subdirectorate of planning and liaison of a higher education institution in the State of Veracruz, Mexico

## Impacto de la creatividad y la innovación en la subdirección de planeación y vinculación de una institución de educación superior en el Estado de Veracruz, México

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### Abstract

The Impact of Creativity and Innovation in the Planning and Linkage Subdirectorate of a Higher Education Institution in the State of Veracruz, Mexico, has as its main purpose to collect information regarding the area of Creativity and Innovation, studying its impact to prepare a proposal of a development model. Through three instruments that measure the Creativity and Innovation of the different departments that make up the Planning and Liaison Subdirectorate, we can assess analysis, open-mindedness, communication, empathy to mention some of the skills that can be rediscovered or come to light with the support of this series of questions that are posed exclusively for the well-being of the Institution. The objective of the research is to provide the Institution with the information resulting from the diagnosis, which allows addressing each of the indicators, receiving feedback from the five departments that make up the Planning and Liaison Subdirectorate. Contributing to continuous improvement, through the planning of strategies that contribute to the fulfillment of the organization's objectives.

### Innovation, Linkage, Institution

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### Resumen

El Impacto de la Creatividad y la Innovación en la Subdirección de Planeación y Vinculación de una Institución de Educación Superior en el Estado de Veracruz, México, tiene como propósito principal recopilar información referente al ámbito de Creatividad e Innovación, estudiando su impacto para elaborar una propuesta de un modelo de desarrollo. Por medio de tres instrumentos que miden la Creatividad y la Innovación de los diferentes departamentos que conforman la Subdirección de Planeación y Vinculación, podemos valorar el análisis, apertura mental, comunicación, empatía por mencionar algunas de las habilidades que pueden redescubrirse o salir a la luz con el apoyo de esta serie de preguntas que son planteadas exclusivamente para el bienestar de la Institución. El objetivo de la investigación es otorgar a la Institución la información resultado del diagnóstico, que permita abordar cada uno de los indicadores, recibiendo retroalimentación de los cinco departamentos que conforman la Subdirección de Planeación y Vinculación. Contribuyendo a la mejora continua, a través de la planificación de estrategias que contribuyan al cumplimiento de los objetivos de la organización.

### Innovación, Vinculación, Institución

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## Introduction

Nowadays, innovation and creativity contribute to boost companies, not only economically, but also commercially, in the consolidation of their brands, products, goods and/or services, and the incursion into new markets. We can confirm that innovation and creativity strengthen business success, leading them to reduce costs, sustain a high level of satisfaction among their customers and help them to seduce new customers and stand out from the competition.

The Higher Education Institution on which this study is based, is an Institution that has a Quality Management System, which allows it to have a competitive advantage since it is very important to provide a quality service in the educational sector, satisfying the needs of our customers, the students.

The evaluation instruments (questionnaires) applied, ranging from the general to the particular, were answered by the heads of the departments that make up the ITUG's organisational structure: the five departments that make up the Sub-Directorate of Planning and Liaison: Department of Planning, Programming and Budgeting, Information Centre, Technology Management and Liaison, School Services and Extracurricular Activities.

The objective is to analyse the impact of creativity and innovation in the top management of the ITUG's Sub-Directorate of Planning and Liaison, through the application of questionnaires, which will allow the creation of a development model.

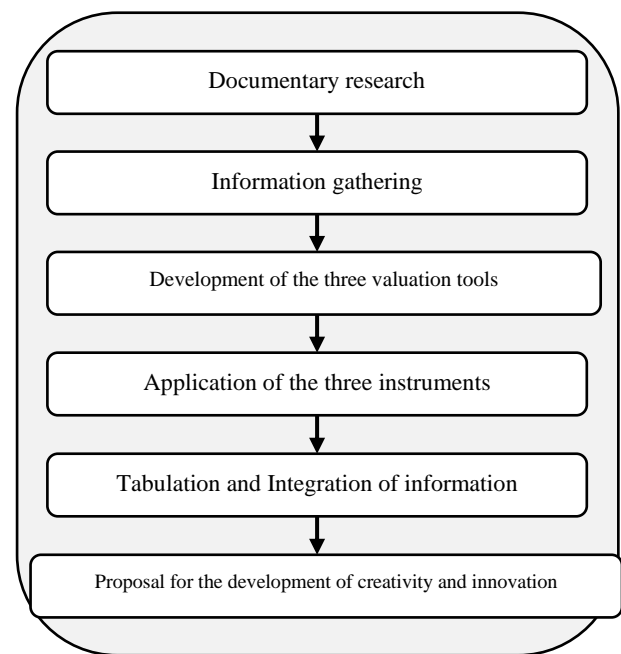
The results of the Planning and Liaison Sub-Directorate with respect to the three questionnaires applied and the tabulation of the data obtained with a range of 51 - 70%, with a rating of 65.07 - 72% which represents a level of innovation and creativity of "good" to "very good".

