UNIVERSIDAD PARA LA COOPERACIÓN INTERNACIONAL
(UCI)

# *DESIGN OF THE PROJECT MANAGEMENT OFFICE (PMO) FOR GRANNEMANN LOBEIRA S.DE R.L. DE C.V. (GLOBE)*

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This Final Graduation Project was approved by the University as partial fulfillment of the requirements to opt for the Master in Project Management (MPM) Degree

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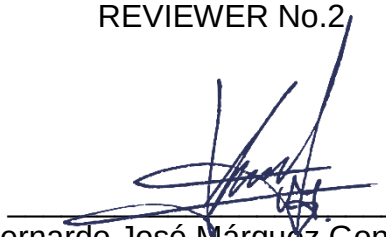

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## DEDICATION

To my mother who taught me never to give up, that there is always a new beginning and a new goal to reach.

## ACKNOWLEDGMENTS

To my friends for their wait and tolerance while studying, they are the family that I chose

## INDEX OF CONTENTS

## INDEX OF FIGURES

## INDEX OF CHARTS

## ABBREVIATIONS AND ACRONYMS

PMO: Project Management Office

PMBOK Guide: Project Management Body of Knowledge

PMI: Project Management Institute

## EXECUTIVE SUMMARY (ABSTRACT)

Granneman Lobeira (GLOBE) is a unit of verification of Mexican energy standards, applicable to all infrastructure located within the national territory. The services offered by GLOBE are mostly revisions for engineering opinions for new Oil & Gas infrastructure in the country, revision audits to existing facilities, among others.

The services are managed as projects where the basic unit is the Working Man Hour, the technical department manages the development of the projects and although there is an established process, it seems that every time a project is carried out, the process is rewritten of the same and the connection with the strategic plan of GLOBE is not clear.

Senior management and stakeholders are interested in optimizing project management to align with the strategic plan of the organization, as well as that the staff knows the best international practices in Project Management, as in this case the standards developed by the Project Management Institute (PMI).

The main objective of the project is the implementation of a PMO. This is broken down into three objectives: the first is the evaluation of the company in terms of its organizational culture and current project management, the second is the research and search of the existing PMO structures, and the third is the definition of the PMO design and its implementation in the company.

The project development is based on the project methodology defined in the *PMBOK Guide, 6th edition,* which contains information and processes for the planning, execution, monitoring / control, and closing of the project.

The main conclusion for the project and its start-up stage is that an evaluation of the current state of the organization must be carried out, what is its knowledge regarding the projects and the best international practices of the projects, how they help

companies and organizations in the quest to successfully achieve their strategic planning.

One of the main recommendations is that real and unaltered information must be available in order to develop a tailored plan for the needs of the organization to achieve its strategic objectives, as well as timely monitoring by the project manager to document all the changes and monitor the risks so that these do not materialize and the success of the project can be achieved.

# 1. INTRODUCTION

## 1.1. Background

Grannemann Lobeira S.de R.L. of C.V. (GLOBE) is a company constituted at the end of 2009 by the demand and need of the Mexican industry to have specialists in technical security in the industrial (oil and gas) sectors formed by a group of highly qualified specialists to support the customers to develop their projects through the verification, accreditation, and certification of their projects in accordance with the current regulations in Mexico applicable to their projects.

Currently, the development and management of the projects are carried out by the technical area of the company. However, the processes are not formally established; the process is reinvented again and again with each project, the lessons learned are lost with each project, and the risks are evaluated to a very high degree without contemplating the required details or losing track of them.

The present project seeks to implement a project management office (PMO) to support the technical area in the projects, to regulate the development of all the organization's projects , to strengthen the assets of the company's processes, and to generate the support required to achieve the strategic plan.

## 1.2. Statement of the Problem

The management of projects in the organization is not regulated or formally established. Many of the learned lessons are lost, and the process is reinvented with each project. This generated communication conflicts between the areas, an unfavorable organizational culture for the development of the service, a lack of personnel commitment with the strategic plan, and a lack of latent leadership for the daily activities.

## 1.3. Purpose

The purpose of designing a project management office is to find the best way to adapt the current management of the projects to the structure of the organization to avoid the loss of historical information, to strengthen the knowledge acquired in each project within the assets of the organization, and to regulate the management of the projects with the best international practices according to our business area because the oil and gas environment in Mexico is open and seeks to stick to the international environment with its development and management.

The expected benefit is to find the correct structure of a project management office to implement in the organization without affecting the current structure in depth, and once defined, it will be approved by the top management of the company.

## 1.4. General Objective

To design a project management office for Grannemann Lobeira to optimize the management in the organization of projects

## 1.5. Specific Objectives

- To perform an evaluation of the current project management in the organization and the organizational culture to know the current approach and management of projects in the organization
- To analyze all standards for the management of projects, programs, and portfolios to find the project management structure adjusted to the current processes in the organization
- To define the design of the project management office to be implemented in the organization to develop their implementation

# 2. THEORETICAL FRAMEWORK

## 2.1. Company/Enterprise Framework

## 2.2. Company/Enterprise Background

GRANNEMANN LOBEIRA, S. de R.L. of C.V. (GLOBE) is a company formed at the end of 2009 in response to the demand and need of the industry in Mexico to have specialists in technical safety in the industrial and maritime sectors to perform inspection, certification, and technical safety consultancy services in land facilities and offshore due to the oil operating companies, engineering contractors, and governmental approving authorities. The start of GLOBE activities occurred in the second half of 2011.

The company was created with the purpose of supporting the industrial and maritime sectors. The logo is focused on a global vision to offer you services anywhere in the world with an integral solution meaning in services that provide energy.

## 2.3. Mission and Vision Statements

### Mission

In Grannemann Lobeira, we provide value creation services for our stakeholders with the highest sense of responsibility, being efficient and profitable for the benefit of our employees, shareholders, customers, suppliers, and community, and inspiring pride, passion, and commitment in all our activities.

### Vision

We continue with solid growth based on quality and value in all the services we offer. We are a financially sustainable company. We are transforming into a company that

qualifies as a great place to work according to our personnel number. We offer an outstanding service to our customers. We are fully involved and committed with all our talent to a total culture of belonging, pride, integrity, and trust to build a lasting and successful relationship with all our parties involved to contribute with our services to the sustainable development of the national and international environment.

### 2.4. Organizational Structure

The structure of the company is rigid and outdated. It is a linear structure in hierarchy; it covers the administrative, commercial, and technical part.

The share of contributions is shared between the commercial and administrative areas to reinforce the issuance of quotations and contracting clauses.

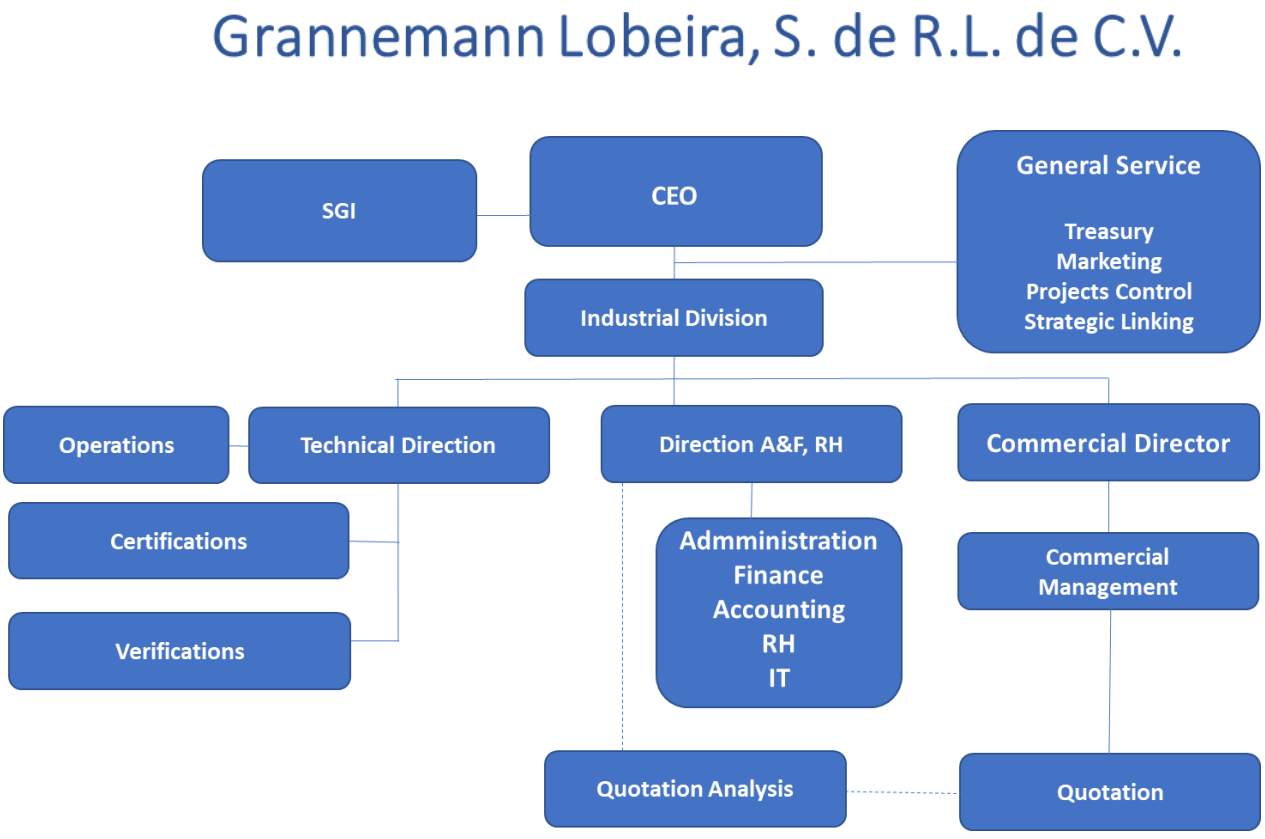


Figure 1. Organizational Structure (Source: Grannemann Lobeira SGI)

## 2.5. Offered Products

BUSINES AREA / TYPE OF SERVICES

1) Engineering & Reliability
   Reliability and asset performance management
   Risk management
   Engineering development and certification, owners engineering

2) Technical Safety Certification
   Pipeline mechanical integrity
   Integral safety, material & component certification

3) Verification Unit - Natural Gas
   Licensed in the following Mexican official codes:
   - NOM-001-SECRE-2010
   - NOM-002-SECRE-2010
   - NOM-007-SECRE-2010
   - NOM-013-SECRE-2012

4) Verification Unit – Pipeline Integrity Management by Transportation & Collection of Hydrocarbons.
   Licensed in the Mexican official code:
   - NOM-027- SESH-2010.

5) Specialized Company in Land Facilities by Hydrocarbons Storage
   NOM-EM-003-ASEA-2016
   NOM-006-ASEA-2017

6) Inspection, Supervision, and Project Management Control.
   Expediting & inspection
   Project supervision / project management control.

7) Verification Unit – Electrical Facilities
   Electrical installation verification by a licensed verification unit regarding the Mexican official code NOM-001-SEDE-2012.

8) Conformity Assessment Regarding Hydrocarbons (PECS).
   NOM-016-CRE-2016

9) DACG – Transportation Pipelines - ASEA
   General administrative provisions for industrial & operational safety and environmental protection for petrochemical and hydrocarbons transportation pipelines

## 2.6. Project Management Concepts

According to the Project Management Institute (PMI), 2017, p. 4, and the *Project Management Body of Knowledge* (PMBOK Guide) *6th edition*, a project is a temporary endeavor undertaken to create a unique product, service, or result.

According to the *PMBOK Guide 6th edition*, a program is a set of related projects, subsidiary programs, and program activities that are managed in a coordinate manner to obtain benefits not available from managing them individually.

According to the *PMBOK Guide 6th edition* , a portfolio is a set of projects, programs, subsidiary portfolios, and operations managed as a group to achieve strategic objectives.

## 2.7. Project

A project in the organization is a service formally assigned by a client, which is formalized through a service request, purchase order, or a contract.

The contracts can be as short as a week or up to 2 years depending on the type of service requested by the client.

Currently, the most requested service is the engineering evaluation for petroleum storage terminals.

## 2.8. Project Management

The management of projects in the organization is in charge of the technical area.

The project begins with the issuance of a project transfer certificate which includes the scope of the service, the project coordinator, the sale price, the service period, the allocation of resources, the assigned personnel, the project's administrative data, clauses sales, and forms of collection, .

With this, the top management and the technical area are notified of the start of the project. With the start of the service, the service responsibility for its administration is transferred to the technical area. The project control area monitors the whole life of the project and once it has been completed, it closes it, and reports the balance of each project to the general management.

## 2.9. Project Life Cycle

The life cycle of the project that is fulfilled in the organization adheres to the do-check-act project cycle.

It starts with the planning of the project in the planning stage. It continues with the adjudication of the service and the transfer of the project to the technical area for the execution stage. The monitoring and control of the service is given at the closing of the service in the evaluation of the same.

The life cycle of the project in the organization follows the *PMBOK Guide 6th edition*. The beginning, organization, and preparation correspond to the service quote. Carrying out the work corresponds to the execution of the project. The ending of project corresponds to the closing and evaluation of the project.

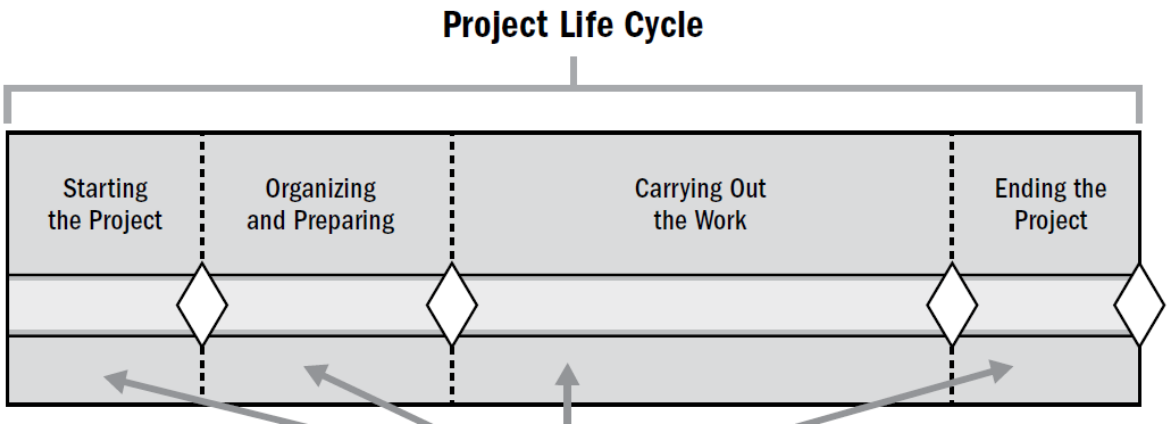


Figure 2. Project Life Cycle (PMI, 2017, p. 18)

## 2.10. Project Management Processes

A process is a systematic series of activities directed to cause such an end result that one or more inputs will be acted upon to create one or more outputs.

