UNIVERSIDAD PARA LA COOPERACIÓN INTERNACIONAL

(UCI)

FINAL GRADUATION PROJECT

Proposal for the Implementation of a Project Management Office in an Architecture Firm: Livin Group

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DEDICATION

This work is dedicated to my mother and sisters. Their continuous support is fundamental to the completion of this investigation.

ACKNOWLEDGMENTS

This final project would have not been possible without the amazing support of all the teaching and administrative staff at Universidad para la Cooperacion Internacional. To you my deepest gratitude.

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ABBREVIATIONS AND ACRONYMS

- CEO: Chief executive officer
- CFIA: Colegio Federado de Ingenieros y Arquitectos de Costa Rica
- PMBOK: Project Management Body of Knowledge
- PMI: Project Management Institute
- PMO: Project Management Office
- SWOT: Strengths, weaknesses, opportunities, and threats analysis

EXECUTIVE SUMMARY (ABSTRACT)

The project developed for this final graduation project was the elaboration of a proposal for the implementation of a project management office in an architecture firm located in San Jose, Costa Rica. The company was founded in 2013 and has gone through multiple staffs and ownership changes during its short life. Their services center in three main lines: architecture and design, topography, and construction and remodeling. All services are provided in compliance with local and country legislatures.

A mismanagement in an attempt to enter the public sector as a vendor and other problems with tax filings in 2016 and 2017 led the company to take a big hit in its financial stability. This situation and an ongoing deficiency in the management of work orders that come in have been the main improvement areas of the company.

The main problems that needed solving at the start time of the project work are the standardization and alignment of the company's internal processes to PMI standards, the training of the company staff for the inclusion of a project management office in the company, and the integration of the Institute's methodology and framework.

This standardization and integration of the project management methodology is a need for the company because they were constantly losing revenue and mishandling budgets for their clients because they did not have a standardized document to follow up the project's life cycle nor were they accustomed to cross reviewing project documents to avoid errors that stem from lack of attention. The project work was necessary to make sure they learned about the importance of standardizing the way projects are worked.

The general objective for the project was to propose the implementation of a project management office and project management methodology in Livin Group S.A. The specific objectives for the project were to elaborate a proposal for the implementation of a project management office, to educate the staff and directors of the company in project management best practices, and to integrate the proposed PMO into the company's organization chart to establish the roles and responsibilities of the PM.

The methodology used in the project relied heavyly on four main techniques: brainstorming, interviews, focus groups, and meetings, as well as bibliographical reviews and the elaboration of learning material to be used in the training sessions needed to train the staff in the different concepts pertaining to project management. The exchange of information between the company staff and the authors of this project document was most important in terms of sharing the knowledge and guiding the company in the creation of their project lifecycle process and supporting documentation.

The main results of this work provided us with valuable feedback about the needs and current knowledge and application of the Project Management principles and methodology. We saw an opportunity to train and develop a series of procedures and document templates that will facilitate a more standarized approach to project work for this company. We saw a big interest from the company in learning more and applying more concepts related to Project Management to enhance their aleready established professinalism and dedication to their craft. Our recommendations all steer towards a more cohesive appliacagtion of these concepts as well as the proper training of their staff to maximize on the advantages of working with Project Management Methodologies.

1 INTRODUCTION

1.1 Background

Livin Group S.A. is a design and construction company that was established in 2013 in San Jose, Costa Rica. Their catalogue of products offered has three main lines of services: topography, architecture and design, and construction and remodeling.

As a young thriving company, Livin Group has been adding new clients and projects in a consistently growing pattern, and with this growth, some issues have arisen with the way the projects are being handled. After the departure of one of the founding members of the company, there was a restructuring period in which new roles were assigned to the remaining staff, and an air of change was given to the firm.

Unfortunately, in this process, the way certain projects were handled demonstrated a lack of organization and inaccuracies that resulted in financial losses for the firm.

Additionally, some internal friction between some members in the company had a negative impact in some day-to-day operations and the overall working atmosphere in the office.

The proposal that was made aims to educate the company staff and contemplate the potential inclusion of a project management office within the organizational chart of Livin Group with the intention of standardizing and complying with the best practices and theoretical approach of the Project Management Institute so the company profits better from their new and current clients and also improves the financial management of their projects and maximizes profit.

We will work hand-in-hand with the board of directors and staff in creating documentation, procedures, and a general workflow that will include concepts such as the project life cycle, Project Management processes, and knowledge areas (PMI, 2017).

1.2 Statement of the Problem

Livin Group S.A. needs to consider the possibility of implementing the practices and procedures indicated by the Project Management Institute (Not dated) in their organizational charts as well as educating its staff and board members in PMI concepts and knowledge base to have better control of their projects.

The biggest opportunity to be seized in this project is that with the proposed implementation, the company will have better control of the budgeting and financial aspects of the project management process, and with this, it will improve the cashflow and overall profits made in each project.

1.3 Purpose

This investigation aims to elaborate a proposal for the implementation of a project management office for Livin Group S.A., a design and construction company that has been struggling with aspects related to project management, which have impacted them financially and in their operation control.

The proposal aims to present a model for a project management office that will provide guidance in different topics regarding project management practices and among others. It will benefit the company in the following aspects:

- Better financial control of project budgets

- Better change and daily operation control
- Improvement to the procurement processes
- Improved risk management and control

1.4 General Objective

- To propose the implementation of a project management office and project management methodology in Livin Group S.A.