## Methodology to be developed

The methodology for the research is graphically represented in figure 1, where the different phases that were followed are listed:

1. Documentary research.
2. Collection of information.

3. Elaboration of the three valuation instruments.
4. Application of the three instruments
5. Tabulation and integration of the information
6. Proposal for the development of creativity and innovation.



**Figure 1** Methodology for research  
Source: Own elaboration, (2023)

## Instrument to be used

The purpose of the questionnaires used for this research is to obtain information regarding the activities and functions of each department, and at the same time to be useful as a self-diagnosis, focusing on the participation of intellectual capital (collaborators).

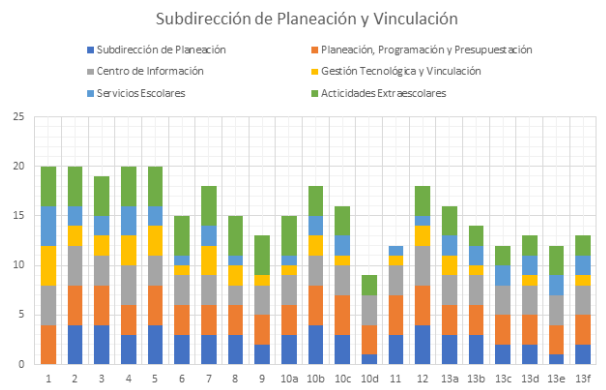
The study was done based on an instrumental approach, Majaro (1994), where three assessment instruments were taken, consisting of a series of questions with different aspects of the level of creativity that exists in the different areas of the organisation. The questions were worded in such a way that "yes" or "no" are the obvious answers. However, for better analysis five answers were taken for each question: No, Very rarely, Sometimes, Often, Yes.

Based on the research carried out in the different departments of the Subdirección de Planeación y Vinculación, we proceeded to tabulate the information to have a specific result of the data about creativity and innovation in the corresponding area.

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Planning and Liaison Sub-Directorate		Planning Sub-Directorate	Planning, Programming and Budgeting	Information centre	Technology Management and Liaison	School Services	Extracurricular Activities
1	Does your institution's <<mission statement>> mention the words <<creativity>> or <<innovation>> or both, as part of the institution's culture or <<ethos>>?	0	4	4	4	4	4
2	Is top management involved and strongly interested in activities related to idea generation?	4	4	4	2	2	4
3	Is there a supportive climate in the institution for idea-generating processes?	4	4	3	2	2	4
4	Can employees approach members of senior management with new ideas and get them to listen carefully?	3	3	4	3	3	4
5	Do staff talk about <<creativity>>, <<ideas>> and <<innovation>>?	4	4	3	3	2	4
6	Do staff know where to present their ideas?	3	3	2	1	1	4
7	Does the institution conduct regular training programmes or idea-generating exercises in order to stimulate a general climate in the institution that is conducive to creativity?	3	3	3	3	2	4
8	Does the institution conduct regular training programmes or brainstorming exercises in order to solve problems and/or identify opportunities?	3	3	2	2	1	4
9	Is there a communication system to <<sell>> internally the top management's approach to creativity and innovation?	2	3	3	1	0	4
10 <sup>a</sup>	Does the institution actively encourage communication and the channelling of ideas between: § The different hierarchical levels of the institution?	3	3	3	1	1	4
10b	§ The different functions or posts.	4	4	3	2	2	3
10c	§ The different operational units	3	4	3	1	2	3
10d	§ The different national markets	1	3	3	0	0	2
11	Is there a system in place in the institution to screen and evaluate ideas, or only ad hoc approaches?	3	4	3	1	1	0
12	Do senior management consider the number of innovations made to be satisfactory?	4	4	4	2	1	3
13 <sup>a</sup>	In general terms, is the level of creativity in the following functional areas satisfactory? § Department of Extracurricular Activities (Communication and Dissemination)	3	3	3	2	2	3
13b	§ Academic departments	3	3	3	1	2	2
13c	§ Human Resources Department	2	3	3	0	2	2
13d	§ Division of Professional Studies	2	3	3	1	2	2
13e	§ Financial Resources Department	1	3	2	0	2	3
13f	§ Department of Material Resources and Services	2	3	3	1	2	2
TOTAL		57	71	66	33	36	65