These processes are grouped according to the project's life cycle in the following sections:

**Initiating Process Group:** The process(es) performed to define a new project or a new phase of an existing project by obtaining authorization to start the project or phase.

**Planning Process Group:** The process(es) required to establish the scope of the project, refine the objectives, and define the course of action required to attain the objectives that the project was undertaken to achieve.

**Executing Process Group:** The process(es) performed to complete the work defined in the project management plan to satisfy the project requirements.

**Monitoring and Controlling Process Group:** The process(es) required to track, review, and regulate the progress and performance of the project, to identify any area in which changes to the plan are required, and to initiate the corresponding changes.

**Closing Process Group:** The process(es) performed to formally complete or close a project, phase, or contract.

The groups of processes are adapted to GLOBE in the following way:

The initiating process group and planning process group with the quotation stage of the service is in charge of the commercial area of GLOBE.

The executing process group with the execution stage of the service is in charge of the GLOBE technical area.

The monitoring and controlling process group with the controlling stage is in charge of the project control area.

The closing process group with the project closing stage is in charge of the project control area and the commercial area.

## 2.11. Project Management Knowledge Areas

According to the *PMBOK Guide 6th Edition* (PMI, 2017), the project management knowledge areas are files or areas of specialization that are commonly employed when managing projects. A knowledge area is a set of processes associated with a particular topic in project management.

The knowledge areas used in GLOBE are below.

**Project Scope Management:** It includes the processes required to ensure that the project includes all the work required to complete the project successfully.

**Project Schedule Management:** It includes the processes required to manage the timely completion of the project.

**Project Cost Management:** It includes the processes involved in planning, estimating, budgeting, financing, funding, managing, and controlling costs, so the project can be completed within the approved budget.

**Project Quality Management:** It includes the processes for incorporating the organization´s quality policy regarding planning, managing, and controlling project and product quality requirements in order to meet stakeholders' expectations.

**Project Resource Management:** It includes the processes to identify, acquire, and manage the resources needed for the successful completion of the project.

**Project Procurement Management:** It includes the processes necessary to purchase or acquire products, services, or results needed from the project team.

The knowledge areas described above are used in GLOBE for the development of projects.

They are integrated throughout the life cycle of the project to support the contributions, and once authorized, to carry the project internally and externally with the owner and its stakeholders.

## 2.12. Other Applicable Theory/Concepts Related to the Project's Topic and Context

## 2.13. Tailoring

According to the *PMBOK Guide 6th Edition,* action to tailor the methodology of PMI to the organization process.

The *PMBOK Guide 6th Edition* contains recommended references for tailoring, because these standard documents identify the subset of the project management body of knowledge that is generally recognized as a good practice. A "good practice" does not mean that the knowledge described should always be applied uniformly to all projects. Specific methodology recommendations are outside the scope of the guide.
Project management methodologies may be:

- Developed by experts within the organization
- Purchased from vendors
- Obtained from professional associations
- Acquired from government agencies

The appropriate project management processes, inputs, tools, techniques, outputs, and life cycle phases should be selected to manage a project. This selection activity is known as tailoring project management for the project.

## 2.14. Project Management Office (PMO)

A project management office is a management structure that standardizes the project-related governance processes and facilities, the sharing of resources, methodologies, tools, and techniques. *PMBOK Guide 6th Edition*

## 2.15. Project Management Maturity

It is the progressive development of an enterprise-wide project management approach, methodology, strategy, and decision-making process. The appropriate level of maturity will vary for each organization based on its specific goals, strategies, resource capabilities, scope, and needs. Crawford, J.K. (2007). *Project Management Maturity Model, Second Edition*

## 2.16. Project Management Maturity Models

It is a formal tool used to measure an organization's project management maturity. In order for an organization to be able to determine whether its project management processes are adequate, agreed measures are required to enable it to compare its project management with best practices or against its competitors. Retrieved from: *https://www.pmi.org/learning/library/benchmarking-project-management-capability-maturity-7809*

## 2.17. PMO Frameworks

The PMO frameworks are the descriptive profiles of types of structures prevalent in companies. According to PMI's Pulse of the Profession: PMO Frameworks (2013), five identified PMO Frameworks exist. These five types will be described in the 4.1.6 Organizational Structure Types section.

# 3. METHODOLOGICAL FRAMEWORK

## 3.1. Information Sources

An information source is a source of information for somebody, i.e., anything that might inform a person about something or provide knowledge to somebody. Information sources may be observations, people speeches, documents, pictures, organizations, etc. Anamika Varshney (2011), Source of information (2018), retrieved from: *http://www.lisbdnet.com/sources-of-information/*

An information resource is essential for the development of an investigation. If the source or resource is not reliable, the investigation will be affected, and it will be discarded.

Likewise, the type of resource matters, for example, face-to-face interviews are affected by the possible statement of truthfulness in trying to avoid saying what is really intended in order to avoid damaging the other party.

### Primary Sources

A **primary source** (also called an **original source**) is an artifact, document, diary, manuscript, autobiography, recording, or any other source of information that was created at the time under study. It serves as an original source of information about the topic.

According to Anamika Vasrhney (2011), primary sources of information are the first published records of an original research and development or a description of a new application or a new interpretation of an old theme or idea. There are original documents representing unfiltered original ideas.

To develop the final graduation project (FGP), the primary source will be the organization staff, with the use of meeting minutes, surveys, and interviews. Refer to **Chart 1.** for specific information about the primary source.

## Secondary Sources

A **secondary source** is a document or recording that relates or discusses information originally presented elsewhere. A secondary source is one that gives information about a primary source. In this source, the original information is selected, modified, and arranged in a suitable format. Secondary sources involve generalization, analysis, interpretation, or evaluation of the original information. According to Anamika Vasrhney (2011), secondary sources of information are those which are either compiled from or referred to primary sources of information.

For the FGP, the secondary sources will be the *PMBOK Guide 6th Edition*, the PMI database, books about PMO, and investment articles. Refer to **Chart 1** for specific information about the secondary sources.

**Chart 1. Information Sources**

| Objectives | Information Sources | |
|---|---|---|
| | **Primary** | **Secondary** |
| To conduct an evaluation of the current management of the projects in the organization and the organizational culture. | Surveys, interviews, and meeting minutes | The *PMBOK Guide* and the PMI database |
| To analyze all standards for the management of projects, programs and portfolios | The PMI database and the internet | The *PMBOK Guide* and PMI standards |

| | | |
|---|---|---|
| To define the design of the project management office to be implemented in the organization and its implementation. | Personal interviews with high direction and meetings | The *PMBOK Guide* and the internet |

### 3.2. Research Methods

Research methods are the strategies, processes, or techniques utilized in the collection of data or evidence for analysis in order to uncover new information or create better understanding of a topic. *Research Methods: What are research methods? (2019) University of Newcastle Library, retrieved from: https://libguides.newcastle.edu.au/researchmethods*

Techniques or tools used for gathering research data include:

**Interviews:** These can be structured, semi-structured, or unstructured in-depth sessions with the researcher and a participant.

**Focus group:** with several participants discussing a particular topic or a set of questions. Researchers can be facilitators or observers.

**Observations:** On-site, in-context, or role-play options

**Document analysis:** Interrogation of correspondence (letters, diaries, emails, etc.), or reports

**Oral history or life stories:** Remembrances or memories of experiences told to the researcher

**Surveys or questionnaires:** which ask the same questions to large numbers of participants, or use Likert scales which measure opinions as numerical data.

**Observation:** which can either involve counting the number of times a specific phenomenon occurs, or the coding of observational data in order to translate it into numbers.

**Document screening:** Sourcing numerical data from financial reports, or counting word occurrences

**Experiments:** testing hypotheses in laboratories, testing cause and effect relationships through field experiments, or via quasi-or natural experiments. Acoording to Research Methods: What are research methods? (2019).

The research methods will be used to collect data that will help the development of the project.

**Chart 2. Research Methods**

| Objectives | Research methods | |
|---|---|---|
| | **Indicate Research Method 1** | **Indicate Research Method 2** |
| To conduct an evaluation of the current management of the projectsin the organization and the organizational culture | Anonymous interviews will be used to ensure accurate results on the staff's perception of the organizational culture of the organization. | The measurement of organizational culture will be searched in the *PMBOK Guide* and in PMI interview examples. |
| To analyze all standards for the management of projects, programs and portfolios | The different types of PMO structures will be searched in the PMI database. | The standards will support the established and recognized structures as best practices. |
| To define the design of the project management office to be implemented in the organization and its implementation | Interviews will be made with senior management to see if the proposed structure fits with the current | Internet information will be used to find the best way to adjust the structure of the organization with the desired PMO. |

| | | |
|---|---|---|
| | structure of the organization. | |

### 3.3. Tools

**Tool:** According to the *PMBOK Guide 6th Edition,* It is something tangible such as a template or software program used to perform an activity to produce a product or result.

**Expert Judgment:** judgment provided upon expertise in an application area, knowledge area, discipline, industry, etc., as appropriate for the activity being performed. Such expertise may be provided by any group or person with specialized education, knowledge, skill, experience, or training.

**Data Gathering:** Techniques that can be used like brainstorming, focus groups, and interviews.

**Interpersonal and team skills:** that can be used like conflict management, facilitation, and meeting management.

**Meetings:** are held with key stakeholders to identify the project objects, success criteria, key deliverables, high-level requirements, summary milestones, and other summary information.

**Chart 3. Tools**

| Objectives | Tools |
|---|---|
| To conduct an evaluation of the current management of the projects in the organization and the organizational culture | Expert meetings and judgement, surveys, and data gathering |
| To analyze all standards for the management of projects, programs and portfolios | Expert judgement |
| To define the design of the project management office to be implemented in the organization and its implementation | Meetings and expert judgement. |

### 3.4. Assumptions and Constraints

**Assumption:** It is a factor in the planning process that is considered to be true, real, or certain, without proof or demonstration.

**Constraint:** It is a limiting factor that affects the execution of a project, program, portfolio, or process.

**Chart 4. Assumptions and Constraints**

| Objectives | Assumptions | Constraints |
|---|---|---|
| To conduct an evaluation of the current management of the projects in the organization and the organizational culture | The organization will support the development of anonymous surveys. | The time to obtain the results should be short to avoid taking a lot of time from the staff's activities. |
| To analyze all standards for the management of projects, programs and portfolios | To find a structure similar to the current one in the organization. | The time for research is limited and short. |
| To define the design of the project management office to be implemented in the organization and its implementation | The willingness of senior management to listen to the proposed structure. | Resistance of the organization's technical area to modify or adjust its projects to the new structure. |

## 3.5. Deliverables

**Deliverable:** It is any unique and verifiable product, result, or capability to perform a service that is required to be produced to complete a process, phase, or project.

**Chart 5. Deliverables**

| Objectives | Deliverables |
|---|---|
| To conduct an evaluation of the current management of the projects in the organization and the organizational culture | A document with the evaluation of the organizational culture and the current development of the projects in the organization. |
| To analyze all standards for the management of projects, programs and portfolios | A document where the different PMO structures are analyzed with their benefits and constraints. |
| To define the design of the project management office to be implemented in the organization and its implementation | A document that contains the design of the PMO to be implemented, adjusted to the processes of the organization that include:<br>• Strategic purpose of the PMO<br>• Location PMO structure<br>• PMO scope<br>• PMO objectives<br>• PMO key performance indicators<br>• PMO key stakeholders<br>• PMO structure of implementation costs<br>• PMO risk management from the implementation process<br>A checklist will be made with the points mentioned above for the validation of the deliverable. |

# 4. RESULTS

## 4.1. GLOBE Organizational Culture Diagnosis

### 4.1.1 Organizational Culture

The evaluation of the organizational culture is realized through an anonymous survey evaluation carried out on GLOBE staff. Out of 29 people working in central offices, a participation of 23 people was obtained. It is inferred that the six missing people are considered as senior management and SGI personnel.

A questionnaire of 28 questions was made on six areas to be evaluated: strategic plan, organizational culture, change management, process evaluation, leadership, and activity performance .

The interpretation will be performed as follows:

1. A percentage evaluation to know the trend of the company and its analysis by the number of responses

The values considered as good for the organization will have to be greater than eighty percent of the answers; any percentage less than this will be considered as not acceptable.

#### 4.1.1.1 Strategic Plan

1.- Do you know the mission, vision, and strategic planning of GLOBE?

| | |
|---|---|
| No | 5 |
| Yes | 18 |
| **Total** | **23** |

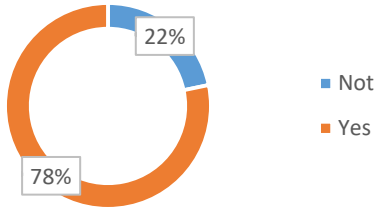


Figure 3. Answer Strategic Plan 1

2.- Is there a clear connection between the vision, mission, strategic plan, and projects of the organization?

| | |
|---|---|
| No | 8 |
| Yes | 15 |
| **Total** | **23** |

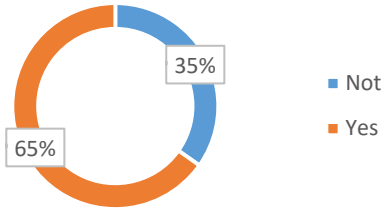


Figure 4. Answer Strategic Plan 2

3.- Are the works aligned with the strategic objectives of the organization?

| | |
|---|---|
| No | 2 |
| I don´t know | 7 |
| Yes | 14 |
| **Total** | **23** |

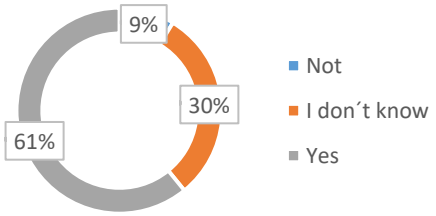


Figure 5. Answer Strategic Plan 3

Conclusion: Seventy-eight percent of the personnel knows the strategic plan, mission and vision of the company. Sixty-five percent of the personnel considers that there is a clear connection between the mission, vision, strategic plan, and projects of the organization. Sixty-one percent of the staff considers that the work carried out is aligned with the strategic objectives of the organization. In conclusion, the amounts are a majority for the benefit of the organization; however, these

percentages, although they are a majority, are required to work in a campaign to explain to the staff how the strategic plan is aligned with the projects and how they support the strategic plan.