1.5 Specific Objectives

- To elaborate a proposal for the implementation of a project management office
- To educate the staff and directors of the company in project management best practices
- To integrate the proposed PMO into the company's organization chart to establish the roles and responsibilities of the PM

2 THEORETICAL FRAMEWORK

2.1 Company/Enterprise Framework

Company Background

Livin Group started as a small architecture and topography firm founded in 2013 that offered services in three main areas:

- Architecture and design
- Topography
- Construction and remodeling

With an interdisciplinary effort, the company provides integral solutions that include one, two, or all three areas of service, from the design and technical drawing of blueprints to the topographical field work and its related activities and also construction and remodeling works with all of the legal compliances required by the state and local government regulations in matters of construction and topography.

In the initial years, the company saw a significant growth and added new staff to the team while handling an increasing demand. Throughout 2016, the company intended to enter the public private sector with a big investment that did not yield the expected results, and some people had to be let go.

This struggle led to the reorganization of the company with one of the founding members leaving the board, and upon doing this, a big financial mishandling from the firm's accountants was brought to light. These situations deposited severe financial stress on the already struggling company that is currently facing a big fine from badly declared taxes going back to 2017.

Parallel to the taxing and personnel shifting problems, the company found itself in a position where its handling of current and new projects was deficient in areas that are considered quite sensitive. The budgeting was having serious issues, and this financial burden was absorbed by the company and the potential profits to be made from the work done.

This is the situation the company was in when offering the possibility to work in this proposal for a project management implementation and the possibility to guide them to a better understanding of how projects can be better standardized and how review and control processes can be improved.

Mission and Vision Statements

Mission: To materialize successful projects in the area of architecture and topography obtaining both the satisfaction of our clients and the professional realization of our team

Vision: To be the best consulting and construction company in the region by offering excellence in our processes and the best quality in our results, guaranteeing the success of each of our projects

Organizational Structure

The organization is divided in three main branches that respond directly to the CEO. These branches are architecture and design, construction and remodeling, and topography. Each branch has a chief professional who has assistants and other technical staff at their charge. Additional help is usually required, but these crews are sub contracted externally.

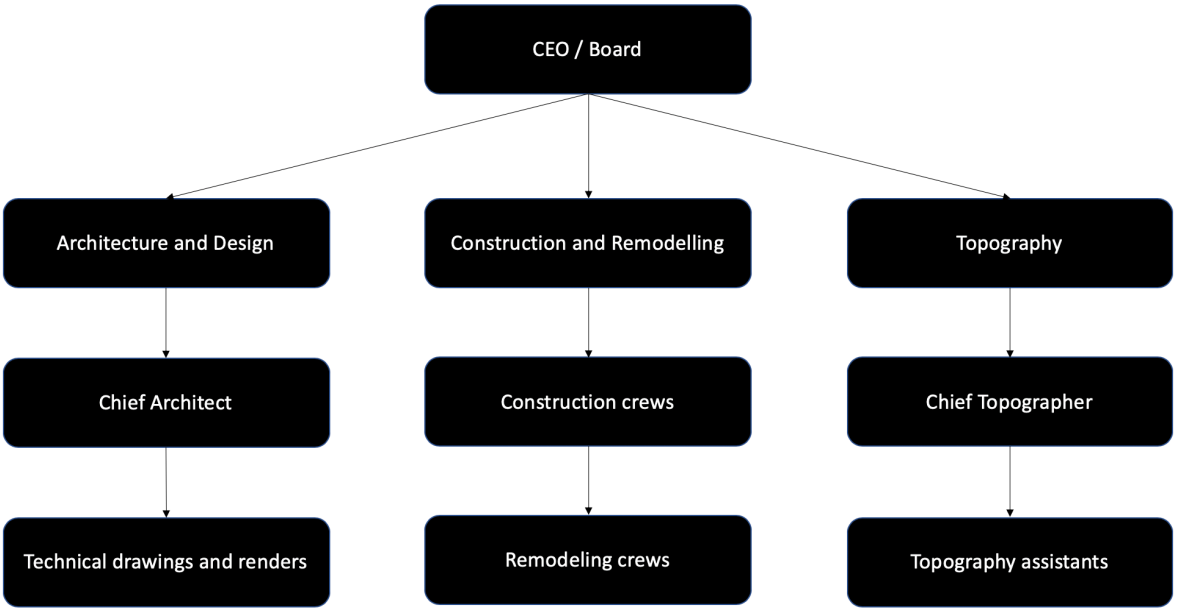

Figure 1: Organizational Structure (Source: interviews)

Products Offered

The company offers three main products:

- Construction and remodeling: From an apartment complex to redoing your bathroom, general house and office maintenance works are done by the construction crews.
- Architecture and design: Design solutions are streamlined from the initial concept and requests by the clients through a design process with multiple reviews and analyses to a final delivery of blueprints and 3D rendering of the proposed design.
- Topography: Topographical work on all types of properties is offered by the professionals at Livin Group. All work performed includes all complementary legal and civil paperwork as required by law.

2.2 Project Management Concepts

Project

The Project Management Institute (2017) defines project as a temporary endeavor undertaken to create a unique product, service or result. The purpose of projects is to produce deliverables. Cambridge Dictionary (2020) defines deliverable as something that can be provided or achieved as a result of a process. Objectives are understood as the outcome that the work done is aimed at. Deliverables are defined as unique and verifiable products, results, or an ability to provide a service that is part of a process, phase, or project. Deliverables can be tangible or intangible. When an objective is met, it may produce different deliverables. The deliverables may be a unique product that can be a component of another bigger product, a new item on its own, or a service or capability to perform a service, document, data, or a combination of the aforementioned results (PMI, Not dated).

Project work may be repetitive in nature, but this does not imply that all projects with such work are also repetitive. All projects must be understood as unique endeavors that even if they share characteristics, each one is unique on its own right.

