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Standardization of Administrative Processes at the Faculty of Engineering of Universidad Libre, Bogota Branch

MBA. Eng Ever Ángel Fuentes Rojas[1], Diego Alejandro Muñoz Camayo[2]
[1](Industrial Engineering, Universidad Libre, Bogotá D.C - Colombia)
[2](Industrial Engineering, Universidad Libre, Bogotá D.C - Colombia)

ABSTRACT: *In the search for efficiency and educational quality in the Faculty of Engineering of the Universidad Libre, the unification of administrative processes is made, since in a world with high competition and strong digitalization, continuous improvement must be sought at all times. It was essential to conduct the study due to the constant changes that have occurred as a result of the pandemic and staff turnover among other factors. In the methodology it was of great relevance to have both external and internal experts to identify and prioritize seven problems, in addition, four procedures and three instructions were documented, likewise the execution time of the processes with opportunities for improvement was optimized by 19.71%, and six indicators were proposed to allow their follow-up, finally, the stakeholders were analyzed recognizing their interest and influence. The project was able to establish a complete diagnosis of the situation allowing to increase the efficiency of the Faculty through the different objectives developed.*

KEYWORDS *- Improvement opportunities, administrative processes, Universidad Libre, Faculty of Engineering, procedures.*

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I. INTRODUCTION

In organizations, administrative management takes on an extremely important role, since the proper management of the procedures surrounding an entity allows for greater control and follow-up, which ultimately translates into better overall performance of the company. Although it is true that the standardization of processes may imply an initial economic effort, the results obtained justify this investment by focusing on the efficiency of the entity.

The study focuses on the unification of administrative processes in the Faculty of Engineering, an effort that involves various stakeholders at the Universidad Libre, such as the Dean's Office, the Program Directors and the Director of the Faculty's Research Center. In order to ensure the success of the project, it was essential to know the current context of the Faculty in order to understand the specific terminology and regular flows that govern the institution.

The research adopted a context analysis methodology that allowed a complete understanding of the activities carried out in the faculty, which allowed the identification of opportunities for improvement. Using Industrial Engineering tools, it was possible to measure and quantify the impact of the administrative processes by means of an indicator sheet and matrices such as Mendelow and Stakeholders.

The project marks an extremely important step in the Faculty's constant search for improvement. Its implementation leads to a reorganization that ultimately translates into significant progress in the academic quality of the institution.

1.1 Review of the research background

First, an analysis of related projects at the University took place, with the purpose of identifying how processes had been previously standardized at the same institution. Next, a comprehensive review of research conducted in the country was carried out to provide a broader context. Finally, a comparison was made with studies conducted abroad to obtain a global perspective.

The first project examined to carry out by Gonzales Garcia and Torres Romero, entitled "Standardization of Processes at Menno American College" [1]. For this study, concern was expressed due to the imminent resignation of the rector of the institution where the research was being conducted, and the absence of clear procedures that would facilitate the efficient training of the new occupant of the position. Therefore, it was vitally important to adequately document the functions performed. This study was especially relevant to the current research, given that in the Faculty of Engineering of the Universidad Libre (FEUL) there is a relatively constant

turnover of personnel, a normal situation in any organization. In addition, Gonzales Garcia and Torres Romero relied on the ISO 9001 standard, which adds an important component to the development of their objectives.

On the other hand, the project entitled "Standardization of processes of the thermal laboratory, applicable to the subjects or modules of the Industrial Engineering program of the Universidad Libre, sectional Bogota, Bosque Popular branch", carried out by Nuñez Casnona and Pérez Casas [2], examined. This document was very useful because, although the procedures differed in some aspects, they focused on the same institution. The project sought to optimize the use of thermal laboratories and was oriented in the direction of establishing a Quality Management System. However, its major contribution was to provide the initial context on how these specific processes were managed at the Faculty.

Subsequently, research developed in the same Faculty was analyzed, which was highly beneficial due to its more recent character compared to the previously mentioned. This study focused on the "Standardization of the Project Management of the Environmental Consultancy of the Faculty of Engineering of the Universidad Libre using the PMI methodology" [3]. In this work, Solarte Gaitán set out to structure the typology of projects managed in the office, delving into the operations required throughout the life cycle and document management. This research culminated in a methodological guide supported by the tools and instruments necessary for its implementation.