#### 4.1.1.2 Organizational Culture

4.- What is the prevailing decision making model?

| | |
|---|---|
| Consensus | 12 |
| Imposition | 11 |
| **Total** | **23** |

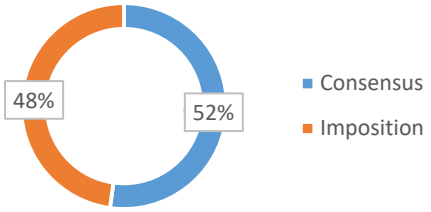


Figure 6. Answer Organizational Culture 1

5.- How is the teamwork in your area?

| | |
|---|---|
| Good | 19 |
| It has differences | 4 |
| **Total** | **23** |

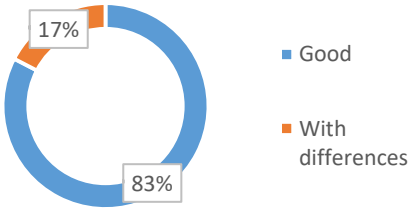


Figure 7. Answer Organizational Culture 2

6.- How is the teamwork in the organization?

| | |
|---|---|
| Good | 10 |
| It has differences | 11 |
| Bad | 2 |
| **Total** | **23** |

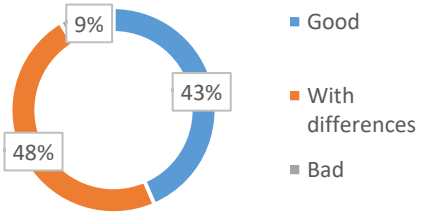


Figure 8. Answer Organizational Culture 3

7.- Is the language within the communication formal or informal?

| | |
|---|---|
| Formal | 17 |
| Informal | 6 |
| **Total** | **23** |

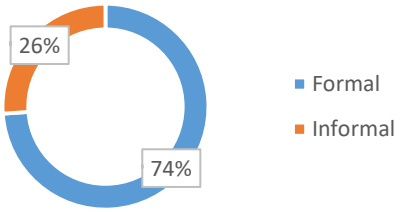


Figure 9. Answer Organizational Culture 4

8.- How result oriented is the organization?

| | |
|---|---|
| On occasions | 9 |
| Without orientation | 1 |
| Oriented | 13 |
| **Total** | **23** |

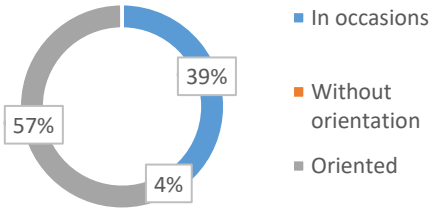


Figure 10. Answer Organizational Culture 5

9.- Do you apply policies and practices related to the way employees are treated and encouraged to develop?

| | |
|---|---|
| No | 6 |
| Yes | 17 |
| **Total** | **23** |

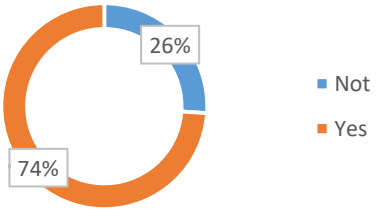


Figure 11. Answer Organizational Culture 6

10.- What is your level of motivation during the development of your work?

| | |
|---|---|
| High motivation | 14 |
| Demotivating | 1 |
| Without motivation | 8 |
| **Total** | **23** |

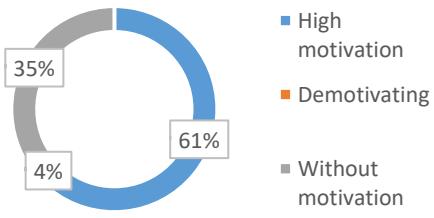


Figure 12. Answer Organizational Culture 7

11.- Do you feel that you are incentivized at work?

| | |
|---|---|
| Sometimes | 11 |
| No | 5 |
| Regularly | 4 |
| Yes | 3 |
| **Total** | **23** |

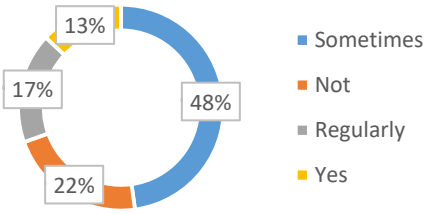


**Figure 13. Answer Organizational Culture 8**

12.- Do you feel satisfied with the company and your workplace?

| | |
|---|---|
| Indifferent | 5 |
| No | 2 |
| Yes | 16 |
| **Total** | **23** |

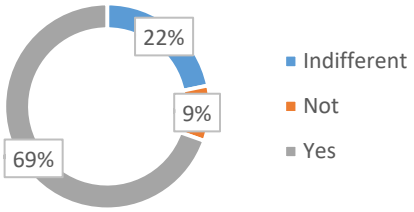


**Figure 14. Answer Organizational Culture 9**

13.- Have you felt personally attacked in your work environment?

| | |
|---|---|
| Sometimes | 8 |
| No | 13 |
| Yes | 2 |
| **Total** | **23** |

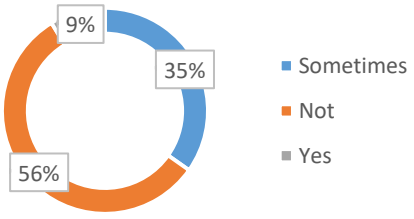


**Figure 15. Answer Organizational Culture 10**

14.- Is your work environment-friendly?

| | |
|---|---|
| Sometimes | 4 |
| Regularly | 7 |
| Yes | 12 |
| **Total** | **23** |

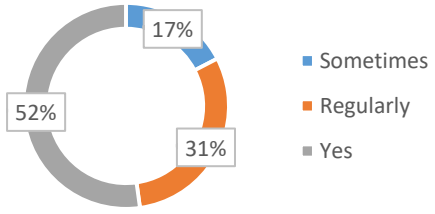


Figure 16. Answer Organizational Culture 11

15.- Do you feel safe in your work environment?

| | |
|---|---|
| Sometimes | 1 |
| Regularly | 3 |
| Yes | 19 |
| **Total** | **23** |

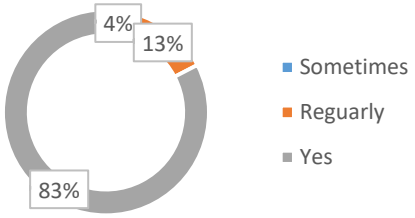


Figure 17. Answer Organizational Culture 12

16.- Do you think the company gives you benefits?

| | |
|---|---|
| Sometimes | 9 |
| No | 5 |
| Yes | 9 |
| **Total** | **23** |

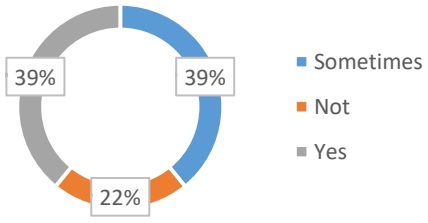


Figure 18. Answer Organizational Culture 13

17.- What benefits would you like to receive?

**Chart 6. Organizational Culture Answers 14**

| | |
|---|---|
| 1 | Support for transportation expenses, food, and gym and wage increase |
| 2 | Transport help |
| 3 | Bonds |
| 4 | Bonuses for achievements, punctuality, and benefits |
| 5 | Productivity bonuses, for example |

| | |
|---|---|
| 6 | A savings bank for staff, training courses, greater growth opportunities for new staff, and longer hiring periods |
| 7 | A savings bank, antiquity, AFORE, and pantry vouchers (Good Performance) |
| 8 | A savings bank, a home office whenever possible, regular training, financial incentives, and overtime pay |
| 9 | A savings bank, vouchers, and continuous training |
| 10 | Training, a savings fund, etc. |
| 11 | A home office |
| 12 | More economic bonds |
| 13 | That people who arrive early leave early on Fridays or some bonus and grocery vouchers, to give some examples |
| 14 | A healthy coexistence between partners, maybe integration activities, benefits, training, vouchers, and a savings fund |
| 15 | Pantry vouchers |
| 16 | Pantry Vouchers and a savings fund |
| 17 | Unanswered |

Conclusion: Fifty-two percent of the staff considers that decision-making is carried out based on consensus. Eighty-three percent indicate that the teamwork in their work area is good; however, forty-eight percent consider that the teamwork in the organization has differences. Seventy-four percent of the staff considers that the organization's communication is formal. From the above, it is understood that only a hundred percent of the decision-making process only understands the reasons for fifty-two percent of the decisions. This implies that it is necessary to share with the staff the reason for the decisions that are made. Within each area, the teamwork is understood, but not in the rest of the organization, even by the people who consider it bad. This requires a greater degree of understanding and empathy for the work of the other areas.

The communication of the organization is considered seventy-four percent formal. This can be interpreted as requiring reinforcement in the types of communication that are used. Fifty-seven percent of the staff understands how the results support the organization; work must be done so that the staff understands how the results help the organization. Seventy-four percent of the staff applies the policies and practices to deal with each other. It is necessary to reinforce how these policies and practices help in the development and daily treatment.

Sixty-one percent of the staff feels motivated during the development of its activities; this requires work in the motivation areas for the staff. Only thirteen percent feels motivated when developing their work; this requires work with staff motivation. Sixty-nine percent feels satisfied with the company and its work place. Forty-four percent of the staff has felt personally attacked at least on some occasion while working; this requires work in the conduct of work development policies.

Only fifty-two percent believe that the workplace is friendly to develop their activities. This requires working to improve the image of the company with the staff; however, eighty-three percent feel safe in the workplace. Only thirty-nine percent of the staff considers that the company provides benefits; this can be reflected in a lack of empathy towards the staff or a lack of communication of benefits. A list of benefits that the staff would like to receive from the organization is listed.

#### 4.1.1.3 Change Management

18.- How well does the organization handle change?

| | |
|---|---|
| Good | 4 |
| Bad | 5 |
| Normal | 14 |
| **Total** | **23** |

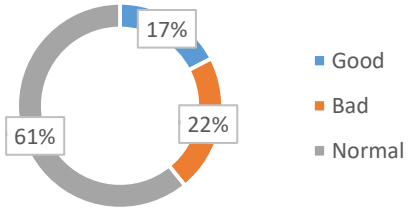


Figure 19. Answer Change Management 1

19.- Is the organization agile when it comes to changes?

| | |
|---|---|
| Sometimes | 8 |
| No | 7 |
| Yes | 8 |
| **Total** | **23** |

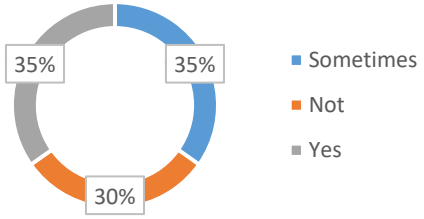


Figure 20. Answer Change Management 2

Conclusion: Seventeen percent of the staff considers that the organization handles change well. It is considered that the organization must work in the organization in the change administration and the way it manages it. Thirty-five percent believe that the organization is agile when it comes to managing changes. The management of the current change is not well perceived by the staff, and work must be done to manage those changes.

#### 4.1.1.4 Process Evaluation

20.- How effective is the organization's project information management system?

| | |
|---|---|
| Good | 8 |
| Sometimes | 11 |
| It is not effective | 4 |
| **Total** | **23** |

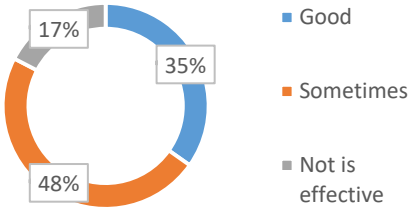


Figure 21. Answer Process Evaluation 1

21.- What other management systems require consideration?

**Chart 7. Process Evaluation Answers 2**

| | |
|---|---|
| 1 | Unanswered |
| 2 | Quality |
| 3 | I believe that only this should be really implemented |
| 4 | Documentary film |
| 5 | The intention to implement the occupational health and safety management system is good; however, no actions are being taken for it, and it remains only as a good intention. |
| 6 | Delivery and completion of projects |
| 7 | The planning |
| 8 | No other |
| 9 | Any |
| 10 | None |
| 11 | None, it is necessary to make the one we currently have more practical |
| 12 | Information organization and activity log |
| 13 | To be able to implement more points in environmental matter systems |
| 14 | It requires that all sg be more visual and easy to digest for the recipient. |
| 15 | Safety and quality at work |
| 16 | It would be reinforcement for the understanding of the current management system |
| 17 | Unanswered |
| 18 | The requests for resources and checks, it takes too much time to comply with them |
| 19 | Work at home |
| 20 | Optimal communication in detail |

Conclusion: Thirty-five percent of the staff believes that information management is good. This indicates that information management should improve in the organization. The staff provided a list of systems that require better management.

#### 4.1.1.5 Leadership

22.- Is your boss' leadership adequate for your job?

| | |
|---|---|
| No | 4 |
| Yes | 19 |
| **Total** | **23** |

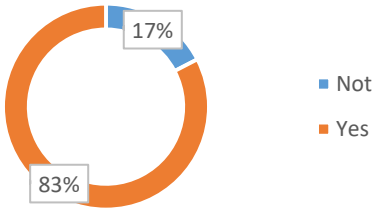


Figure 22. Answer Leadership 1

23.- Do you think that your mistakes are emphasized in your work area?

| | |
|---|---|
| Sometimes | 12 |
| No | 6 |
| Yes | 5 |
| **Total** | **23** |

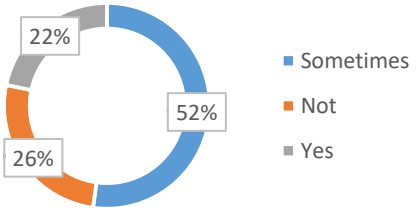


Figure 23. Answer Leadership 2

24.- Is the performance evaluation done to you clear and transparent?

| | |
|---|---|
| No | 9 |
| Yes | 14 |
| **Total** | **23** |

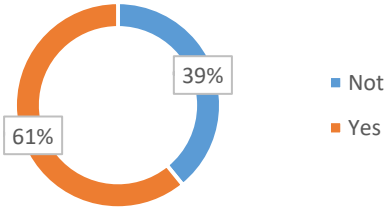


Figure 24. Answer Leadership 3

Conclusion: Eighty-three percent of the staff considers that the leadership that their immediate boss has is adequate. This indicates that they have good leadership, but the used form of leadership must be improved. Fifty-two percent of staff believes that their mistakes are emphasized. This indicates that better leadership management and feedback to staff about their mistakes are required. Only sixty-one

percent of the staff considers that the evaluation that is done is clear and transparent. This indicates that the personnel should be informed of the way in which they are evaluated.