Projects are temporary in nature. All projects by definition will have a beginning and an end time. These times may range from a few days, a couple of weeks, or up to several years in duration; however, there must always be an end date for all projects. Projects end when its objectives are met, when said objectives are impossible to meet (cancelling off a project), when funding is halted or runs out, when there is no further need for the project, among other reasons (PMI, 2017).

Projects are a means to introduce change in a system. One of the big aims of projects is to move or promote an organization from its current state to a new, improved state. This future state is

understood as a better, more advanced state of the organization and that after all project work is done, it will become the new current state.

One of the main functions of projects is that they allow businesses to create value. Value is understood as the net quantifiable benefit produced by a business endeavor. These benefits may be tangible (monetary profit, products, stocks, inventory, etc.) or intangible (brand recognition, reputation, compliance, goodwill, etc.).

Projects are initiated as a response to external factors that influence the organization. These factors usually fall in four different categories: legal compliance, satisfaction of stakeholder requests, changes to technological or business strategies, and creation and improvement of products (PMI, 2017).

Project Management

Project management is defined by the Project Management Institute (2017) as the application of knowledge, skills, tools, and techniques to activities related to a project in order to fulfill project requirements. Project management is accomplished by appropriately applying and integrating the project management processes identified for the specific project and through this methodology, executing projects effectively.

There are many ways in which project management can help organizations: meeting business objectives, satisfying stakeholders, improving the chances of success, delivering satisfactory products at the right time, improving the use of resources, improving change control, predictability, problem solving, constraint management, among many others (PMI, 2017).

On the other hand, when projects are not managed appropriately, we can expect different results from this practice: missed deadlines, poor budget management, cost overruns, rework, poor quality, project overgrowth, unsatisfied stakeholders, and many more. This is why it is of vital

importance to effectively manage projects and consider project management as a strategic competency within your organization. This allows organizations to align project deliverables to business goals, improve the organization competitiveness and sustainability, and better respond to sudden changes in the business environment (PMI, 2017).

Project Life Cycle

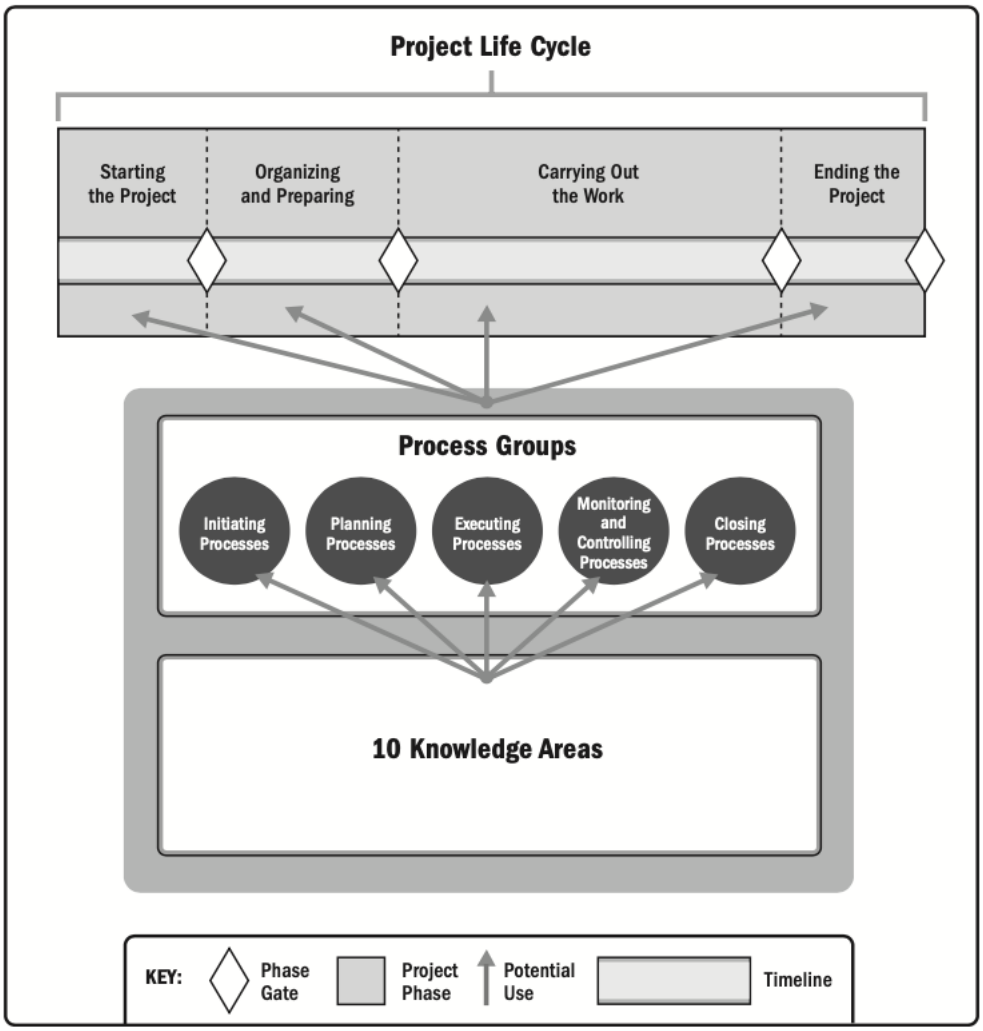

Figure 2: Project Lifecycle and Process Groups (PMI, 2017)

The project lifecycle comprises the different phases through which the project will pass from its initial conception until all deliverables are completed along with all project objectives. This

lifecycle provides an overall framework to manage the project according to the planned objectives. This will be the structure for all of the project work regardless of the specific subject or purpose of said project. These phases may be sequential, iterative, or may overlap one another. The important aspect of this model is that it can be mapped to any project in any environment (PMI, 2017).