**Table 1** Instruments of innovation and creativity at high levels of management (Subdirección de Planeación y Vinculación) at high levels  
Source: (Perception of the departments that make up the SPyV)



**Graphic 1** Graph of innovation and creativity instruments in the sub-directorate of planning and liaison  
Source: Results obtained in the first evaluation instrument

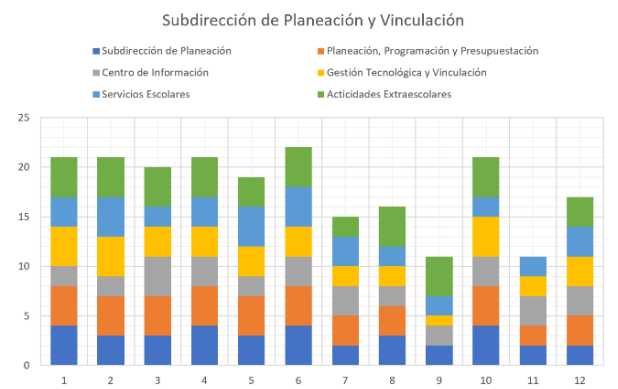
Table 1 shows that the results obtained at the managerial level are 57, 71, 66, 33, 63 and 65: Rating obtained =  $(57 + 71 + 66 + 33 + 63 + 65) / (84 * 6) = 328 / 504 * 100 = 65.07 \%$  This rating is in the range of 51-70 %. This rating represents a level of creativity from “good” to “very good”, but this rating should not be taken as an invitation to complacency.

There is room for improvement and efforts to increase creativity levels will always be valuable. Levels are already developing, but further efforts are still needed.

The comparative audit is as follows:

Planning and Liaison Sub-Directorate		Planning Sub-Directorate	Planning, Programming and Budgeting	Information centre	Technology Management and Liaison	School Services	Extracurricular Activities
1	Is there a general climate of support for idea generation processes in the department or operational area?	4	4	2	4	3	4
2	Do the management levels of the department show a strong interest in idea generation, or do they <<sit back>> and wait for other areas to generate ideas?	3	4	2	4	4	4
3	Do the department's objectives mention the words <<creativity>> or <<innovation>> or both?	3	4	4	3	2	4
4	Do department staff talk about <<creativity>>, <<ideas>> and <<innovation>>?	4	4	3	3	3	4
5	Is it easy to approach management levels in the department? Are they receptive to ideas?	3	4	2	3	4	3
6	Do department staff know how and to whom to submit their ideas?	4	4	3	3	4	4
7	Does the department run training programmes or use idea generation exercises to stimulate creativity?	2	3	3	2	3	2
8	Does the department conduct training programmes or use brainstorming exercises to solve problems and/or to identify opportunities?	3	3	2	2	2	4
9	Does the department have a system in place to <<sell>> internally the concepts of <<creativity>> and <<innovation>>?	2	0	2	1	2	4
10	Does the department make efforts to communicate and implement cross-fertilisation processes with other departments, units, etc.?	4	4	3	4	2	4
11	Is there a system in place in the department to screen and evaluate ideas?	2	2	3	2	2	0
12	Is the number of innovations produced in the department considered satisfactory?	2	3	3	3	3	3
TOTAL		36	39	32	34	34	40

**Table 2** Instruments of innovation and creativity at senior management level (Subdirección de Planeación y Vinculación) in operational areas  
Source: Perception of the departments that make up the SPyV with respect to the operational areas