#### 4.1.1.6 Activity Performance

25.- What kind of quality do the jobs that you do have?

| | |
|---|---|
| Good quality | 18 |
| Bad quality | 5 |
| **Total** | **23** |

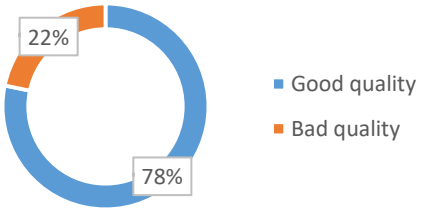


Figure 25. Answer Performance of Activities 1

26.- Is the technological level in the company sufficient for the development of your activities?

| | |
|---|---|
| Sometimes | 5 |
| No | 2 |
| Yes | 16 |
| **Total** | **23** |

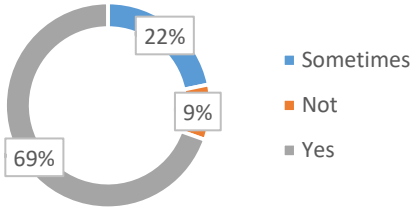


Figure 26. Answer Performance of Activities 2

27.- Do you have enough flexibility in the development of your work?

| | |
|---|---|
| Sometimes | 6 |
| The necessary | 17 |
| **Total** | **23** |

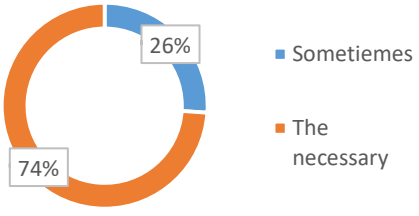


Figure 27. Answer Performance of Activities 3

28.- If you had to change something in the company, what would it be and why?

**Chart 8. Activity Performance Answers 3**

| | |
|---|---|
| 1 | 1.- Even though training has increased in recent months, it is good to reinforce this item with external and internal training.<br>2.- Regarding field trips, greater flexibility in terms of travel expenses, lodging, and flights<br>3.- Do not commit deliverables and /or delivery dates thereof without the corresponding analysis based on getting new projects with the same client<br>4.- Training of specialists and /or portfolio of subcontracted personnel for certain specialties (e.g., civil-structural, electrical, and commissioning) |
| 2 | Toxic people who hinder daily activities |
| 3 | Attitude and mentality |
| 4 | Streamline the administrative and project control part more |
| 5 | Some regulation policies |
| 6 | The most relaxed schedule and attire on Fridays. Many companies leave early. We move from afar all week, and each of us has very particular situations that perhaps with a more flexible schedule that day, it will allow us to make the most of the weekend long awaited by all. |
| 7 | The project management system |
| 8 | The training you have is poor, null incentives |
| 9 | Discipline and responsibility of people, and respect for work life, as some colleagues distract us with comments and personal calls |
| 10 | The way of communication |
| 11 | Action independence of the area |
| 12 | The improvement of salaries, analysis of the personnel that can hinder the daily work, or complement training of the personnel |
| 13 | The forecast, planning, priority setting, and analysis implemented for decision-making, from my perspective, there is no clear discernment to differentiate the urgent from the important. It would change the disposition to plan and execute the activities because many of the great problems that the company has are due to the lack of analysis in the decision-making, communication, and monitoring of the progress of the activities. |
| 14 | Friday hours |
| 15 | Contract times for engineers jr. and the benefits |
| 16 | Greater communication and information on changes, performance, and possible improvements in the first floor office |
| 17 | Greater flexibility in the dress code |
| 18 | Less bureaucracy |
| 19 | Nothing |
| 20 | No change, I feel satisfied with what the company offers. |
| 21 | Contract times |

Conclusion: Seventy-eight percent of the staff considers their work to be of good quality. This reflects a lack of feedback from their immediate boss about the quality of their work. Sixty-nine percent of the staff considers the technological tools

provided for the development of their activities sufficient, indicating that the technological tools can improve for the performance of their activities.

Seventy-four percent of the staff indicates that they have sufficient flexibility for the development of their activities; this indicates that the staff does not feel so flexible when carrying out their activities. A series of improvements that the organization could develop are provided.

### 4.1.2 Organization’s Project Management

The organization has an established process for the development of its projects, which is as follows:

#### 4.1.2.1 GLOBE Project Management Process

**I. Objective**

To define the guidelines and methods of action for the execution of GLOBE projects and /or work orders from the reception by the commercial area to the technical closure of the same

**II. Scope**

This procedure applies to all business units of GRANNENANN LOBEIRA S. **de RL de CV. (GLOBE) in all its sites and work offices.**

**III. Reference documents**

For the development and preparation of this document, the following documents have been taken as reference:

- ISO 9001: 2015 Quality Management System Requirements
- ISO 14001: 2015 Environmental Management System Requirements
- ISO 45001: 2018 Requirements of the Occupational Health and Safety Management System
- Integral Management Manual of GRANNEMANN LOBEIRA S. de RL de CV (MGI)
- P-7-01 Commercial Procedure
- Verification Unit procedures, instructions, and formats

## IV. Generalities

### IV.I.Responsibilities

**Commercial manager**

- Registers the service order in the GLOBE system
- Makes the transfer of the documented information (transfer and other documentation that applies) that the technical director requires for the correct execution of the project, based on the information of the QA and that was provided by the client after the client's confirmation order purchase or contract
- When applicable, coordinates the Internal Board of Initiation of the order where the transfer of information and initial start-up documents are made
- Registers in the GLOBE system the initial programming of the project to be executed, andthe structure of the project items as well as the linking of the personnel that must report hours to the project
- Provides the Director of Administration and Finance with the necessary documented information so that the contract or agreement is managed with the client
- Obtains the perception of customer satisfaction once the provided service has been completed

**Technical director**

- Completes the requirements established for this procedure
- Ensures operational profitability for each service order
- Weekly performs the order status delivery with truthful and timely information including the potential or actual deviations to what is established in the service order planning and the specific way of how they are being served

- Monthly delivers to the SGI committee the process indicators and the area objectives with reliable information and the analysis of this information
- Provides the information that is required with opportunity and quality to the general directorate, the administration and finance directorate, and the project manager for the proper functioning of the SGI (resource management, billing, measurement of results, etc.)
- Receives, reviews, and confirms the acknowledgment of the necessary documentation for the development of the project via email
- Completes the necessary documentation for the planning of the service order, indicating in detail the personnel responsible for the coordination and execution of the activities, schedules, distribution of resources, and deliverables
- Assigns in writing and in the GLOBE system a coordinator or the executing staff of the service order
- Provides the operations manager, the coordinator, or the designated executor with the service order planning that you have previously performed and the information necessary to fulfill the commitment to the client
- Carries out the necessary monitoring to ensure that the correct coordination and execution of the orders is being carried out through the supervision and delivery of the results of each order during and at the end of it
- Confirms that compliance is given as indicated in the billing and collection projection
- Makes sure that the quality of the deliverables are as indicated in the service order planning
- Quarterly evaluates the performance of the personnel in charge considering the criteria of effectiveness in achieving the results of each order in which it has participated

- Evaluates and requests in writing the technical training of the operational personnel on a biannual basis or before, if necessary, to ensure the competence in the technical positions that are required
- Development of application resources for all work orders involving a subcontractor, that is necessary and justified for the execution of services, taking into account the criteria for the subcontractor selection (skills, cost, availability, historical evidence, and quality of your deliverables)
- Evaluates the performance of the subcontractors each time they finish their participation, or in case of long periods, on a bimonthly basis considering the results of the order or orders in which they participated
- Is responsible for releasing final deliverables (when applicable)
- Is responsible for reviewing and signing the certificates and opinions issued by GLOBE
- Ensures that there is no missing delivery to the client, in accordance with the agreement provisions with the client (contract or service acceptance order )
- Validates customer satisfaction
- Checks that the total committed value of the project has been collected
- Confirms the delivery of the delivery certificate reception to the client (when applicable)
- Records learned lessons in the control and / or project closure format

**Administration and finance director**

- Supports the control of availability of human resources required for the development of the project
- Performs the process of "Recruitment and Selection of Personnel" in case you require hiring new staff
- Makes the acquisition of material resources in case of not having the necessary material available at the time of the start of the project

- Optimizes and takes care of material resource costs to acquire according to the established at the QA of the service order
- Manages the available material resource to be assigned to a project, monitoring the assigned asset
- Controls the assets and guarantees as well as the follow-up to the preparation of safeguards
- Manages, together with the commercial area, the development of contracts
- Ensures that the information corresponding to an order, provided in the subcontracting terms format, is consistent and in accordance with what is considered in the QA of the project and with what is considered in the BUDGET
- Ensures that the work schedule by the subcontractor in the specific execution period is in accordance with the schedule indicated in the order transfer to the client during the same execution period
- Makes the order invoices according to the billing program, estimates, conclusions of execution, or as agreed with the client
- Is in charge of billing all services
- Makes the collection of invoices issued a hundred percent
- Informs the general management when there are deviations detected in the projects

**Operations manager**

- Decision making and technical support to coordinators and executors for compliance under the requirements agreed in the GLOBE orders
- Requests an updated status of open orders from coordinators and executors (as appropriate) at least twice a week
- Continuously verifies the follow-up through evidence to the specific planning that was provided by the technical director according to the scope, times, and resources determined during the execution of all work orders

- Supports the technical manager in the proposal for improvement and attention to deviations that could or may be presented in the GLOBE orders
- Followsup the man-hours of the personnel in charge

**Service order coordinator**

- Is responsible for communication and coordination activities, meetings with the client, and estimates
- Is responsible for the effective execution and development under the provisions of the service order planning (technical, regulatory, and contractual compliance)
- Is responsible for the follow-up of the project development for the planning of the service order that was provided by the technical director and for providing daily documented information on the progress and deviations from what was established in the planning
- Is responsible for reviewing and authorizing hours. He is the man of the staff in charge in the GLOBE system.
- Is responsible for the development of the deliverable with the quality, reach, and opportunity committed in the contract with the client

## V. Definitions

**SGI Documents:** These are the documents required by the GLOBE SGI.

**Commercial conditions:** They are situations defined in conjunction with the client to determine the percentages of amount and delivery times of the billing from the preparation of a job or at the end of a certain period. They may include deadlines, schedules, and contact information for both the billing delivery as for the collection of agreed payment.

**Contract:** It is a bilateral legal act that is constituted by the agreement of wills of two or more parties reflected in a formal written document. A contract is defined as an agreement of wills to create or transmit rights and obligations.

**Quotation (technical - economic proposal):** It is a document where the sale price is transmitted to a specific customer with a specific time and scope and with the specific conditions necessary for its execution.

**Planning of the service order:** It is detailed information that specifically determines the activities to be carried out, those responsible for executing them, the schedules for the execution of these activities, the specific allocation of man-hours per position, the distribution of resources, and other contractual and GLOBE requirements, based on the information in the project QA that will be transmitted to the executing staff. This documentation will serve as a guide and basis for comparing the progress of the service to be performed, and will prevent deviations in the execution of the GLOBE services to which it has committed to.

**Quality plan:** It is a formal document that records the basic information for the control of the project (generalities, commercial conditions, customer data, deliverable details, applicable regulations, income budget, expenses, and collection). It will be applied in GLOBE in projects.

**Service order (project):** It is a temporary interpretation designed to produce a single product, service, or result with a defined beginning and end (limited in time, costs and /or deliverables), which is undertaken to achieve unique objectives. For GLOBE, the "**service order**" is where a service, that is duly planned, with a determined scope, duration, and cost is performed. It is traceable in all its stages, and documented information is related to it with defined responsibilities that support the reason for being from the GLOBE business**.**

**Transfer:** It is an internal information transfer document from the commercial area to the area of operations where the agreements stipulated in the contract and the commercial conditions are summarized.

## VI. Description of Activities

### VI.I.Considerations

**The commercial manager** must invariably provide the other areas with immediate confirmation of the written service acceptance by the customer and must register the new order in the GLOBE system to ensure that the other areas with opportunity fulfill their responsibilities, if applicable: the signing of the contract, advances and existing resources, and the specific planning.

**The commercial manager** must deliver on the same day of the opening of the GLOBE order the TRANSFER with the breakdown of the following information:

- Customer data (fiscal and commercial)
- Contact person (name, position, telephone numbers, and email addresses)
- Order number
- Agreed commercial conditions
- Scope of service
- Execution times
- Internal operating cost
- Committed deliverables
- Work location
- Number, staff positions, and man-hours determined for the execution of the GLOBE order
- Any relevant information that may affect the planning and execution of the order (quality, safety, and special environmental conditions)

**The administration and finance manager** must make the contract of the open order, search the signatures, and inform the technical directorate that the activities of the order can be initiated. There will be exceptions to this point if no contract is required when a service acceptance order is agreed with the customer.

**NOTE: The privileges to modify the QA** will be for the directorates and the commercial manager.

**The privilege to consult** will be for commercial purposes only. The QA record is stored in the project /service order folder on the GLOBE server. It is forbidden to grant permission to consult, copy, or modify other people outside of what is indicated in this note.