Project lifecycles can be predictive or adaptive depending on the specific environment of the project in question. Within the project lifecycle, there are one or more phases devoted specifically to the development of products or deliverables. These can also be predictive, iterative, incremental, adaptive, or a combination of these (PMI, 2017).

In predictive life cycles, the scope, time, and cost are determined early in the project, and changes to the scope are managed with extreme care. These models are also called waterfall life cycles. Iterative life cycles have an early scope definition, but the cost and time are periodically calibrated as the project progresses. The development of the product is done through cycles and increments successively added to the final product. In incremental life cycles, each iteration adds functionality to the product, but it will be fully functional until the last deliverable is completed. Adaptive life cycles are agile and iterative or incremental in nature. The scope details are defined and approved before the start of each development iteration. Any combination of these methods for managing life cycles is known as a hybrid life cycle (PMI, 2019).

Projects are divided in phases that the PMI (2017) defines as a collection of logically related project activities that culminate in the completion of one or more deliverables. These phases have different attributes that help describe each one, such as name, number, duration, requirements, etc. Phases can also serve as subcomponents of a project, and the name of each phase can indicate what type of work needs to be done in a particular point in time. The phases

also respond to various factors, such as management needs, the nature of the project, organizational or industry characteristics, decision making points, among others.

A phase gate is defined as the end point of a given project phase. At phase gates, multiple evaluations and adjustments can be made based on said evaluations. From these evaluations, certain decisions are made, for example the continuation to the next phase, modifications, ending the project, repeating the phase, among others (PMI, 2017).

Project Management Processes

Project management processes are defined in the PMBOK (PMI, 2017) as the way the project life cycle is managed through the execution of project management activities. Each process produces a number of outputs from one or more inputs by means of using appropriate project tools and techniques. The output can be a deliverable (final product) or merely an outcome. Processes are linked together by the outputs. They produce and may contain overlapping activities throughout the project. Outputs are generally an input to another process or a deliverable or product. Processes can be performed once or multiple times, or they can be a continuous occurrence throughout the project life cycle.

The logical grouping of project management processes is known as a project management process group, and it seeks the proper achievement of project objectives. Process groups are independent of project phases, and there are five (5) process groups:

- Initiating process group
- Planning process group
- Executing process group
- Monitoring and controlling group

- Closing process group

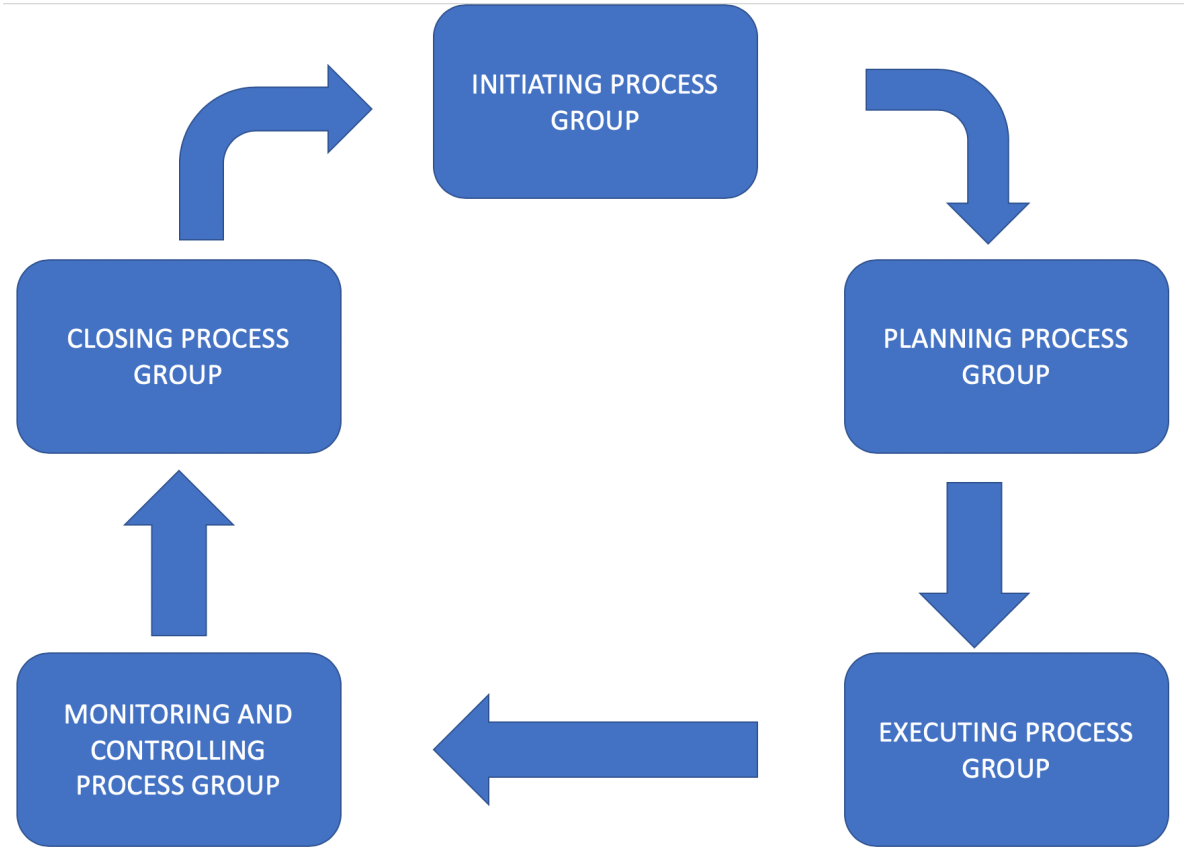

Figure 3: Project Management Process Groups (PMI, 2017)

Project Management Knowledge Areas

In addition to the aforementioned process groups, the different processes that comprise project management are organized in ten (10) knowledge areas. Knowledge areas are identified areas of project management that are defined by its knowledge requirements and described in terms of the processes that conform each one of them. Even though the areas are interrelated, they are defined separately for the understanding ease of each of them (PMI, 2017).