On the other hand, nationally, Molina Gallego's study entitled "Standardization of Processes in the Project Management of the Physical Plant Department of EAFIT University, based on Prince2 and PMI methodologies, integrated to BIM processes" [4] analyzed. This study is of great relevance since it offers an updated approach and is supported by methodologies that provide a broad vision. In addition, since it is a project focused on construction, it allows an adequate exploration, since both maintenance work and structural improvements are managed from the administrative area of the Faculty.

The following research also focuses on the construction field and corresponds to the work carried out by Castaño Cabrera and Guzmán Gómez entitled "Procedure for Standardization of Administrative Processes in the GEO - SBC Consortium" [5]. This project is extremely intriguing, as it seeks the integration of two companies, Bachy Cima S.A. and Geofundaciones S.A.S., which are part of a consortium dedicated to deep foundations. Consolidation into a single entity promises significant cost reductions, but also poses the challenge of harmonizing the different activities in economic, technical, market, environmental and social terms. The paper offers valuable lessons that are adaptable to the work done at the School of Engineering.

At the national level, the project developed by Tafur López, entitled "Standardization of the processes of the maintenance area of the laboratories of the Faculties of Natural Sciences and Health Sciences of the Universidad Icesi" [6] examined. This project focuses on addressing the problem of the lack of planning and scheduling of preventive and corrective maintenance of the sets of instruments used in the laboratory, especially those related to life support. It is of great relevance to the present article due to the detailed information gathered through interviews, which provides an accurate understanding of the current situation. The paper also served as a methodological guide for data collection.

At the international level, we began by analyzing the work entitled "Propuesta de Estandarización de los Procesos Administrativos de la Facultad de Enfermería de la UNHEVAL Huánuco 2015" by Soto Espejo [7]. This study addresses the need to document the processes in that Faculty, since there is no clear system that contains them. The project starts with a diagnosis of the processes and a subsequent evaluation of their activities to finally propose and standardize new procedures. The research provides significant knowledge, since one of the purposes of this study is the revision and formulation of new methods and instructions. This is of great interest to observe how the subject is handled in different countries, such as Peru and Colombia.

Continuing with the international scope, another Peruvian project entitled "Standardization of Administrative Processes and Efficiency in the Control of Public Works of a Public Entity, Lima, 2016" [8], developed by author de la Cruz Valdez examined. This project differs from the previous ones, as it seeks to investigate the connection between the standardization of operations and the efficient monitoring of public constructions. For this purpose, surveys and statistical analyses used. The research includes numerous aspects related to data extraction, management and analysis, which were of great interest and provided valuable lessons applicable to the study carried out at FEUL.

Finally, the project carried out by Morales Huertas, entitled "Implementation of a management system for the standardization of administrative processes in the CONSER S.A.C consulting firm in 2014" [9], aimed to standardize procedures in a construction company. However, one of the most significant challenges faced was that this company carried out all its activities verbally, i.e., it did not have any formal documentation, which represented a considerable problem, especially when incorporating new employees. Personnel turnover is a common phenomenon in all organizations, including Universidad Libre, therefore, the aforementioned research was of great relevance, since in the School of Engineering procedures were identified that lacked standardization and no characterization was found.

II. METHODOLOGY

After carefully reviewing the selected background, a common research technique was identified: the mixed methodology. This choice is due to the fact that it offers an exhaustive and complete analysis of the intended study, which guarantees a high level of rigor. On the other hand, it distinguished by incorporating both quantitative and qualitative data, which significantly broadens the scope of the analysis [10].

The main focus of the research centered on collaboration with experts, who played a key role in providing the data necessary for an accurate diagnosis of the situation in FEUL. These data were complete and accurately reflected the reality of the situation. However, it is important to note that this information applied to engineering tools that allowed for a more meticulous and detailed analysis.

To carry out this phase of the research, semi-structured interviews designed. In other words, they resemble a friendly conversation rather than a rigid questionnaire [11]. This choice based on the need to maintain a high degree of flexibility, since it understood that, despite holding similar positions, each person could offer different perspectives and responses. Therefore, the aim was to establish a fluid conversation that would allow the interviewee to express the entire context surrounding the questions and thus obtain a more complete understanding of the situation.

The information obtained was then subjected to a thorough review and evaluation process. These initial conclusions are translated into detailed matrices that highlight in greater depth the priorities, points for improvement and proposals that represent the true value of this research.