**The commercial manager** (Project Control) registers the **project folder** on the Globe online server / Globe orders / year / consecutive - year. Every project folder must have the following 7 subfolders:

1. CON – Contract / purchase order
2. COT - Quotation
3. INAD - Administrative information
4. INOP - Operational information
6. TRA - Transfer
7. CONT - Control

**The technical director** shall obligatorily make the update of specific order planification of all the GLOBE orders without delay, as soon as the information is provided by the commercial area according to the information transfer . It will include at least the following:

- **Scope of services according to the contract**

- List or determination of activities
- Schedule and critical route of activities
- Assignment of the coordinator and executors of the orders, hours, and man per position in the different activities
- Maximum operating budget
- Contact information and work sites
- Determination according to the operational costs of the QA, the economic material and logistic resources, and its programming (distribution) throughout the order
- Contractor requirement for your selection (if applicable)
- Description of the deliverables
- Billing program
- Path to the location of the information folder required by the client
- All the information that is necessary so that the operations manager, the coordinator, the executor, the administration and finance area, and project control can provide a timely follow-up

**No order can be initiated** if you do not have the minimum necessary documentation. Such information must be stored on the GLOBE server.

**The assignment of privileges for each project** of the technical folder on the GLOBE server is determined as follows:

- Addresses and operations manager: modification and consultation privileges
- Project coordinator and executor: This person only adds documentation (records of order execution and deliverables).

If any order due to its extension, complexity, or as a requirement of the client requires in addition to the service order a planning of a quality plan, it must contain:

- Report formats
- Applicable regulations
- Monitoring and controlling plan
- Deliverables plan
- Budget
- Personnel assignment
- Allocation of material resources

### VI.II.Inspection, Certification, Verification, Third Party Specialists, and Approved Third Party Services

The operations manager receives the order planning from the technical director, and announces the transfer and activity planning to the coordinators and the executing staff, ensuring that the area of operation has at least the following information:

- Scope of service
- Execution period
- Man-hours assigned per participant
- Service location
- Program of activities (start, realization, authorized amounts of expenses applied only to the coordinator or direct or execution manager if it is in the field, deliverables date, dates to request billing, term, particular project conditions, and other relevant information )

**Chart 9. Service Execution**

| No. | Responsible | Activity | Procedure, format, and registration |
|---|---|---|---|
| **No.** | **Service Planning** | | |
| **1** | Technical director | Execution of the specific planning of the order and delivery to the operations manager and those responsible for carrying out the project | Assignment of Responsible |

| No. | Responsible | Activity | Procedure, format, and registration |
|---|---|---|---|
| **2** | COO | Registers and monitors the proper administration of orders, and provides continuous monitoring of all open orders from the delivery of the folder until the order is closed. Reports deviations to orders. | Matrix project tracking |
| **No.** | **Service Execution** | | |
| **3** | Operation manager /project coordinator / leader / inspector and / or verifiers | They review the project folder; participants should review and know the **scope** of the project in which they participate, the technical specifications, and applicable regulations. | Transfer |
| **4** | Draft coordinator | Requests documentation from the client according to the scope of the activity or deliverable | Email |
| **5** | Technical assistant | The documentation received by the client is registered | Base document control / project folder |
| **6** | Inspector and / or verifiers | They perform the documentary review; inspectors and / or verifiers review the documentation provided by the client and compare it against the applicable regulations. | Checklists and the documentary verification report |
| **7** | Inspector and / or verifiers | They witness in the field; when field visits are established within the scope, these will be done after the documentary review. The necessary visits are made according to the scope and program of the project. | UV performance guidelines, OSH and environmental operational controls, and verification procedure Records: checklists, notes, photographic records, and circumstantial records (Project folder in GLOBE server) |
| **8** | Inspector and / or verifier | Preparation of reports (as agreed with the client) | Reports / reports (project folder in GLOBE server) |
| **9** | Inspector and / or verifier | Preparation of the opinion and final report / certificate (deliverable) | Safety sheets, final report |
| **10** | Technical director | Review and validation of the deliverable. The deliverable is | Deliverable to the client |

| No. | Responsible | Activity | Procedure, format, and registration |
|---|---|---|---|
| | /operations manager project coordinator / leader | reviewed and validated by the leader / project coordinator / technical director (according to the case). | |
| **11** | Technical director / operations manager | Development of generators for the estimation according to the deliverables and specifications of the contract | Estimates |
| **12** | Technical director / operations manager | Invoice request | Email, GLOBE system |
| **13** | Director of administration and finance / general accountant | Making and sending the invoice to the customer through the administration and finance area | GLOBE billing system and administration and finance area records |
| **14** | Inspector and / or verifier | Digitization of validated deliverables stored in the GLOBE services. | GLOBE server |
| **15** | Inspector and / or verifier / document controller | Delivery to the customer of the deliverable through the mechanism that is contracted by the administration for messaging | Shipping guides |
| **No.** | **Project Hour and Expense Administration** | | |
| **16** | Inspector and / or verifier | Man-hours record | GLOBE system (daily) |
| **17** | Technical director /operations manager / project coordinator | Tracking man-hours | GLOBE system (weekly) |
| **18** | Inspector and / or verifier (on-site attestation) | Generation of the advance report or reimbursement of expenses. | |
| **19** | Operations manager | Submission to the administration manager for review | |
| **20** | Operations manager / project coordinator | Review and concentration of each project's weekly expenses | |
| **21** | Technical director | Authorization of reported project expenses | |
| **22** | COO | I sent to accounting the authorized expenses with their tax checks. | |
| **No.** | **Expansion of Projects** | | |

| No. | Responsible | Activity | Procedure, format, and registration |
|---|---|---|---|
| **23** | Project coordinator / technical director | If there is an extension of activities, you must notify the technical, commercial, and administration and finance directorates of the new scope, cost, execution period, and addendum to the contract, and open a new order. | Emails with customers |
| **24** | Commercial manager / administration and finance director | Preparation of QA, review and adaptation of contracts, and opening of new orders | Issuance of new QA, new quotation, contract review, addendum, and customer payment review<br>GLOBE system |
| **25** | Technical director | Performs detailed planning of extension activities, and notifies the project coordinator | Project planning |
| **No.** | **Closing** | | |
| **26** | Administration and finance department | Assurance of the total collection of the order | Billing control<br>GLOBE billing system |
| **27** | Operation manager / project coordinator / leader | Once the agreed activities have been completed and the total collection of the order has been made, the delivery reception act is prepared when applicable, if not, go to activity 30 | Delivery reception act |
| **28** | Technical director | Reviews and signs the delivery certificate - reception | Delivery reception act |
| **29** | Operation manager / project coordinator / leader | Provides the customer with the delivery reception act to collect your signature | Delivery reception act |
| **30** | Administration and finance department | Gives the consolidator a copy of the delivery receipt of the project to obtain the release of the deposit (when applicable) | Deposit cancellation |
| **31** | Administration and finance department | Project closure | GLOBE system |
| **No.** | **Project Results** | | |
| **32** | Project control | Review of the profitability of the project considering the expenses incurred and the payment received from the project (it must be monthly and accumulated when appropriate) | Project control tool |

| No. | Responsible | Activity | Procedure, format, and registration |
|---|---|---|---|
| | | for the analysis and taking actions, including corrective actions | |
| **33** | Commercial manager | Satisfaction survey or application of a mechanism to obtain customer perception regarding the service performed | Satisfaction survey, face-to-face interview, phone call, and registration |

## VII. Change Control.

| Changes | Review level | Release date | Replace to | Electronic |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

## 4.2. Analysis of Project Office Structures

### 4.2.1 Organizational Strutucre Types

According to the *PMBOK Guide 6th Edition*, the projects operate within the constraints imposed by the organization through their structure and governance framework. To operate effectively and efficiently, the project manager needs to understand where responsibility, accountability, and authorithy reside within the organization. This understanding will help the project manager to effectively use his or her power, influence, competence, leadership, and political capabilities to successfully complete the project.

The determination of the appropriate organizational structure type is a result of the study of tradeoffs between two key variables: the organizational structure types available for use and how to optimize them for a given organization. There is not a one-size-fits-all structure for any given organization. The final structure for a given organization is unique due to the numerous variables or factors to be considered.

The factors to consider in selecting an organizational structure include:

- Alignment degree with organizational objectives
- Specialization capabilities
- Efficient and effective span of control
- Clear path for decision escalation
- Clear line and scope of authorithy
- Delegation capabilities
- Accountability assignment
- Responsibility assignment
- Design adpatability
- Design simplicity

- Performance efficiency
- Cost considerations
- Physical locations
- Clear communication

The organizational structures take many forms or types. Figure 28compares several types of organiztional structures and their influence on projects.

| Organizational Structure Type | Project Characteristics | | | | | |
|---|---|---|---|---|---|---|
| | Work Groups Arranged by: | Project Manager's Authority | Project Manager's Role | Resource Availability | Who Manages the Project Budget? | Project Management Administrative Staff |
| **Organic or Simple** | Flexible; people working side-by-side | Little or none | Part-time; may or may not be a designated job role like coordinator | Little or none | Owner or operator | Little or none |
| **Functional (centralized)** | Job being done (e.g., engineering, manufacturing) | Little or none | Part-time; may or may not be a designated job role like coordinator | Little or none | Functional manager | Part-time |
| **Multi-divisional (may replicate functions for each division with little centralization)** | One of: product; production processes; portfolio; program; geographic region; customer type | Little or none | Part-time; may or may not be a designated job role like coordinator | Little or none | Functional manager | Part-time |
| **Matrix – strong** | By job function, with project manager as a function | Moderate to high | Full-time designated job role | Moderate to high | Project manager | Full-time |
| **Matrix – weak** | Job function | Low | Part-time; done as part of another job and not a designated job role like coordinator | Low | Functional manager | Part-time |
| **Matrix – balanced** | Job function | Low to moderate | Part-time; embedded in the functions as a skill and may not be a designated job role like coordinator | Low to moderate | Mixed | Part-time |
| **Project-oriented (composite, hybrid)** | Project | High to almost total | Full-time designated job role | High to almost total | Project manager | Full-time |
| **Virtual** | Network structure with nodes at points of contact with other people | Low to moderate | Full-time or part-time | Low to moderate | Mixed | Could be full-time or part-time |
| **Hybrid** | Mix of other types | Mixed | Mixed | Mixed | Mixed | Mixed |
| **PMO*** | Mix of other types | High to almost total | Full-time designated job role | High to almost total | Project manager | Full-time |

*PMO refers to a portfolio, program, or project management office or organization.

**Figure 28. Organizational Structure Influences on Projects (PMI, 2017, p. 47)**

On figure 28 of the *PMBOk Guide 6th Edition*, PMI analyzed the different organizational structure types and their characteristics to understand in detail how each structure functions.

According to PMI's Pulse of the Profession PMO Frameworks (2013), five identified PMO frameworks exist:

**Organizational Unit PMO/Business Unit PMO/Divisional PMO/Departmental PMO**

It provides project-related services to support a business unit or division within an organization including, but not limited to, portfolio management, governance, operational project support, and human resources utilization.

**Project-Specific PMO/Project Office/ Program Office**

It provides project-related services as a temporary entity established to support a specific project or program. It may include supporting data management, coordination of governance and reporting, and administrative activities to support the project or program team.

**Project Support/Services/Controls Office or PMO**

It provides enabling processes to continuously support the management of project, program, or portfolio work throughout the organization. It uses the governance, processes, practices, and tools established by the organization, and provides administrative support for the delivery of the project, program, or portfolio work within its domain.

**Enterprise/Organization–wide/Strategic/Corporate/Portfolio/Global PMO**

The highest-level PMO in organizations have one; this PMO is often responsible for the alignment of project and program work to corporate strategy, establishing and ensuring appropriate enterprise governance, and performing portfolio management functions to ensure strategy alignment and benefit realization.

**Center of Excellence/Center of Competency**

It supports project work by equipping the organization with methodologies, standards, and tools to enable project managers to better deliver projects. It increases the capability of the organization through good practices and a central point of contact for project managers.

The five PMO frameworks analyze certain domains of work to define each PMO framework. The domains of work to consider are standards, methodologies and processes, project/program delivery management, portfolio management, talent management, governance and performance management, organizational change management, administration and support, knowledge management, and strategic planning.

In GLOBE, the staff is not more than 30 people, as smaller companies are not recommended to change their organizational structure type a lot. Mainly, it is necessary to improve the acceptance of the project management concepts and practices to adjust the organizational structure type and to insert a PMO in GLOBE.

According to the process to develop projects in GLOBE, the similar structure is functional (centralized) by the *PMBOK Guide 6th Edition* and the Project Support/Services/Controls Office or PMO by PMO Frameworks (2013).

### 4.2.2 Project Management Office

According to the *PMBOK Guide 6th Edition*, a project management office (PMO) is an organizational structure that standardizes the project-related governance processes, and facilitates the sharing of resources, methodologies, tools, and techniques. The responsabilities of a PMO can range from providing project management support functions to the direct management of one or more projects.

There are several types of PMOs in organizations. Each type varies in the degree of control and influence it has on projects within the organization, such as:

- Supportive: Supportive PMOs provide a consultative role to projects by supplying templates, best practices, training, access to information, and lessons learned from other projects. The degree of control provided by the PMO is low.
- Controlling: Controlling PMOs provide support and require compliance through various means. The degree of control provided by the PMO is moderate. Compliance may involve:
    - Adoption of project management frameworks or methodologies
    - Use of specific templates, forms, and tools
    - Conformance to governance frameworks
- Directive: Directive PMOs take control of the projects by directly managing the projects. Project managers are assigned by and report to the PMO. The degree of control provided by the PMO is high.

According to Hill, G. (2008). *The Complete Project Management Office Handbook* (2nd ed.), the “organization and structure” function along the PMO competency continuum provides project management capability by establishing an efficient and effective organizational alignment and project team structure that facilitates business and professional interactions among stakeholders and presents sufficient project team and PMO representation within the relevant organization.

Figure 29 presents an overview of the range of prescribed PMO organization and structure activities according to each level in the PMO competency continuum.

| *Project Office* | *Basic PMO* | *Standard PMO* | *Advanced PMO* | *Center of Excellence* |
|---|---|---|---|---|
| Manage the preferred project team structure | Establish essential project roles and relationships:<br>– Specify standard project team member roles<br>– Facilitate internal business unit relationships<br>– Identify project stakeholders | Introduce project management structure:<br>– Evaluate project management structure options<br>– Implement the preferred project team structure<br>– Implement the preferred PMO staffing structure | Expand project management and business alignment:<br>– Develop PMO organizational alignment<br>– Develop project manager and PMO alignment<br>– Manage broader stakeholder alignment and participation | Review and analyze project organization and structure:<br>– Analyze project management organization effectiveness<br>– Examine project team structure effectiveness<br>– Identify capability associated with current structure |

Figure 29. Range of Organizational and Structure Activities across the PMO Continuum (Hill, 2008, p. 208)

The efforts of the smaller PMO should focus on introducing professional project management concepts and practices into the relevant organization, including promoting an organizational framework and structure that will facilitate excellence in project management.