According to the PMBOK, the ten knowledge areas to consider are the following:

- Project integration management: processes and activities to identify, define, combine, unify, and coordinate processes and project management activities within the project management process groups
- Project scope management: It includes processes required to ensure the project contains all work required to complete the project successfully.
- Project schedule management: It includes processes required to manage the timely completion of the project work.
- Project cost management: It includes processes involved in planning, estimating, budgeting, financing, funding, and controlling costs so the project is compliant with the approved budget.
- Project quality management: It includes processes for the incorporation of an organization-wide quality policy regarding planning, managing, and controlling project and product quality.
- Project resource management: It includes processes to identify, acquire, and manage the resources needed to successfully complete the project.
- Project communication management: It includes processes needed to ensure appropriate planning, collection, distribution, storage, control, and disposition of project information.
- Project risk management: It includes processes for the conduction of risk management, planning, identification, and response to risks in the project.
- Project procurement management: It includes processes necessary to purchase or acquire products, services, materials, and other items from outside the project.

- Project stakeholder management: It includes processes required to identify those people or organizations that can be impacted or that can impact the project in order to analyze stakeholder expectations on the project.

Knowledge Areas	Project Management Process Groups				
	Initiating Process Group	Planning Process Group	Executing Process Group	Monitoring and Controlling Process Group	Closing Process Group
4. Project Integration Management	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and Manage Project Work 4.4 Manage Project Knowledge	4.5 Monitor and Control Project Work 4.6 Perform Integrated Change Control	4.7 Close Project or Phase
5. Project Scope Management		5.1 Plan Scope Management 5.2 Collect Requirements 5.3 Define Scope 5.4 Create WBS		5.5 Validate Scope 5.6 Control Scope	
6. Project Schedule Management		6.1 Plan Schedule Management 6.2 Define Activities 6.3 Sequence Activities 6.4 Estimate Activity Durations 6.5 Develop Schedule		6.6 Control Schedule	
7. Project Cost Management		7.1 Plan Cost Management 7.2 Estimate Costs 7.3 Determine Budget		7.4 Control Costs	
8. Project Quality Management		8.1 Plan Quality Management	8.2 Manage Quality	8.3 Control Quality	
9. Project Resource Management		9.1 Plan Resource Management 9.2 Estimate Activity Resources	9.3 Acquire Resources 9.4 Develop Team 9.5 Manage Team	9.6 Control Resources	
10. Project Communications Management		10.1 Plan Communications Management	10.2 Manage Communications	10.3 Monitor Communications	
11. Project Risk Management		11.1 Plan Risk Management 11.2 Identify Risks 11.3 Perform Qualitative Risk Analysis 11.4 Perform Quantitative Risk Analysis 11.5 Plan Risk Responses	11.6 Implement Risk Responses	11.7 Monitor Risks	
12. Project Procurement Management		12.1 Plan Procurement Management	12.2 Conduct Procurements	12.3 Control Procurements	
13. Project Stakeholder Management	13.1 Identify Stakeholders	13.2 Plan Stakeholder Engagement	13.3 Manage Stakeholder Engagement	13.4 Monitor Stakeholder Engagement	

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Figure 4: Project Management Knowledge Areas (PMI, 2017)

Project Management Office Models

According to Giraudo & Monaldi (2015), Project Management Offices can be categorized based on their influence and position within the company or organization. The degree of influence of the PMO in the organization will determine its type. The levels of influence of the PMO are:

- **Supportive**: These PMO's are consultative in nature and provide document templates, training, best practices, access to information among other valuable pieces of information as well as being a repository of information.
- **Controlling**: These type of PMO add compliance to their supportive role and involve adopting Project Management methodologies or frameworks. Their degree of authority is superior to that of a Supportive PMO.
- **Directive**: Directive PMO's take full control of projects by exercising full management over them. All structures within the organization report directly to the PMO.

When you look at the position of the PMO within the organization, there are another set of categories in which these offices fall into:

- Individual: The support provided is limited to a single unit or project. This support is given in the form of infrastructure, document management, training, etc. and establish the basic standards and planning of project activities.
- Departmental: These PMO's provide support to multiple projects at a departmental or business level. The main objective for these is to integrate different projects of multiple sizes within an division of the organization through a variety of timeframes.

3 Corporate: PMO's of this level set standards, processes and methodologies to improve project performance within the organization. These are in charge of the allocation of resources to multuiple projects. (Giraudo & Monaldi, 2015)

METHODOLOGICAL FRAMEWORK

3.1 Information Sources

Primary Sources

3.1.1.1 Interviews

Interviews are the main source of information for this project, and they represent the key input for the work to be performed with the company we will be working with. Defined by PMBOK (PMI, 2017), an interview is a formal or informal approach to elicit information from stakeholders by directly talking to them. Interviews can be structured or non-structured and may follow one or multiple topics. Most often, interviews are one on one, but it may also be the case that an interview is conducted by various interviewers or to multiple interviewees.

The aim of interviews is to extract information on the features, functions, or needs from the developing team or to assess and give feedback to the project team regarding the product at hand. This approach makes for very reliable data directly from the interested parties, and it will provide valuable feedback to the decision-making process and the teams involved.