On the quantitative side, the time study involved a detailed review of the activities carried out. Given the nature of the processes analyzed, it decided to rely on the collaboration of external experts who provided a context. This synergy between professionals from different fields ensured a thorough and accurate evaluation of the activities, significantly enriching the quality of the research.

The choice of the mixed methodology is justified as the most appropriate option for this research. Its ability to provide a comprehensive and rigorous analysis, by combining quantitative and qualitative data, has proven to be essential. Collaboration with both internal and external experts, together with the flexible approach of semi-structured interviews, allowed for an in-depth and contextualized understanding of the situation.

The methodology used in this study can serve as a guide for future research in similar environments to those presented in this study.

III. RESULTS

Universidad Libre has a long and distinguished tradition both regionally and nationally, having existed for more than one hundred years with a significant presence in seven areas of the country: Barranquilla, Bogota, Cali, Cartagena, Cucuta, El Socorro and Pereira. Given its size as an institution, it is imperative to maintain high quality standards. The dynamics of abrupt external changes, such as the pandemic experienced in 2020 and the rapid technological evolution, require the implementation of clear procedures to ensure an efficient flow of activities.

The project was divided into five phases. First, an exhaustive diagnosis of the current situation in FEUL's administrative department carried out. Subsequently, the procedures that carried out but were not in the system documented. Next, a time analysis carried out with the aim of achieving complete standardization of operations. Afterwards, indicators established for the management and measurement of the procedures, culminating, finally, with the evaluation of the impact of the improvements implemented.

For the initial diagnosis, a semi-structured interview prepared in order to know the roles and functions performed by the Program Directors, and contact established with the person in charge of Systems Engineering, where it concluded that the activities decreed by agreement No. 01 (February 5, 2008), where the responsibilities of the Deans, Career Directors, Academic Secretaries, among others, were specified.

Based on the aforementioned document, a detailed analysis of the responsibilities assigned to both the Dean's Office and the Program Directors carried out together with the project director. This analysis revealed a total of 34 functions for the Dean's Office and 33 functions for the Program Directors, covering a wide range of academic and administrative tasks.

Within the framework of the research, an exhaustive analysis of the responsibilities associated with the Research Direction of the faculty carried out. To execute this analysis, "Agreement No. 1 (February 1, 2019)" used as a point of orientation, a document of great relevance in which the norms that govern the Researches of the Universidad Libre detailed, presenting a new version. In this agreement, 10 functions that closely related to the administration of research activities at the university identified and named.

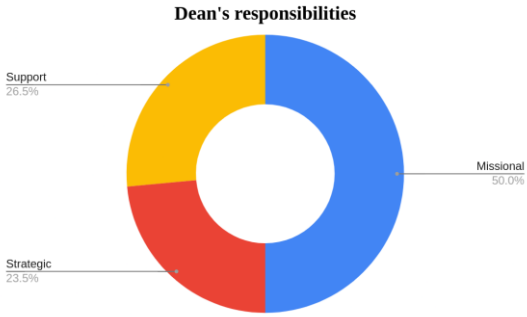
To capture a more specific and rigorous analysis of these functions, an additional evaluation was carried out that classified each task according to its nature. Categorization is performed that provides a structured view of the responsibilities of the Dean's Office and Program Directors, highlighting the complexity and diversity of their roles in the university academic environment. The responsibilities classified into three categories:

- Missional Processes: These functions are those that contribute a result to the fulfillment of its raison d'être or corporate purpose [12].
- Strategic Processes: Strategic functions linked to the planning and direction of the faculty. This encompasses developing and optimally mobilizing the resources available to the faculty [13].
- Support Processes: They play an extremely important role in the support and effective operation of the mission and strategic areas. The central idea is to provide support in different areas to achieve compliance [14].

In order to simplify the understanding of the responsibilities of the Deans, Program Directors and Faculty

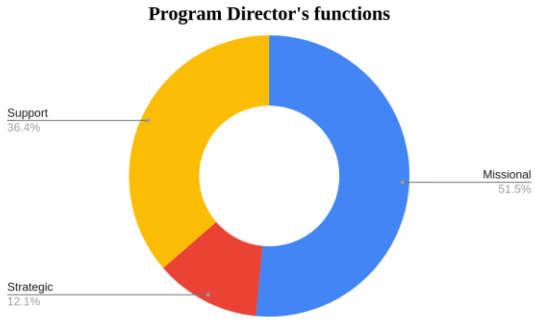
Research Center Directors, they have been graphically represented by means of pie charts, as shown in Figures 1, 2 and 3.