To GLOBE, the correct PMO is the supportive type because the organization is small, and it is necessary improve the project manager culture and knowledge in this area.

## 4.3. Project Management Office Design

### 4.3.1 PMO Strategic Purpose

GLOBE is a company that offers engineering verification services under the regulations enforced in Mexico for the development of new projects and maintenance of energy infrastructure complexes or facilities in México.
The services are considered almost an intangible service because the development is based on the man hours of specialists, mostly engineers, who participate in multiple projects in the organization or are part of other roles or operational-administrative activities within the organization.

It has been the case that sometimes many of the projects, which can be even in some way repetitive because they are based on the same regulations to review, reinvent themselves in the management of the project; which generates a loss of the generated learning. This stagnates the organization in a vicious and non-evolutionary circle.

Senior management believes that the recognition of the organization in the national market has been generated properly; however, consolidation is sought within the new energy market in the country. To achieve this consolidation, it is necessary to reinforce the current processes with the best international practices related to project management.

In accordance with the above, the strategic purpose of GLOBE to generate a PMO can be defined as the following:

To generate a support area that regulates the management and execution of projects within the organization to support the achievement of strategic objectives of the

organization reflecting and generating value during the first two years of its implementation with a quarterly follow-up for thepresentation of indicators that reflect the obtained value .

In the following sections, the planning and implementation of the PMO in the organization will be developed in detail to achieve the strategic purpose and main function within the organization.

### 4.3.2 Location PMO Structure

The physical location of the organization is at the following address:

Peach Forest 65-207, Col. Bosques de las Lomas, Miguel Hidalgo, CDMX.

In this location, all the staff is concentrated when there is no visit or departure to a client's work site.

The organization’s organization chart adding the integration of the PMO would be the indicated in figure 30.

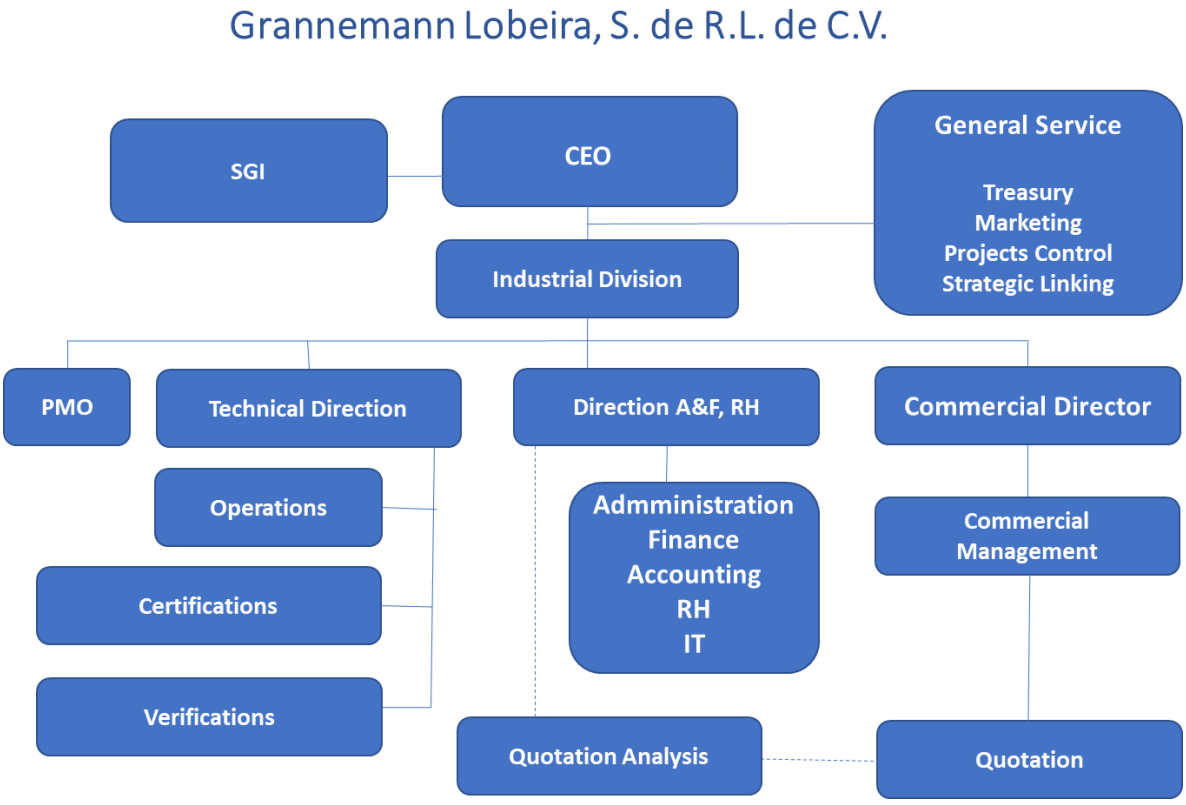


Figure 30. Proposed Organizational Structure

The PMO will be added as a physical office at the GLOBE headquarters where an area for the occupation of its staff will be assigned. This will not generate extra cost in the organization's facilities in terms of renting space to physically house the area.

The PMO must have the support of expert technical personnel to contribute its experience in the development of the activities as well as a staff with experience in projects of preference with certification in projects. The PMO organization chart is formed as figure 31.

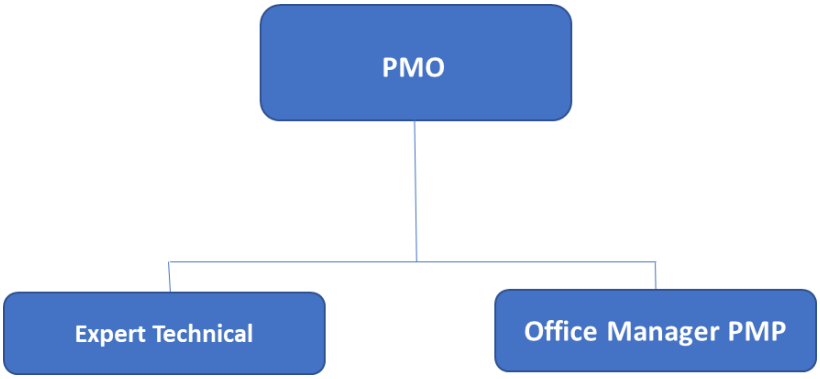


Figure 31. Proposed PMO Structure

### 4.3.3 PMO Scope

According to Hill, G. (2014). *The Complete Project Management Office Handbook* (3th ed.), to define the PMO scope, it is necessary to consider 5 main themes to integrate and thus generate an overview of the PMO scope. The aspects are the practice management, infrastructure management, resource integration, technical support, and business alignment.

Each theme contains sub-themes to understand in detail the focus of each topic, as seen in figure 32.

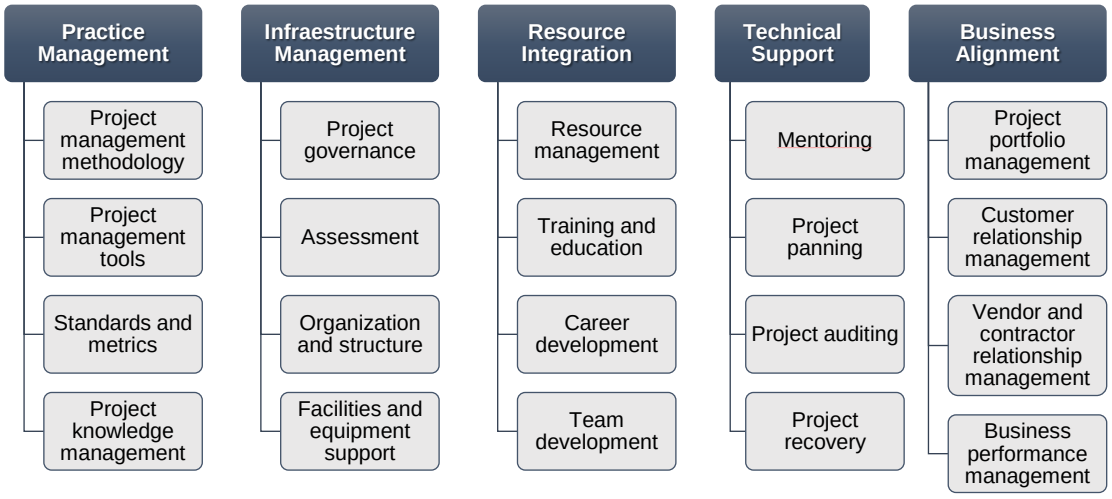


**Figure 32. Hill, G. (2014). The Complete Project Management Office Handbook (3th Ed). Florida, USA: Taylor & Francis Group**

The scope required by GLOBE for the PMO is of support in the regulation and management of the daily practices of the company, establishing a methodology for the management projects of its human resources, technical, and infrastructure through the management of the tools and techniques for the development of the project activities as well as the knowledge management obtained in the learned lessons , which will generate value in the search for compliance with the GLOBE strategic plan.

### 4.3.4 PMO Objectives

As indicated in the 4.3.1 Strategic Purpose of the PMO section, the strategic purpose of the PMO is: “to generate a support area that regulates the, management and execution of projects within the organization to support the achievement of the organization’s strategic objectives reflecting and generating value during the first two years of its implementation with quarterly monitoring to present indicators that reflect the obtained value.”

In order to achieve the purpose, it is necessary to begin with the identification of the necessary phases to complete the strategic purpose.

The phases in chronological order contemplated to define the objectives are seen in figure 33.

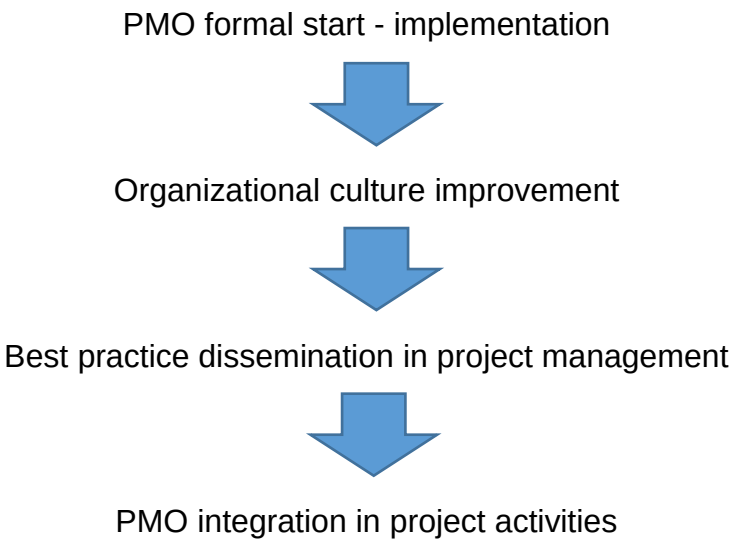


**Figure 33. Phases to Define Objectives**

The formal start of the PMO is the start of the project where the phase to improve the organizational culture begins and subsequently, the following phases until reaching the strategic purpose of the PMO implementation.

The current state of the organization in terms of organizational culture is lacking according to the research carried out with the anonymous questionnaire of the topic “4.1.1 Organizational Culture”. The objective related to the organizational culture is to improve the organization’s organizational culture through concrete and direct actions for each recommendation obtained from the anonymous survey during the first 6 months of the implementation. This will measure its effectiveness with the same questionnaire previously completed at the end of the planned period.

The dissemination phase of best practices in project management is the stage where a dissemination campaign on project methodology is generated to standardize criteria within the organization and seek a level of collective understanding that allows an improvement in organization staff communication.

The objective for the dissemination phase of best practices in project management is to generate and disseminate a campaign of best practices in project management that contains the basic fundamentals and important aspects of project management through weekly 10-minute talks with the organization's staff for a period of 4 to 5 continuous months.

The integration phase of the PMO in the project activities is the phase where the PMO must start the work, and generate direct actions to help and support the organization's projects. For this stage, it is considered that the integration should be generated in an acceptance environment due to previous preparation seen in previous phases.

The objective of this phase is to integrate the support and support activities of the PMO into the organization’s project activities during 6 months of transition in which the acceptance will be assessed according to monthly meetings where the status of the PMO integration into the daily activities of the students will be diagnosed. Projects.

Each phase has its own objective with which the progress of the project can be measured, considering that the times mentioned must be evaluated according to the resistance to change that could be presented.

### 4.3.5 PMO Key Performance Indicators

A key indicator is the way to measure a particular action done to achieve a goal or an objective. This serves to know the degree of effectiveness of the undertaken action.

Each phase of the project has a defined metric for monitoring the effectiveness of the actions undertaken in the search for the fulfillment of its objectives.

**Chart 10. Project KPI's**

| Phase | KPI | Measuring Frequency | Responsable | Goal |
|---|---|---|---|---|
| Organizational culture improvement | Anonymous questionnaire to anonymous driving staff and anonymous final questionnaire with the same culture measurement questions | Monthly | PMO office manager | Organizational culture focused on projects in a maximum of 6 months |
| Best practice dissemination in project management | List of personnel participating in the weekly talks | Weekly | Technical expert | Standardized criteria in project management methodology in a maximum of 5 months |
| PMO integration in project activities | Monthly senior management meetings for the PMO integration diagnosis | Monthly | PMO office manager | Integration of PMO to project management in 6 months |

During the implementation of the project it is considered to monitor the progress with a comprehensive approach with an overview such as the Balance Score Card, which will allow measuring the objectives with the actions carried out, for this you can use two aspects of the KPIs associated with the management of Projects and the KPIs associated with the value of project management.