Broadly speaking, interviews are used throughout the entire life cycle of the project, and it evolves with time. At the risk analysis stage, for example, a series of interviews with the executive teams allows for a proper risk management grid and constant follow up to the risk analysis process where the threats are constantly monitored and when possible, exploited to the advantage of the process (PMI, 2017).

3.1.1.2 SWOT

Another tool used in the elaboration of action plans and proposals for the development of the team's ability to perform better is the strengths, weaknesses, opportunities, and threats analysis (SWOT for short) that aims to examine the project or work team for each one of the

aforementioned areas. Strengths and weaknesses are internal to the team, whereas opportunities and threats are external to the team or project and need a different approach from the analysis point of view. When dealing with these four categories, it is important to have awareness of one's own negative aspects for the overall improvement of the project and the team of people who works on it (PMI, 2017).

The balance of these four elements is crucial to the success of the project at hand and will make for a better team after it is performed. It is vital for the life cycle and overall performance of the team to ensure that exercises such as SWOT analysis are done constantly and thoroughly.

3.1.1.3 Questionnaires

Questionnaires and surveys, according to the PMBOK (PMI, 2017), are written tools to relay questions to a target audience. This information makes for a very big body of data, since the aim of questionnaires and surveys is to target as many respondents as possible. The data is usually analyzed in a statistical fashion, and the data and trends extracted from the surveys serve mostly for a more mathematical approach of trends and projected scenarios. The patterns shown in the responses of the surveyed subjects allow the project team to approach smaller sample sizes with specific similarities between them.

3.1.1.4 Brainstorming

Brainstorming is a technique used in many contexts to accumulate data that will later be analyzed by the team. This is a list of ideas generated at high speed in a short period of time; nothing is too far removed to not be included in the list of ideas to work with. There are two phases to this process. The first one is the generation of ideas, and the second part is the analysis of the generated data.

Brainstorming is a very versatile tool that can be used practically in any scenario imaginable; subjects of a focus group, students, teachers, a panel of experts, scholars, anyone can participate and provide ideas under this method. This is definitely the most democratic data gathering technique ever to exist. All opinions are welcome and will be properly analyzed by the group as equals (PMI, 2017).

3.1.1.5 Root Cause Analysis

Root cause analysis looks to determine, through various techniques, the ultimate underlying reason that made a process change its results or the reason a particular defect or risk came to be. These root causes may be related to multiple variances or defects in a certain process or a particular aspect of a project's life cycle. The main goal of this technique is to isolate the cause and solve the problem at hand. Once all the root causes are detected and solved, the problem will cease to occur (PMI, 2017).

Secondary Sources

3.1.1.6 The Professional Association of Engineers and Architects (CFIA)

All engineers and architects must be enrolled in the CFIA in order to legally practice in Costa Rica. CFIA guidelines are mandatory for compliance and must be followed at all times. The information and regulations from the professional association are a source of information for this project based on the premise that all project work done in the company must comply with local and national legislation. The information will be extracted from the association's website: www.cfia.or.cr

Chart 1: Information Sources (Source: PMBOK)

Objectives	**Information sources**	
	Primary	**Secondary**
To elaborate a proposal for the implementation of a project management office	Interviews, SWOT analysis, brainstorming, and root cause analysis	Information and guidelines from the CFIA Projecto Management Body of Knowledge (PMI, 2017)
To educate the staff and directors of the company in project management best practices	Interviews, SWOT analysis, brainstorming, and root cause analysis	Information and guidelines from the CFIA Projecto Management Body of Knowledge (PMI, 2017)
To integrate the proposed PMO to the company's organization chart into establish the roles and responsibilities of the PM	Interviews, SWOT analysis, brainstorming, and root cause analysis	Information and guidelines from the CFIA Projecto Management Body of Knowledge (PMI, 2017)

3.2 Research Methods

Data Analysis

The research methodology used in this project will be based on data analysis. This is referred by the PMBOK (PMI, 2017) as techniques used to decompose a whole into its constituent parts in order to study each part separately. The idea behind the analytical approach is to break down the studied topic into smaller bits and see the data as detailed as possible. Data analysis can be done in different ways:

- Alternative analysis
- Document analysis
- Process analysis
- Root cause analysis

The analyzed data is then represented in a different array of ways using charts, flowcharts, affinity charts, histograms, matrix diagrams, among others. The decision of which way to display the resulting information will depend on the nature of the data and the target audience for said data. The trends nowadays are to make the information as condensed as possible and with easy-to-understand charts and graphs (Durcevic, 2020).

Chart 2: Research Methods (Source PMBOK)

Objectives	Research methods
	Data analysis method
To elaborate a proposal for the implementation of a project management office	The data gathered from the diverse interviews and workshops that will be conducted with the company will provide us a body of data that will be subjected to analysis.
To educate the staff and directors of the company in project management best practices	The information collected from the company's team will be used to elaborate a dossier of information related to project management that will be the base for educating the company in project management practices and methodology.
To integrate the proposed PMO into the company's organization chart to establish the roles and responsibilities of the PM	The results of the data analysis process will provide us an updated organizational chart where the PMO is added strategically, and it will determine the roles expected from the project coordination efforts.

3.3 Tools

3.3.1 Brainstorming

This technique is used to identify a list of ideas in a short period of time. The process is divided in two sub processes: the gathering of ideas and then the analysis of said ideas. Everybody involved in the process can and is encouraged to add their ideas, and a moderator will be taking note of the proposed ideas for later analysis (PMI, 2017).