Figure 1. Distribution of Dean's Office functions according to type of process



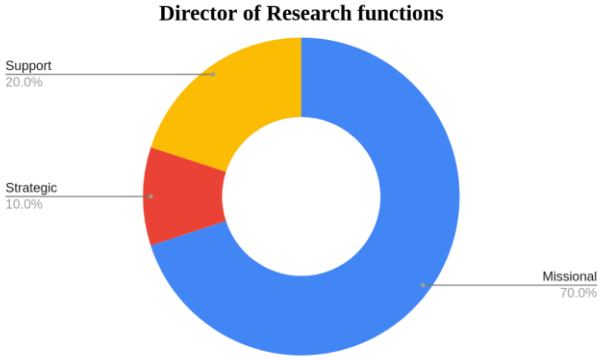
Source: Authors 2023

Figure 2. Distribution of Program Director Functions by Process Type



Source: Authors 2023

Figure 3. Distribution of Program Director Duties by Process Type



Source: Authors 2023

Once the functions categorized, in collaboration with the project manager, a thorough review conducted to determine which of these were amenable to documentation and which were not. This evaluation process focused on identifying those tasks and responsibilities that could be clearly recorded and supported with tangible evidence, such as records, reports, procedures and other related documents, as opposed to those functions that, due to their nature, did not lend themselves to direct or quantitative documentation. This phase of the research was crucial in defining how the subsequent documentation and follow-up of the identified functions would be carried out. The data shown in tabular form in tables 1, 2 and 3.

Table 1. Consolidated functions of the Dean's Office

Documentation Required	Counting
Yes	18
No	16

Source: Author 2023

Table 2. Consolidated functions Program Director

Documentation Required	Counting
Yes	16
No	17

Source: Authors 2023

Table 3. Consolidated functions of the Director of Research Faculty

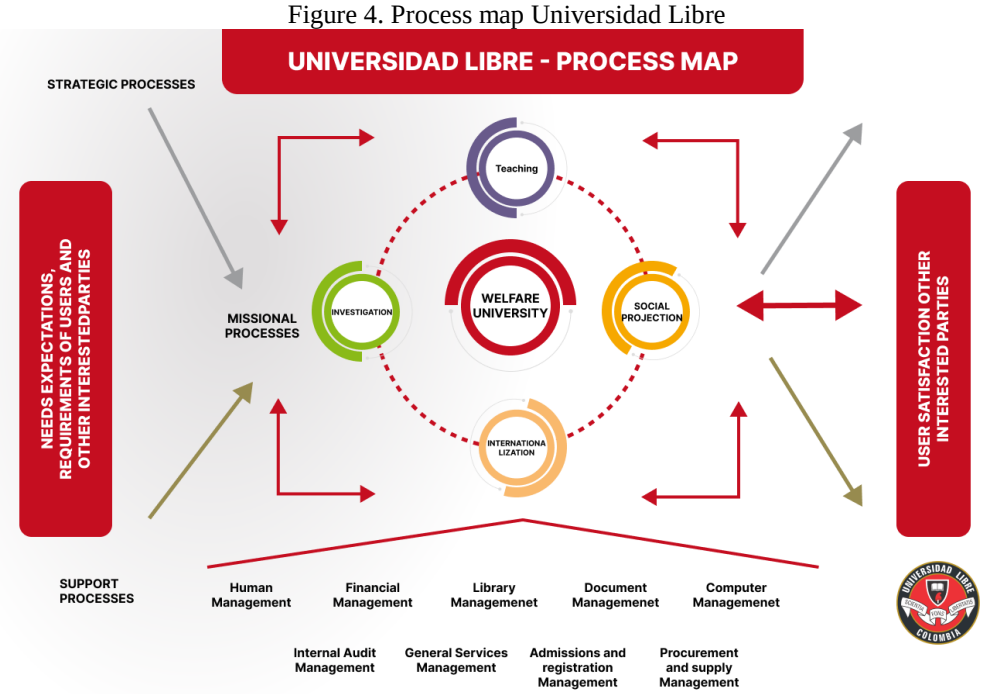
Documentation Required	Counting
Yes	7
No	3

Source: Authors 2023

With the functions identified, we proceeded to find out which procedures were already documented. This map offered a global vision of the administrative operations developed in the institution as a whole, focusing on the specific activities that were related to the functions that had previously been identified as susceptible to documentation in "Agreement No. 01" issued on February 5, 2008.