**Chart 11. KPI's associated with project management:**

| KPI | Description |
|---|---|
| Qualification of Project Management | Number of Project managers certified as PMP / total number of Project managers. |
| Teaching and training in project management | Number of specific trainings in projects carried out in the period / Total number of trainings carried out in the period. |
| Management Cost Performance Index | Number of project with initial budget deviations greater than 10% / Total number of projects executed. |
| Management Schedle Performace Index | Number of project with initial schedule deviations greater than 10% / Total number of project executed. |
| Project Success Rate | Number of successful projects (completed in time, budget, scope and satisfied customer) / Total number of projects executed. |

**Chart 12. KPI's justify the value of project management:**

| KPI | Description |
|---|---|
| Time to Market | Elapsed time from Idea Conception to Delivery |
| Service Availability | Actual Start Time vs Optimal Start time |
| Return of Investment | Porcentaje of the income gap and investment in relation to the total investment |
| Sales Growth | (Current Sales - Previous Sales) / Previous Sales |
| Service Utilization | Billable Hours / Total Hours |

The project manager and the project team will define the way in which they will follow up the project using the aforementioned aspects, it can be a specific one, combined or failing that by adding other KPIs that give us a global approach to the project.

### 4.3.6 PMO Key Stakeholders

In order to achieve the success of the project, it is necessary to consider all the parties that may affect its execution and development both positively and negatively, for this it is necessary to map the stakeholders in a matrix of key stakeholders.

The degree of the influence of each interested party, the possible impact that each interested party has, the area to which they belong, the roles they play in the project, and the collateral responsibilities that they could have during the execution of the project are analyzed may affect the project.

Map and describe the main expectations in each interested party and if there is any comment that may affect the project.

The key project stakeholders are mapped in chart 13.

## Chart 13. Stakeholder Register Matrix

| | | |
|---|---|---|
| **Project Name** | DESIGN THE PROJECT MANAGEMENT OFFICE (PMO) FOR GRANNEMANN LOBEIRA S.DE R.L. DE C.V. (GLOBE) | **DESIGN THE PROJECT MANAGEMENT OFFICE (PMO) FOR GRANNEMANN LOBEIRA S.DE R.L. DE C.V. (GLOBE)** |
| **Main Sponsor** | CEO - GLOBE OWNER | |

| ID | Stakeholders | Functional Area | Roles - Responsibilities | Main Expectations | Major Requirements | Influence/Impact (Low-Medium-High) | Additional Comments |
|---|---|---|---|---|---|---|---|
| 1 | CEO / Owner | CEO | Sponsor project, be an active supporter of change | Have a functional and integrated PMO with the organization activities of the organization | That the PMO support projects to achieve the strategic objectives of the organization | Influence: High<br>Impact: High | |
| 2 | Integrated Managemente System (IMS) Board | IMS | Backup and control of processes and their versions, maintain the latest version of processes, formats, workflows, etc. | Have an orderly transition or evolution during the process. | have the final version of the processes without delivery delay for registration in the management system | Influence: Low<br>Impact: Low | brings clarity in process generation |
| 3 | Thecnical director | Technical Direction | Disseminate and be active participant in the implementation and transition of the PMO | Have a quality support in the execution of projects | That the execution of current projects is not modified and not lose power and influence on their subordinates | Influence: High<br>Impact: High | It can generate resistance to change in certain aspects of project management |
| 4 | Technical Staff | Technical Direction | They execute the projects according to the processes established by the organization | That the processes that are generated or modified are congruent with the development of project activities | Have slender and clear processes for project management | Influence: Medium<br>Impact: High | It can generate resistance to change in certain aspects of project management |
| 5 | Administrative Staff | Administrative Direction | Provide the necessary resources for the execution of the project. | That the resources do not exceed the budget established for the project | Requests for resources and expenses are generated in a timely manner | Influence: Low<br>Impact: High | They can delay the execution program if resources are not on time |
| 6 | Commercial Director | Commercial Direction | Generate the transfers (project charters) | That the projects have a better administration and communication with the clients. | Have a clear and precise transition, with roles defined during the project. | Influence: Low<br>Impact: Low | |
| 7 | PMO Staff | PMO | Execute the project according to the best project practices | Comply with the baselines of time, cost, quality, scope and other project variables. | The areas involved in the project have availability and cooperation with the project. | Influence: High<br>Impact: High | |

### 4.3.7 PMO Structure of Implementation Costs

The implementation costs are calculated according to the structure of the PMO and the objectives to be developed. The following table will analyze the costs indicated above over a period of a year and a half until the PMO reaches its strategic purpose.

Because the PMO's physical office will be shared with the company's current facilities, a percentage of the central office's operating expense will be assigned to cover the cost of renting space, electricity, and more.

The technical expert and the PMO office manager are charged directly to the costs of the area because their complete disposition is required for the development of complementary activities and for the development of the objectives.

A management reserve is contemplated to be managed in case of being necessary, in case of any contingency, or in case of some risk materializing.

## Chart 14. Baseline Cost

| | | Week 1 | | | | | | Week 2 | | | | | | Week 3 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Concept | Cost by month | M1 | M2 | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M10 | M11 | M12 | M13 | M14 | M15 | M16 | M17 | M18 | Total |
| Office | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 360,000 |
| Computer equipment | 3,200 | 3,200 | 3,200 | 3,200 | 3,200 | 3,200 | 3,200 | 3,200 | 3,200 | 3,200 | 3,200 | 3,200 | 3,200 | 3,200 | 3,200 | 3,200 | 3,200 | 3,200 | 3,200 | 57,600 |
| **Salaries** | | | | | | | | | | | | | | | | | | | | 0 |
| Technical expert | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 630,000 |
| PMO office manager | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 720,000 |
| **Objectives** | | | | | | | | | | | | | | | | | | | | 0 |
| Objective 1 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | | | | | | | | | | | | | 90,000 |
| Objective 2 | 15,000 | | | | | | | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | | | | | | | | 75,000 |
| Objective 3 | 1,000 | | | | | | | | | | | | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 7,000 |
| | | | | | | | | | | | | | | | | | | **Subtotal** | | 1,939,600 |
| | | | | | | | | | | | | | | | | | | Management Reserve | 5% | 96,980 |
| | | | | | | | | | | | | | | | | | | **Total** | | 2,036,580 |

To calculate the recovery time of the investment of the project, an amount of income in projects of 20 million per year is estimated, distributed linearly in time generate 10 million per semester, the savings in mitigating risks mitigated by the GLOBE PMO is considered in 10% for the first semester and the consecutive semesters in 15%, these percentages converted into monetary value will indicate the estimated time for obtaining the return on investment, the nomenclature used is as follows:

Rt = Return time
Sn = Semester number
RR = Risk reduction

Derived from the above, the value of the risk reduction per semester is calculated:

RR S1 = 10,000,000 x 10% = 1,000,000
RR S2 = 10,000,000 x 15% = 1,500,000
RR S3 = 10,000,000 x 15% = 1,500,000

The value of risk reduction for the 3 semesters of development of the Project is $4,000,000.00 Mexican pesos, compared to the value of the project $ 2,036,580.00, in an 18-month project it gives us the following:

Rt = 4,000,000 / 2,036,580 = 0.51 x 18 Months = 9.18

The estimated time to recovery time of the investment of the Project is 9.18 Months.

### 4.3.8 PMO Risk Management from the Implementation Process

Those interested are analyzed to identify the risks they can bring to the project as well as the risks of each objective.

They will be mapped in a matrix of probability and impact to define the actions to be followed. For the high and very high risks, a reserve action plan will be generated, which will be managed by means of the costs assigned to the reserve management. For the medium, low, and very low risks, a monitoring program will be generated, which will be monitored by the owner of the risk and will be presented at the project monitoring meetings.

| | | IMPACT | | | | |
|---|---|---|---|---|---|---|
| | | Very low (1) | Low (2) | Medium (3) | High (4) | Very high (5) |
| PROBABILITY | Very high (5) | Medium Risk (5) | Medium Risk (10) | High Risk (15) | Very High Risk (20) | Very High Risk (25 |
| | High (4) | Low Risk (4) | Medium Risk (8) | High Risk (12) | High Risk (16) | Very High Risk (20) |
| | Medium (3) | Low Risk (3) | Medium Ridk (6) | Medium Risk (9) | High Risk (12) | High Risk (15) |
| | Low (2) | Very Low Risk (2) | Low Risk (4) | Medium Ridk (6) | Medium Risk (8) | Medium Risk (10) |
| | Very low (1) | Very Low Risk (1) | Very Low Risk (2) | Low Risk (3) | Low Risk (4) | Medium Risk (5) |
| | | LOW RISK | | MEDIUM RISK | | HIGH RISK |

Figure 34. Risk table

The probability and the impact calculated in the project have the score as it is defined in chart 15.

**Chart 15. Probability and Impact**

| Probability | |
|---|---|
| 5 | It will happen inside next month. |
| 4 | It will happen in next two months. |
| 3 | It will happen in next three months. |
| 2 | It will happen in next six months. |
| 1 | It will happen in next year. |

| Impact | |
|---|---|
| 5 | Higher than 200,000.01 |
| 4 | 100,000.01 to 200,000 |
| 3 | 50,000.01 to 100,000 |
| 2 | 10,000.01 to 50,000 |
| 1 | Lower than 10,000 |

## Chart 16. Risk Matrix

| Stakeholders | Risk | Cause | Consequence | Prob. | Imp | PxI | Trigger | Owner |
|---|---|---|---|---|---|---|---|---|
| CEO / owner | Disregarding the project | Excessive workload | The project is perceived as unimportant by the company's staff. | 4 | 4 | **16** | Missing two follow-up meetings in a row | PMO office manager |
| | Subtracting power to the project manager | Lightening of the importance of the actions to be developed | The project is perceived as unimportant by the company's staff. | 2 | 4 | 8 | Reprogramming and / or absence of decision making in actions to be carried out | PMO office manager |
| | Cancelling the project | Considering that the project is not working | Close of the project | 2 | 5 | 10 | Discontent with the actions and / or progress of the project | PMO office manager |
| Integrated management system (IMS) board | Confusing the versions of processes and / or documents | Lack of clarity in communications | Having wrong information in the system | 4 | 2 | 8 | The first confusion of versions in the documents | PMO office manager |
| | Removing the documents or processes under your protection | Internal staff error | The documents are incomplete. | 3 | 2 | 6 | Documentation reviews | PMO office manager |
| Technical director | Rejecting the PMO structure | Change rejection | Delay of the project | 4 | 4 | **16** | Rejection of the actions undertaken in the project | Technical expert |
| | Rejecting project methodology | Change rejection | Delay of the project | 4 | 4 | **16** | Rejection of the methodology dissemination | Technical expert |
| | Not getting involved in the project | Excessive workload | The project is perceived as unimportant by the company's staff. | 4 | 4 | **16** | Missing two follow-up meetings in a row | Technical expert |
| Technical staff | Rejection of the organizational culture improvement program | Lack of interest in changing the organizational culture | Delay of the project | 2 | 4 | 8 | The evaluation of organizational culture does not improve. | PMO office manager |
| | Not understanding the project methodology | The language used is not clear. | Delay of the project | 1 | 4 | 4 | Confusion is detected in the technical staff. | Technical expert |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Not understanding how PMO can help fulfill the strategic plan | The explanation of the benefits is not clear. | The project loses relevance and importance. | 3 | 4 | **12** | The interest on the part of the staff is lost. | Technical expert |
| Administrative staff | Not understanding the project methodology | The language used is not clear. | Delay of the project | 2 | 4 | 8 | Confusion is detected in the administrative staff. | PMO office manager |
| | Not understanding how PMO can help fulfill the strategic plan | The explanation of the benefits is not clear. | Delay of the project | 3 | 2 | 6 | The interest on the part of the staff is lost. | PMO office manager |
| | Resistance to change in administrative processes | Change in the way of working | Delay of the project | 2 | 3 | 6 | Rejection in the processes that change | PMO office manager |
| Commercial director | Rejection of the organizational culture improvement program | Lack of interest in changing organizational culture | Delay of the project | 1 | 3 | 3 | The evaluation of organizational culture does not improve. | PMO office manager |
| | Not understanding how PMO can help fulfill the strategic plan | The explanation of the benefits is not clear. | The project loses relevance and importance. | 1 | 4 | 4 | The interest on the part of the staff is lost. | PMO office manager |
| PMO staff | Resignation of a staff member | The staff finds a more attractive job. | Delay of the project | 2 | 3 | 6 | The project becomes slow. | PMO office manager |
| Objetive 1 | The organizational culture change takes more than 6 months. | Delay of the project | The project is reprogrammed. | 2 | 4 | 8 | The work program undergoes modifications. | PMO office manager |
| Objetive 2 | The diffusion campaign takes more than 5 months. | Delay of the project | The project is reprogrammed. | 2 | 4 | 8 | The work program undergoes modifications. | PMO office manager |
| Objetive 3 | The integration of the PMO takes more than 6 months. | Delayof the project | The project is reprogrammed. | 2 | 4 | 8 | The work program undergoes modifications. | PMO office manager |

The high and very high risks and the reserve action plan are related on chart 17.

**Chart 17. Reserve Action Plan**

| | Risks | Level | Reserve Action |
|---|---|---|---|
| CEO / owner | Disregard of the project | High Risk | To extend the consequences of disregarding the project, and seek to attach the meetings to the CEO's agenda |
| Technical director | Rejection of the PMO structure | High Risk | To generate a consensus meeting with senior management |
| Technical director | Rejection of project methodology | High Risk | To take a course on the benefits of the methodology in the industry |
| Technical director | Not getting involved in the project | High Risk | To strengthen staff participation with senior management participation |
| Technical staff | Not getting involved in the project | High Risk | To strengthen staff participation with senior management participation |

# 5. CONCLUSIONS

The development of the project for the design and implementation of a PMO represents certain challenges for its development, which can be defined as:

1.- For the design of a PMO, it is necessary to know the current state of the organization where it is intended to be implemented, to know the day to day, and under what disposition the staff and senior management are in order to generate an overview of the situation of the organization and to know from where to start.

2.- Knowing where the organization is prior to the start of the project helps to define a course, locates it in the knowledge plane, and helps to define the start of the scope as well as where the effort that the project requires to complete it with success.

3.- Measuring the work environment of an organization is a complex job because the results can be interpreted in many ways. This can lead to a misconception of the present climate, so the anonymous technique was used so that the staff feels free to express all of your opinions and feelings.

4.- The fact that the organization has a process for the development of its projects speaks of an order within its activities; however, it does not mean that the process is complied with, but it does provide a vision of how the organization perceives and attends the projects in which it participates.

5.- There are different types of organizational structures which are very varied in terms of their orientation in the development and execution of projects. It is important to analyze each type of structure to understand the degree of action that each has because many may be misinterpreted.