**Graphic 2** Graph of Innovation and creativity instruments at top management level  
Source: Results obtained in the second evaluation instrument

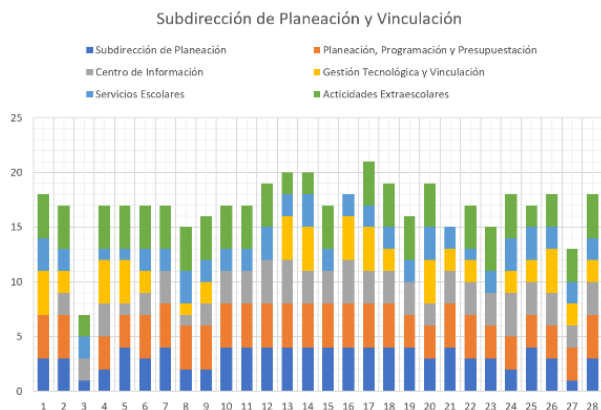
The audit of "Graph 2" gives a quick comparative overview of the existing quality level in each department. You could simply compare the “gross” rating or use more elaborate percentage calculations following the evaluation method explained in the previous audit.

(In this case, the maximum score is 48 points.) In both cases, the audit tells you which areas of the organisation could benefit most from an increase in quality.

The specific quality aspects specific to each operational area are analysed in the following “audits of the operational areas”.

Planning and liaison sub-directorate		Planning Sub-Directorate	Planning, Programming and Budgeting	Information centre	Technology Management and Liaison	School Services	Extracurricular Activities
1	Does your institution's <<mission statement>> mention the words <<creativity>> or <<innovation>> or both, as part of the institution's culture or <<ethos>>?	3	4	0	4	3	4
2	Is the top management involved and strongly interested in activities related to idea generation?	3	4	2	2	2	4
3	Is there a supportive climate for idea generation processes in the institution?	1	0	2	0	2	2
4	Are employees able to approach members of senior management with new ideas and get them to listen carefully?	2	3	3	4	1	4
5	Does the institution's staff talk about <<creativity >>, <<ideas>> and <<innovation>>?	4	3	1	4	1	4
6	Do staff know where to present their ideas?	3	4	2	2	2	4
7	Does the institution conduct regular training programmes or idea-generating exercises in order to stimulate a general climate in the institution that is conducive to creativity?	4	4	3	0	2	4
8	Does the institution conduct regular training programmes or brainstorming exercises in order to solve problems and/or identify opportunities?	2	4	1	1	3	4
9	Is there a communication system in place to <<sell>> internally the top management approach to creativity and innovation?	2	4	2	2	2	4
10	Does the institution actively stimulate communication and the flow of ideas between and among staff?	4	4	3	0	2	4
11	Has the cost-benefit ratio of promotional campaigns been improved in recent years?	4	4	3	0	2	4
12	Has the Institution developed its own promotional ideas, or does it always rely on external agencies for creative thinking processes?	4	4	4	0	3	4
13	Has the institution regularly experimented with new ideas for communication activities (e.g. new technologies)?	4	4	4	4	2	2
14	Does the management of your department actually identify and evaluate good ideas that are used in your markets or in other markets?	4	4	3	4	3	2
15	Has the Institution been able to improve the quality and/or reduce the costs of its logistical structure during the last years?	4	4	3	0	2	4
16	Has the Institution evaluated the use of alternative channels in order to increase consumer and client satisfaction levels?	4	4	4	4	2	0
17	Has the Institution been able to increase the loyalty levels of its intermediaries and improve customer service over the last few years?	4	4	3	4	2	4
18	Do the staff in your department involve other members of the Institution in the idea generation or strategic planning processes?	4	4	3	2	2	4
19	Compared to your main competitor, is the institution's outreach creative enough?	4	3	3	0	2	4
20	Are the staff in your department sufficiently creative?	3	3	2	4	3	4
21	Is there a procedure in place to utilise cross-office cross-fertilisation of ideas within your department?	4	4	3	2	2	0
22	Are staff members in your department involved in brainstorming activities to find answers to problems that exist in other departments?	3	4	3	2	1	4
23	Does your department take care to determine what your "star performers" do differently from other staff?	3	3	3	0	2	4
24	Are staff in your department sufficiently encouraged to submit ideas for evaluation?	2	3	4	2	3	4
25	Has the department been able to increase the ratio of time spent in media contacts in recent years?	4	3	3	2	3	2
26	Has the institution been creative in the way it monitors its various departmental activities (e.g. effectiveness of communication, efficiency of publicity and promotion, etc.)?	3	3	3	4	2	3
27	Does the Institution react quickly to threats from its competitors?	1	3	2	2	2	3
28	Can the institution respond quickly to market opportunities?	3	4	3	2	2	4
TOTAL		90	99	75	57	60	94