During the procedures search phase, a total of 15 procedures relevant to the responsibilities previously identified were identified. These procedures were distributed in different functional areas, most of them being found in the area of teaching, which is understandable given its fundamental role in the functioning of the Faculty. Similarly, there are areas that complement the work, which include quality assurance, which plays a crucial role in ensuring academic excellence and student satisfaction, as well as strategic direction, which has a direct impact on the planning and achievement of the Faculty's objectives.

Figure 4. Process map Universidad Libre



Source: Free University 2023

Once the functions had been classified and the corresponding procedures had been swept, the next stage of the research involved a series of additional interviews. In these conversations, each of the functions previously identified as documentary, the directors of the four programs consulted about how they implement them in their daily work. This approach makes it possible to obtain a more detailed and contextualized understanding of the execution of the tasks as each has personal methods and experiences in relation to each specific function.

As a result, key factors, opportunities for improvement, and problems identified and consolidated in table 4, which were subsequently analyzed in a Vester matrix, which allows the main cause of the problem to be identified, based on the effects it is likely to cause [15].

Table 4. Problems identified in the diagnosis

Code.	Problems
P1	The financial area does not provide complete information for the preparation of the budget
P2	Not enough Kawak socialization
P3	No training when new formats are available
P4	No feedback on the Final Allocated Budget
P5	It is not possible to manage the academic load from the SINU without the payroll news
P6	Repeated rooms in the initial assignments
P7	Processes delegated to non-regulated program directorates

Source: Authors 2023

The purpose was to structure and order the information related to each of these problems, so individual files prepared to address each case systematically.
Then, the Vester matrix prepared to evaluate the mutual influence of each of the problems on each other, as shown in table 5.

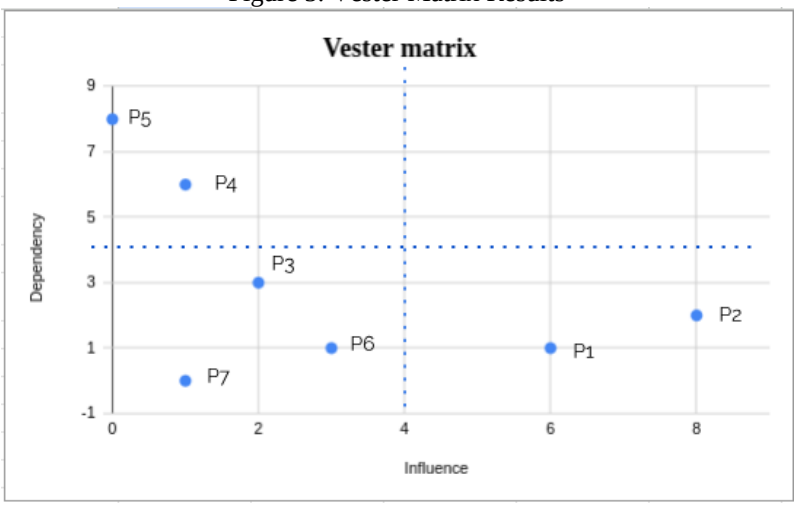
Table 5. Influences of the problems

Code.	Problems	P1	P2	P3	P4	P5	P6	P7	X
P1	The financial area does not provide complete information for the preparation of the budget	0	0	0	3	0	0	3	**6**
P2	Not enough Kawak socialization	0	0	3	3	0	0	2	**8**
P3	No training when new formats are available	0	2	0	0	0	0	0	**2**
P4	No feedback on the Final Allocated Budget	1	0	0	0	0	0	0	**1**
P5	It is not possible to manage the academic load from the SINU without the payroll news	0	0	0	0	0	1	0	**1**
P6	Repeat rooms in the initial assignments	0	0	0	0	0	0	3	**3**
P7	Processes delegated to non-regulated program directorates	0	0	0	0	0	0	0	**0**
		1	**2**	**3**	**6**	**0**	**1**	**8**	

Source: Authors 2023

The results have been graphically represented in figure 5, where it can be clearly observed that three problems classified as "indifferent" have been identified. These problems include: "Lack of training in the use of new formats", "Repetition of classrooms in initial assignments" and "Delegation of processes to unregulated program managers". In addition, it is detailed that in passive status there are two problems: "There is no feedback on the final budget allocated" and "It is not possible to manage the academic load from the SINU without the payroll news". While "The financial area does not provide complete information for the preparation of the budget" and "There is not enough socialization of Kawak" were classified as assets.