6.- The KPIs associated with the Balance Score Card are necessary to measure the success of the Project within the organization with a comprehensive approach to

know the benefit that the PMO is providing to the organization, this will indicate if the work or development of the project follows the planning estimated or if the direction of the project must be corrected to achieve its success

7.- The cost baseline contemplates a cost assumption for the development of projects and the calculation of the return on investment is generated from the estimated income of projects based on historical records of the organization, it is necessary to contemplate the return of investment to have an estimate of recovery of the estimated investment of the project and know the added value generated by the creation of the PMO in the organization

8.- After developing the design of the PMO to be implemented, it is important to consider the degree of acceptance of each interested party in order to properly manage and achieve the planned objectives as well as generate a conscious and truthful risk matrix with actions to take. Risk triggers play an important role for success in timely care in case risk materializes

# 6. RECOMMENDATIONS

Based on the research and approach of the project developed from the design and implementation of a PMO, the following recommendations are obtained:

1.- During the investigation or measurement stage of the work environment of the organization, it is important to seek the most truthful results possible, for this it is important to let the staff know that there will be no reprisals in their answers, as well as look for a time and adequate place for staff to answer the questionnaire without alterations in their moods that can alter the results to be obtained.

2.- The results of the work environment can be included in a monitoring matrix for its easy identification and development of strategies for the attention of each obtained result .

3.- The organization’s project management process must be improved once the project is underway and must always seek continuous improvement with well-defined roles and a clear and precise matrix of responsibilities regarding actions and communications between the different parts of each interaction.

4.- There are several points of view or definitions of structures in the project offices. It is important to have the clarity and serenity to find the appropriate structure to the objectives of the organization and gradually evolve the structure until it reaches the desired structure.

5.- Once the structure of the project office is defined, it is important that senior management leads the project at all times and carries out the appropriate follow-up in each implementation phase to support the project staff and strengthen the implementation of the project office.

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# 8. APPENDICES

Appendix 1: FGP Charter

<table>
<tr><th colspan="2">PROJECT CHARTER</th></tr>
<tr><td>Date</td><td>Project Name:</td></tr>
<tr><td>May 19, 2019</td><td>Design of the Project Management Office (PMO) for Grannemann Lobeira S.de R.L. de C.V. (GLOBE)</td></tr>
<tr><td>Knowledge Areas / Processes</td><td>Applicacion Area (Sector / Activity)</td></tr>
<tr><td>Knowledge areas: Integration, scope, schedule, cost, quality, resource, communications, risk, procurement, and stakeholders.<br>Process groups: Initiating, planning, executing, monitoring and controlling, and closing.</td><td>Management in the energy sector</td></tr>
<tr><td>Start date</td><td>Finish date</td></tr>
<tr><td>May 19, 2019</td><td>Oct 20, 2019</td></tr>
<tr><td colspan="2">Project Objectives (general and specific)</td></tr>
<tr><td colspan="2">General objective:<br>To design a project management office for Grannemann Lobeira to optimize the management in the organization projects<br><br>Specific objectives:<br>1 To perform an evaluation of the current management of the projects in the organization and the organizational culture to know the current approach and management of projects in the organization<br>2 To analyze all standards for the management of projects, programs, and portfolios to find the project management structure adjusted to the currect processes in the organization<br>3 To define the design of the project management office to be implemented in the organization to develop their implementation</td></tr>
<tr><td colspan="2">Project purpose or justification (merit and expected results)</td></tr>
<tr><td colspan="2">Currently, the management of projects in the organization is not regulated or formally established. Many of the learned lessons are lost, and t the process is reinvented with each project. The purpose of designing a project management office is to find the best way to adapt the current management of the projects in the structure of the organization to avoid the loss of historical information and strengthen the knowledge acquired in each project within the assets of the organization.</td></tr>
<tr><td colspan="2">Description of Product or Service to be generated by the Project – Project final deliverables</td></tr>
<tr><td colspan="2">A diagnosis of the current management of the projects and organizational culture in the organization<br>To establish all possible options of structures for project management offices, with their pros and cons<br>To define which structure has affinity with the current management of the projects in the organization and to establish the necessary adjustments for its functionality</td></tr>
</table>

## Assumptions

It is assumed that the company will provide the necessary information for the corresponding analyzes.
It is assumed that the project delivery time is adequate.
It is assumed that the organization will implement the design defined for the project management office.

## Constraints

The project delivery time has a maximum of 4 months.
Human resources for the project are limited to a maximum of two or three people.
You have to request the documentation of the company 48 hours in advance.

## Preliminary risks

The organization does not have reliable information on the management of the projects. This would affect the analysis of the process, delaying the development time of the same.
Once the structure to be implemented has been defined, senior management refuses to implement this structure, discarding the project and the investment made.

## Budget

| Deliverables: | Estimated Cost: |
|---|---|
| Organization diagnosis | $ 40,000.00 Mexican pesos. |
| PMO structure options | $ 50,000.00 Mexican pesos. |
| PMO structure design | $ 40,000.00 Mexican pesos. |

## Milestones and dates

| Milestone | Start date | End date |
|---|---|---|
| Organization diagnosis | Jun 24, 2019 | Jul 31, 2019 |
| PMO structure options | Ago 1, 2019 | Ago 30, 2019 |
| PMO structure design | Oct 1, 2019 | Oct 20,2019 |

## Relevant historical information

Grannemann Lobeira S. de R.L. (GLOBE) is an energy sector company with 10 years of existence. The service offer is a unit verification in energy laws to regulate the infrastructure in energy sector, specifically oil,gas, and electricity in Mexico.
The company has certain prestige in the Mexico. The time of their projects is from a couple of weeks to two years.
A similar effort related to the project inside the organization does not exist.

## Stakeholders

Direct stakeholders:

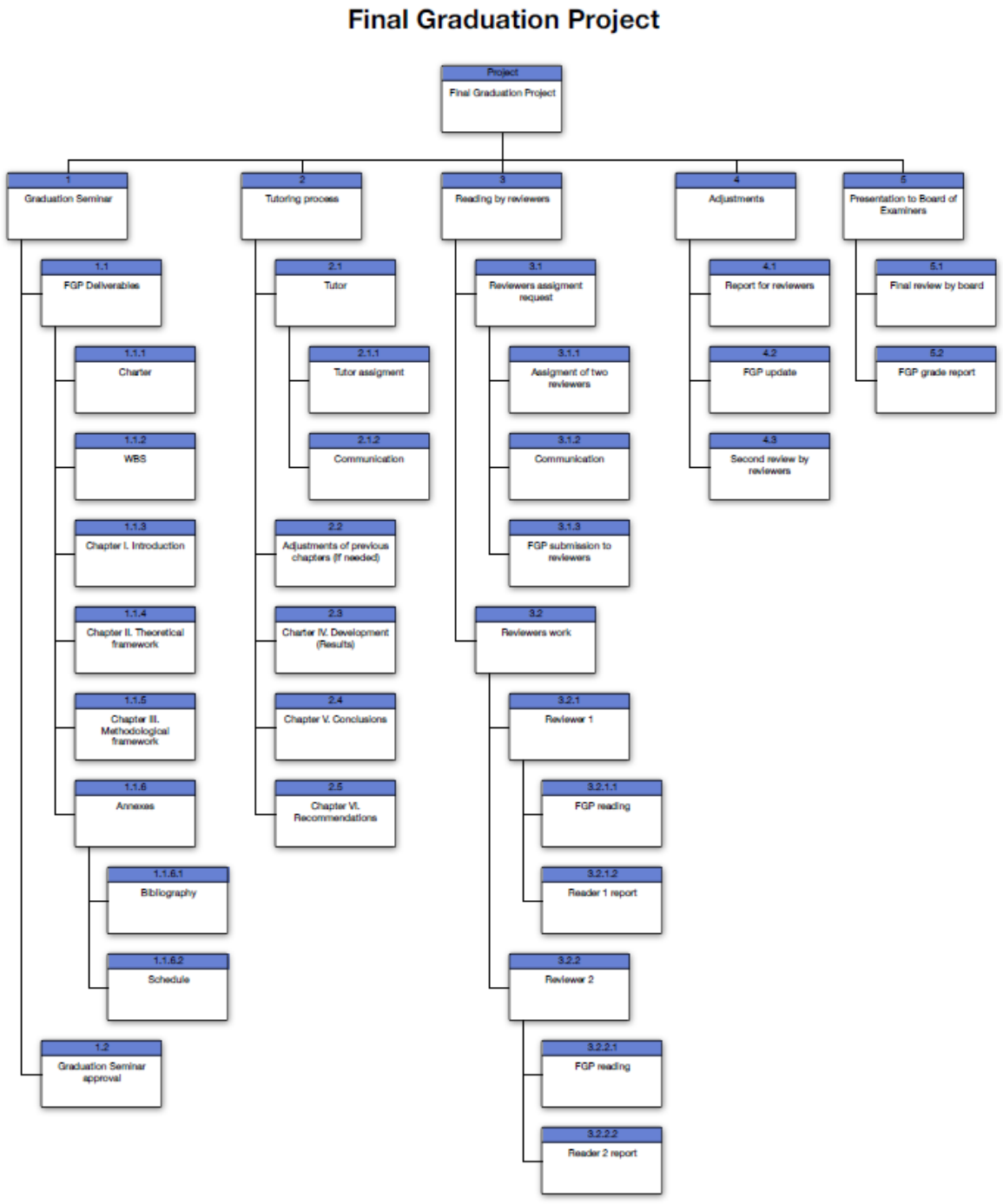
- Company CEO
- Company board of directors
- Project Leaders.

Indirect stakeholders:

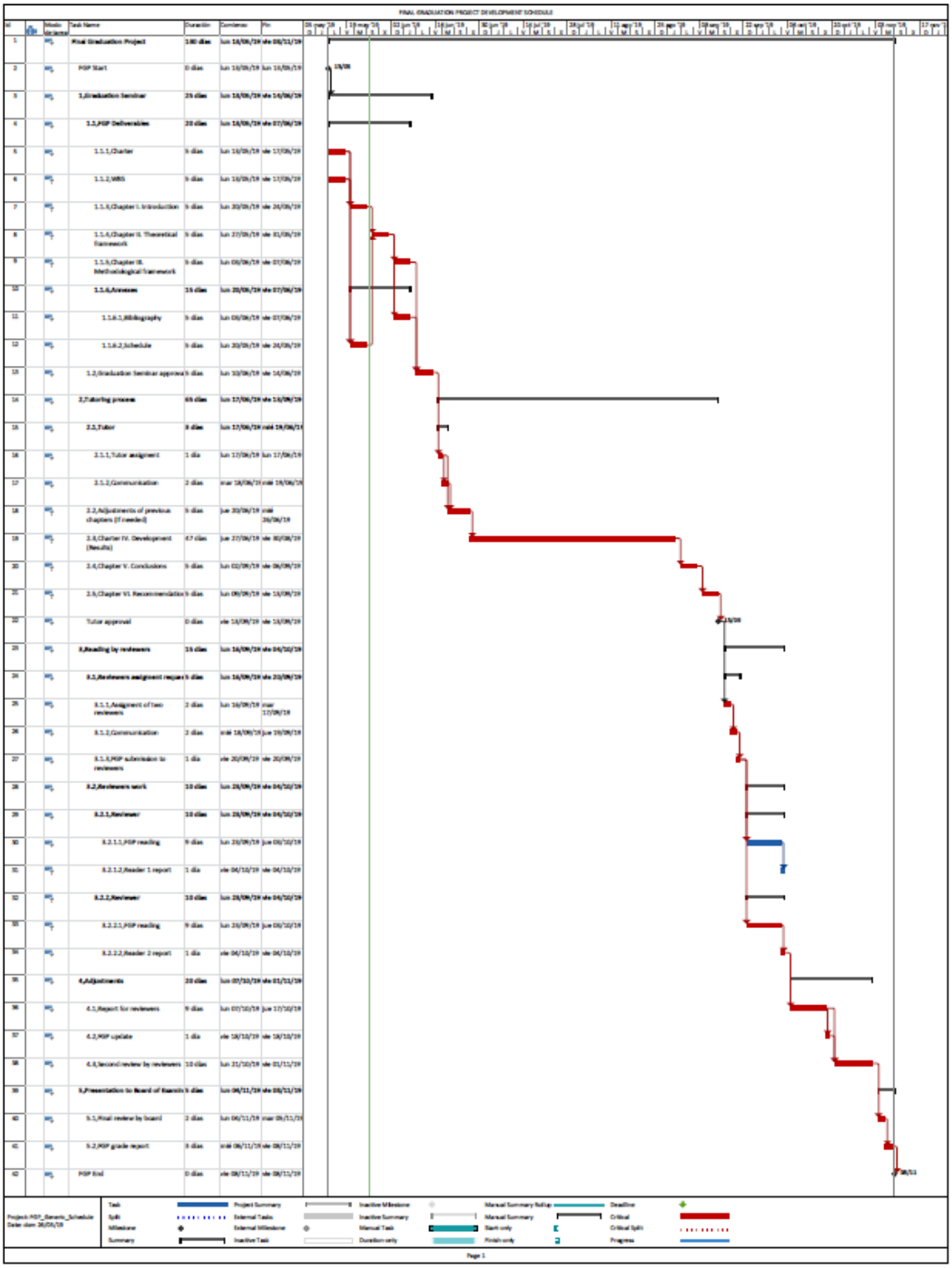
- Company employess

| **Project Manager:** Bernardo José Márquez González | **Signature:** |
|---|---|
| **Authorized by:** | **Signature:** |

Appendix 2: FGP WBS



Appendix 3: FGP Schedule



Appendix 4: Phiologist review document

San José, november 27th, 2019

Universidad para la Cooperación Internacional (UCI)

To whom it may concern

Natalia Alvarado Mata, identification number 305030705, Bachelor in English with a focus on translation, hereby states that the Project **DESIGN OF THE PROJECT MANAGEMENT OFFICE (PMO) FOR GRANNEMANN LOBEIRA S.DE R.L. DE C.V. (GLOBE)** carried out by the student Bernardo José Márquez González, has been checked.

The project was done to obtain the Master in Project Management. Aspects such as paragraph form, language quirks in written language, orthography, punctuation, and other aspects related to syntax and grammar were checked and proofread. Therefore, taking into account the changes made, the project is ready to be presented.

Sincerely,

Natalia Alvarado

Natalia Alvarado Mata
English translator and proofreader
natalia.alvarado@filologos.cr