**Table 3** Instruments of innovation and creativity in the top management of the sub-directorate for planning and liaison  
Source: Perception of the departments that make up the SPyV with respect to the top management



**Graphic 3** Graph of Innovation and creativity instruments at the top management levels of the planning and liaison sub-directorate  
Source: Results obtained in the third evaluation instrument

From the results obtained in "Graphic 3" the following formula is applied: (Individual audit + Comparative audit) / (Total rating) x 100  
Substituting values: (36 + 90 + 39 + 99 + 32 + 75 + 34 + 57 + 34 + 60 + 40 + 94) / ((112+48)\*6) x 100 = 72 %.

As can be seen in the case of the Sub-Directorate of Planning and Liaison, 72% represents that the levels have reached several schemes. Such as teamwork, communication, situational leadership and empathy. Ramifying throughout the organisation, however, a "maintenance" plan is suggested.

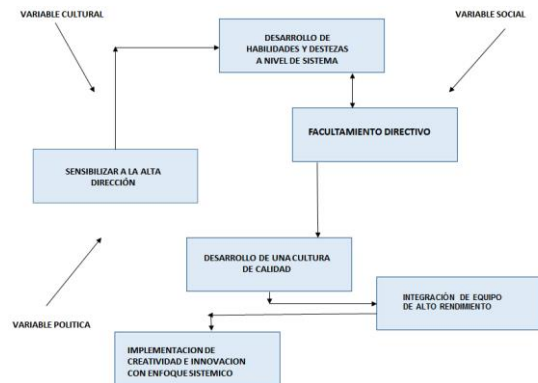
**Results**

Based on the research techniques implemented and the results obtained. In this sub-directorate there is good communication and above all the different ideas of each of the areas are taken into account. And that creative and analytical capacities are combined to generate ideas. In this sense the need to set objectives.

Krell, H. (2010) mentions that there are two ways to learn about innovation: 1. Discovering possibilities and limits at the moment of innovation and 2.

In this sense, it is necessary to maintain an innovative attitude, by searching for opportunities, being persevering until the objectives are achieved, generating and objectively evaluating innovative solution alternatives.

For this reason, the following is a proposal for a development model for the integral improvement of top management.



**Figure 2** Development model for creativity and innovation in ITUG's Sub-Directorate for Planning and Liaison  
Source: Own elaboration, 2023

## Conclusions

The data from the assessment instruments applied in the Subdirección de Planeación y Vinculación, concluded that it is necessary to sensitise the top management in order to create ideas that make a significant difference with respect to the competition, allowing to be in constant learning and development.

As a result of this project, it was concluded that it is important to implement strategies such as the generation of ideas, provocative thinking, collective intelligence, collective thinking, teamwork, motivation, learning to express and transmit emotions. To innovate is not to do something new, it is to rebuild what already exists.

## Recommendations

In accordance with the challenges imposed by the socio-economic environment, it is recommended that the ITUG's Sub-Directorate of Planning and Liaison aims to present innovative ideas that contribute to keeping the institution within a dynamic market and thus create new value for the client (students). In this sense, the aim is to increase the involvement of the top management in adapting and making better use of the capacities and skills of the members of this institution.

It is recommended to train the management with the aim of integrating a high performance team that allows the development of a quality culture, implementing Creativity and Innovation with a systemic approach, showing, as part of a whole, from the general to the particular.

To the extent that ITUG's Planning and Liaison Department, in general, uses and reuses its knowledge, promotes ideas in a creative way, innovates, develops new strategies and methodologies, it will give the institution an added value that will help it to link with the environment and contribute to social development, benefiting itself with fresh and innovative ideas.

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