Figure 5. Vester Matrix Results



Source: Authors 2023

In the second phase of the research, the procedures and instructions of which there were no records documented, based on the aforementioned interviews with the Dean, the Program Directors and the Director of Research of the Faculty.

It is important to highlight that the University has clear formats for the documentation of procedures and instructions, so it was not necessary to formulate, instead the existing guidelines followed: Objective, scope, definitions, responsible, responsibilities, responsibilities, generalities, change log, procedure, flow charts, record control, formats and annexes.

The procedures carried out shown in table 6 with their respective objectives, while table 7 contains the new instructions formulated.

Table 6. New procedures performed

PROCEDURE	OBJECTIVE
Management report procedure	Establish the steps and requirements for submitting a management report to the Dean of the Faculty
Procedure for aspects related to curricula	Establish the steps and requirements for the submission of a proposal linking the curriculum
Procedure for the realization of the pat	Establish the steps and requirements for the completion of the Annual Work Plan
Procedure for self-evaluation of the academic program	Establish mechanisms and procedures for self-evaluation to ensure academic excellence

Source: Authors 2023

Table 7. New instructions made

INSTRUCTIONS	OBJECTIVE
Instructions for reporting academic program matters	Establish the step-by-step procedure for calling meetings with area managers, teachers or students
Instructions for timely responses and requests	Establish the methodology to deal with requests made by teachers, students, among others
Instructions for research plan	Establish the step-by-step process for the elaboration of the Faculty Plan and Research project

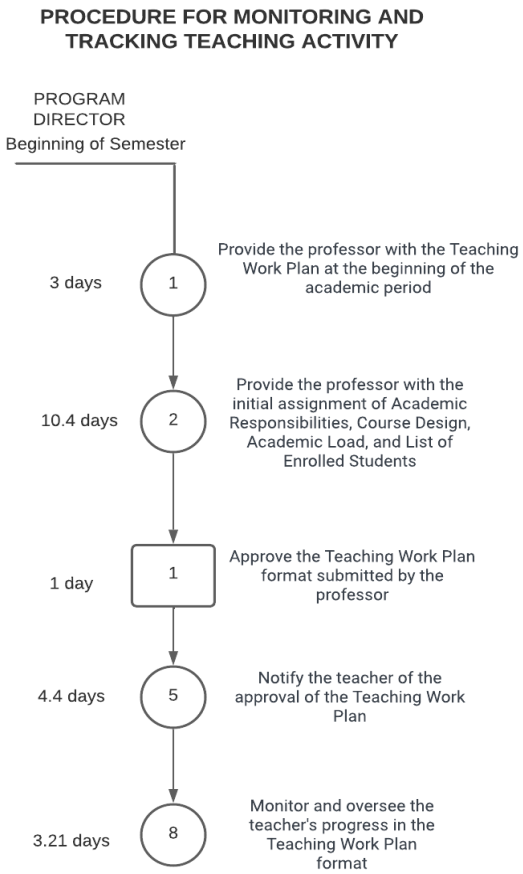
Source: Authors 2023

The next phase was the time analysis, which allows establishing the standard duration based on the measurement of the activity [16]; initially the method performed using a stopwatch as formulated by Frederick Taylor [17]. However, for the present research, due to the nature of the procedures, it performed by consulting experts and then weighting as shown in the following equation:

$$Standard\ Time\ =\ \frac{\Sigma\ External\ Experts'\ time}{Number\ of\ External\ Experts}\ *\ (0.6)\ +\ Internal\ Expert's\ Time\ *\ (0.4)$$

"External Expert" refers to people with experience in similar positions in other universities, while "Internal Expert" refers to the professional in charge at FEUL.
However, before consulting the experts, diagrams of operations were drawn up, as shown in figure 6, showing the activities required for each procedure and the person performing them, taking into account both those already documented and the new ones presented above.

Figure 6. Operations Diagram



Source: Authors 2023

A total of 27 activities analyzed, of which three were below the standard time, thus optimizing time by 19.71%. In addition, three actions found that performed significantly faster than the standard time; these responsibilities detailed because the high speed of the process can generate reprocesses.