3.3.2 Interviews

An interview is a formal or informal approach to extract information from stakeholders or experts in a subject matter that will take place in a direct conversation between one or more interviewers and one or more interviewees. The goal of an interview is to acquire more

information and help from the interviewee about a feature, functionality, defects, or other aspects of a product or deliverable (PMI, 2017).

3.3.3 Focus Groups

Focus groups, according to the PMBOK (PMI, 2017), bring people and experts together in a particular subject matter to learn about their expectations and attitudes about a proposed product or service. A moderator is there to guide the group through an interactive discussion designed to be more conversational than a one-on-one interview.

3.3.4 Meetings

Meetings are a reunion of certain key stakeholders and are used to discuss matters related to a project in particular. There are many different types of meetings, but all of them will have some common features, such as including one or more stakeholders, previous meeting planning, and having a pre-defined agenda. A document is usually redacted after the meeting is completed to detail the attendees, objectives, main topics discussed, and agreements and commitments from the different attendees (PMI, 2017).

Chart 3: Tools (Source PMBOK)

Objectives	Tools
To elaborate a proposal for the implementation of a project management office	Brainstorming Interviews Focus groups Meetings
To educate the staff and directors of the company in project management best practices	Brainstorming Interviews Focus groups Meetings
To integrate the proposed PMO into the company's organization chart to establish the roles and responsibilities of the PM	Brainstorming Interviews Focus groups Meetings

3.4 Assumptions and Constraints

Assumptions are defined by Cambridge Dictionary (2020) as something you accept as true without question or proof. These are pre-conceived ideas about the status of a matter that will guide and shape our work. In the case of the project proposed, we have some assumptions:

- The company does not have an active project management office.
- The company and its staff are eager to incorporate project management knowledge.
- The addition of the project management office will overall improve the project work.

Constraints, on the other hand, are defined (Cambridge, 2020) as something that controls what you do by keeping you within particular limits. This is a sort of pre-established set of boundaries that the project work cannot overrun. The assumptions for the proposed project are the following:

- The projects handled by the company are not as successful as expected due to a lack of project management work.
- The information learned in the educational process may conflict with the current company culture.
- The current company culture may clash with the proposed new approach, and a learning curve is expected.

Chart 3: Assumptions and Constraints (Source PMBOK)

Objectives	Assumptions	Constraints
To elaborate a proposal for the implementation of a project management office	The company does not have an active project management office.	The projects handled by the company are not as successful as expected due to a lack of project management work.
To educate the staff and directors of the company in project management best practices	The company and its staff are eager to incorporate project management knowledge.	The information learned in the educational process may conflict with the current company culture.
To integrate the proposed PMO into the company's organization chart to establish the roles and responsibilities of the PM	The addition of the project management office will overall improve the project work.	The current company culture may clash with the proposed new approach, and a learning curve is expected.

3.5 Deliverables

The PMBOK (PMI, 2017) defines a deliverable as any unique and verifiable product, result, or capability to perform a service that is required to be produced in order to complete a process, phase, or an entire process. Deliverables are usually tied to project objectives or goals and can be the following:

- A product
- A service
- A result
- A combination of the above-mentioned elements

Chart 5: Deliverables (Source PMBOK)

Objectives	Deliverables
To elaborate a proposal for the implementation of a project management office	A document detailing the functions and advantages of a project management office
To educate the staff and directors of the company in project management best practices	Didactical material with information about project management as a framework for project work Multiple learning sessions to work the provided information with the staff
To integrate the proposed PMO into the company's organization chart to establish the roles and responsibilities of the PM	An update to the company's organizational chart where the proposed project management office will be included along with all of the needed reporting channels

4 RESULTS

4.1 To elaborate a proposal for the implementation of a project management office

The diagnosis and assessment of the current company standing in terms of knowledge and application of project management methodologies will follow a series of tools and techniques designed to fit the scope of this investigation as well as the structural conformation of the company. Being this a small firm with around 15 people in total, it was decided to approach the tools at hand with the consideration needed to develop a solid body of data and a comprehensive analysis of said data to shape up a proposal for a project management office tailored to the needs of the organization.

Project Management Methodologies. (Source: Author)

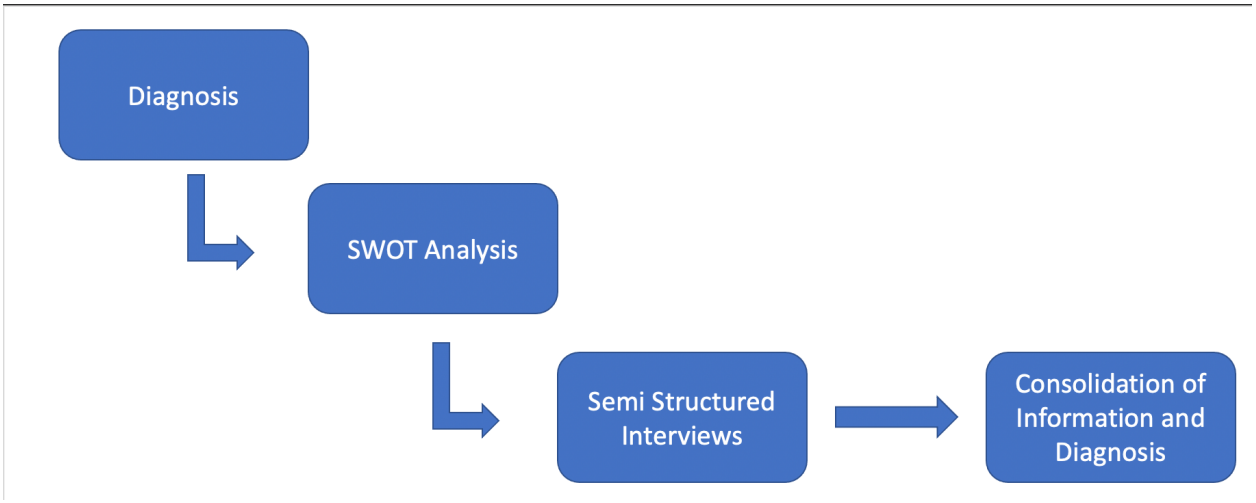

Figure 5: Diagnosis Process (Source: Interviews)

The first step in the diagnosis stage is the design of a questionnaire to assess the maturity level of the selected surveyed persons in terms of project management and the components of a project.