For the fourth phase of the research, it based on the Comprehensive Institutional Development Plan (PIDI) of the Universidad Libre. Which is the planning process in the institution that distinguished by its comprehensive and participatory approach, with perspectives from the short to the long term [18], the document includes strategic projects covering the period 2014-2024, and each one has indicators to assess their progress. However, one by one they aimed at different areas, so specific projects adapted to the Faculty of Engineering, considering the needs and priorities of the Dean's Office and Program Management. The collaboration with the Director of the Faculty Center highlighted the relevance of PIDI projects 11 and 12 for their particular focus. The proposed indicators shown in table 8.

Table 8. Proposed indicators

INDICATOR	ORIGIN PROJECT
Results of state tests	Project 7: Self-assessment and self-regulation for continuous improvement of academic quality
Utilization of resources	Project 10: A University with modern technological and didactic supports for academic services
Number of researchers	Project 11: Strengthening and consolidation of scientific and formative research at Universidad Libre
Annual publications	Project 12: Promotion of scientific and academic production
Participating graduates	Project 16: Alumni system and impact on society
Compliance with the action plan, organization, and management	Project 24: Organization and management

Source: Authors 2023

Once the key indicators chosen to evaluate the effectiveness and impact of the standardization of procedures in the School of Engineering, the indicator life sheet shown in table 9 created. This tool is considered essential to ensure efficient management of the indicators and to provide clear answers to the fundamental questions of what, where, how, when, when, who and why in relation to the measurement and monitoring of each indicator.

After choosing the indicators and establishing the indicator life sheet, the characterization phase of each one of them advanced. The first indicator presented in table 10, which is the results of the state tests.

Table 9. Life sheet of indicators of administrative processes

AREA	ADMINISTRATIVE	YEAR	2023

Indicator name	What?	Where?	How?	When?	Who?	Why?
Results of state tests	The performance achieved in the tests conducted by the state	The information is extracted from the Colombian Institute for the Evaluation of Education's website	Access the Colombian Institute for the Evaluation of Education (ICFES) website, then, with the credentials of the Program Director, consult the results obtained by the students of the undergraduate program of interest, in order to analyze the performance in the different areas, establishing averages.	Semiannually	Program Managers are in charge of extracting and analyzing the information	It is essential to measure learning outcomes and to be able to make comparisons with other academic programs and/or universities.

Source: Authors 2023

Table 10. Characterization of the indicator results of the state tests

Results of state tests

MACRO PROCESS:	**Teaching**
PROCESS:	**Academic Management**

NAME:	Results of state tests		
OBJECTIVE:	Measure learning outcomes during the course of study by assessing student competencies in comparison to other programs and universities		
INDICATOR FORMULA	**UNIT OF MEASURE**	**NAME OF THE VARIABLES**	**SOURCE OF INFORMATION**
Sum of all results / Total Students	Average	Sum of results, Number of students	Results delivered by ICFES

Source: Authors 2023

In the final phase of the research, a social impact assessment carried out. To this end, a stakeholder matrix implemented, a methodology designed to identify, classify, organize and prioritize the stakeholders surrounding a project or a company [19]. First, information gathered on who involved and data obtained on their levels of power and interest.

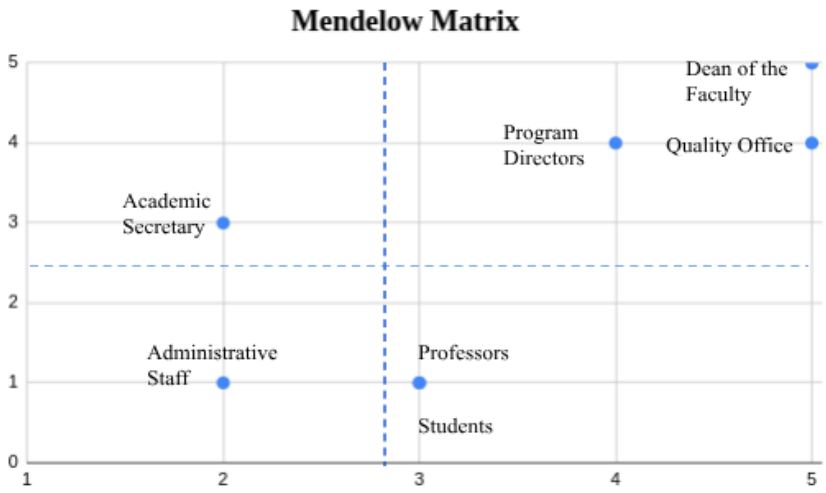
Then, using the Mendelow Matrix, which graphically represents stakeholders according to their level of interest and power, they assigned ratings from 1 to 5, where 5 indicates the highest level and 1 the lowest. The results presented in table 11 and plotted as shown in figure 7 to place the stakeholders in the corresponding quadrants, thus providing a clear view of their relevance to the project.

Table 11. Table of power and interest of stakeholders

INVOLVED	INTEREST	POWER
Dean of the Faculty	5	5
Program Directors	5	4
Professors	3	1
Students	3	1
Administrative Staff	2	1
Quality Assurance Office	4	4
Academic Secretariat	2	3

Source: Authors 2023

Figure 7. Mendelow Matrix



Source: Author 2023

IV. DISCUSSION

In contrast to the base document entitled "Standardization of Administrative Processes of the Human Management, Safety and Health at Work Area in an Oncological Entity" [20], an impact matrix developed analyzing the project stakeholders. The mixed methodology approach proved to be the right choice for this study, and it should be noted that it is very common among the researched antecedents. The combination of quantitative and qualitative information provided a comprehensive view of the current situation at FEUL. The inclusion of quantifiable data provided key metrics for the development of standard times, while the non-numerical side revealed valuable insights and opinions from stakeholders.

Collaboration with experts played a key role in obtaining accurate data for the diagnosis of the situation. This collaboration allowed for a thorough understanding of the specific terminology already handled by the University and the regular conduits governing the School of Engineering. The information provided by the experts considered comprehensive and representing the reality of the institution, which supports the validity of the results.

In addition, the application of engineering tools for detailed analysis is an effective strategy. The Vester, Stakeholder and Mendelow matrices allow a structured and systematic approach to decision making and clearer identification of the big picture. This is ultimately the idea when standardizing processes, because the best continuous improvement is sought.

It is important to clarify that the success of process standardization in the School of Engineering depends to a large extent on collaboration and effective communication with all stakeholders, such as the Dean's Office, Program Directors and the Director of Research of the School. The aforementioned matrices allow the identification and management of stakeholders' expectations and power. In addition, it is possible to prioritize and make visible the problems that may affect the institution the most.

In summary, the study carried out for the purpose of standardizing administrative procedures at FEIUL Bogota Branch has been based on a robust mixed methodology, close collaboration with experts and the application of analytical tools. These approaches form a solid basis for the successful implementation of the administrative standards and the achievement of the previously established objectives. It also highlights the importance of establishing active communication with all parties involved, ensuring the correct development of activities.

V. CONCLUSIONS

In the course of this study, the procedures involved in the administrative area of FEUL Bogotá Branch have been thoroughly explored. Throughout the research, we had examined from the situation presented to the documentation and precision of the necessary indicators. Finally, at this stage, the final observations and reflections that represent the main findings are consolidated, where the aim is to improve excellence through the standardization of processes.

To date, new procedures and instructions established in a uniform manner to those already established for the correct development of the functions. This is thanks to the fact that the University has a clear structure, which facilitates both the elaboration and the understanding of the process. Thanks to the performance of detailed time studies and the subsequent standardization of each of the activities carried out in the processes, both those already established and those proposed, a significant improvement of 19.71% was achieved. This approach made it possible to optimize operations and increase efficiency in all areas.

In addition, stakeholder and Mendelow matrices used to identify all stakeholders involved in this standardization process. These matrices helped to understand not only who the key stakeholders are, but also their level of interest and power in relation to the implementation of administrative standards. This analysis has provided a clearer picture of how to manage the expectations and needs of each stakeholder group, ensuring effective collaboration.

On the other hand, the indicator life sheet has been a valuable tool for understanding and communicating the relevance of the indicators used in the process. This allowed for greater clarity in the definition, monitoring and measurement, which has contributed to a deeper understanding of their applicability in the search for excellence in standardization.

In summary, the study has made effective use of tools such as the Vester matrix to analyze problems, the stakeholder and Mendelow matrices to identify key actors, and the indicators life sheet to understand their applicability. These instruments have been essential in the approach towards the search for excellence in the unification of processes at FEUL Bogotá Brach.

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For the conclusion of this article, we would like to make a special mention to all those who were fundamental for the development of this study; counting on them was fundamental for the culmination of the "Standardization of Processes of the School of Engineering of the Bogota Branch".

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