In order to estimate the level of knowledge of the organization relating to project management and the implementation of a project management office, a questionnaire comprising 20 multiple choice questions is presented in two main lines of analysis. The first one seeks a diagnosis of the current stance of the organization relating to project work, and the second line of analysis leans towards understanding the direction in which the organization wishes to advance in their application of project management practices.

The sample used to gather the information breaks down as the following charts detail:

Chart 6: Personnel Selected to Complete the Questionnaire (Source: Author)

Position	Area	Role	Capacities	Seniority
CEO	Management	Stakeholder	Decision making and execution of projects	7+ years
Head architect	Architecture	Technical expert	Design and coordination with vendors	7+ years
Head topographer	Topography	Technical expert	Topography work and interactions with the local government	7+ years
Construction chief	Construction and remodeling	Technical expert	Execution of project work and subcontracting crews	7+ years
Technical illustrator	Technical drawings	Technical expert	Digitalization and rendering of blueprints	7+ years

From this chart, we can conclude that the surveyed parties have high implication and impact on the course in which the company will evolve to and that these are people who have decision making authority on each of their fields of work, one being the CEO, three heads of departments, and a technical illustrator. All surveyed people have hands-on experience in the daily work and

overall project execution with close ties to the CEO. This is an advantage of working with a small organization. Having technical experts partake the survey along with the CEO gives us a wide spread of angles in which the information is handled and how each perception provides valuable insight to the situation of the organization and where it is headed to.

The following graphs illustrate the main results obtained from each survey:

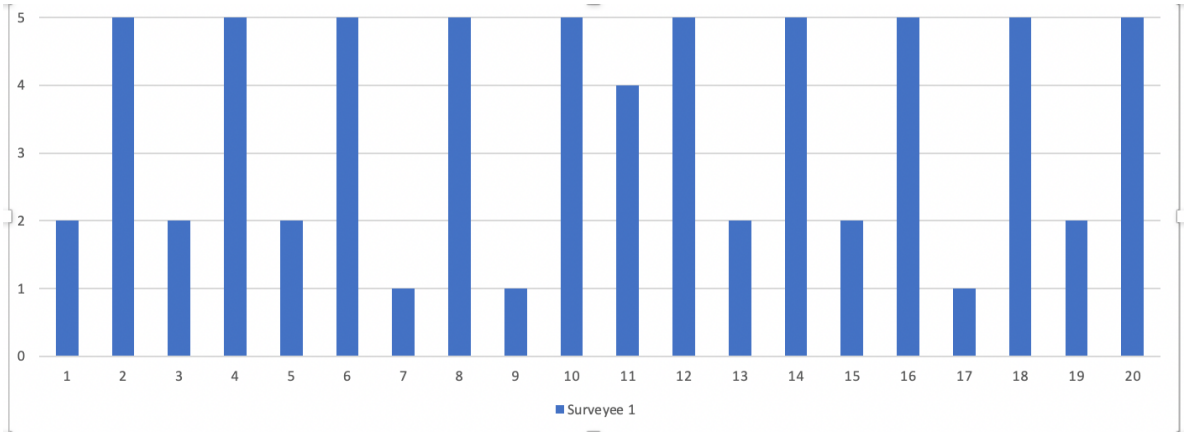

Figure 6: CEO Survey (Source: Interviews)

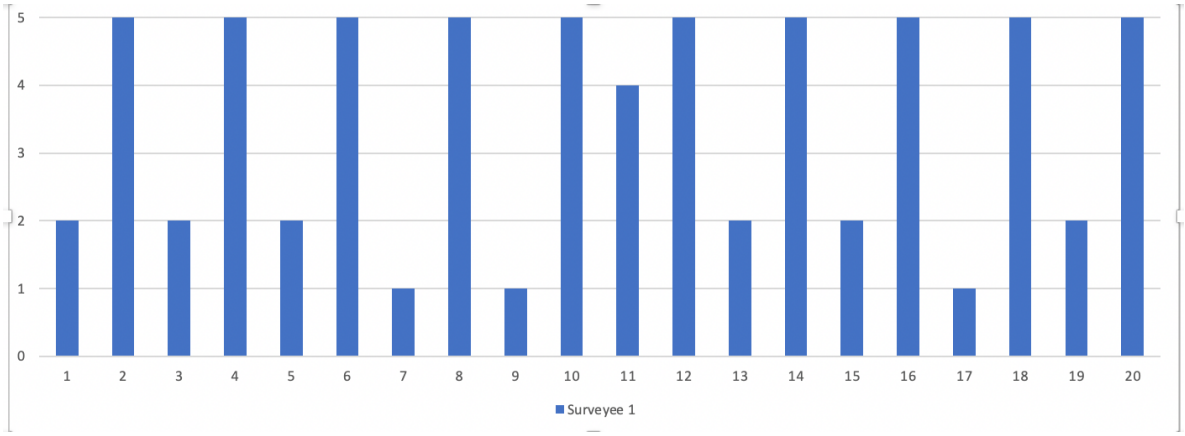

Figure 7: Head Architect Survey (Source: Interviews)

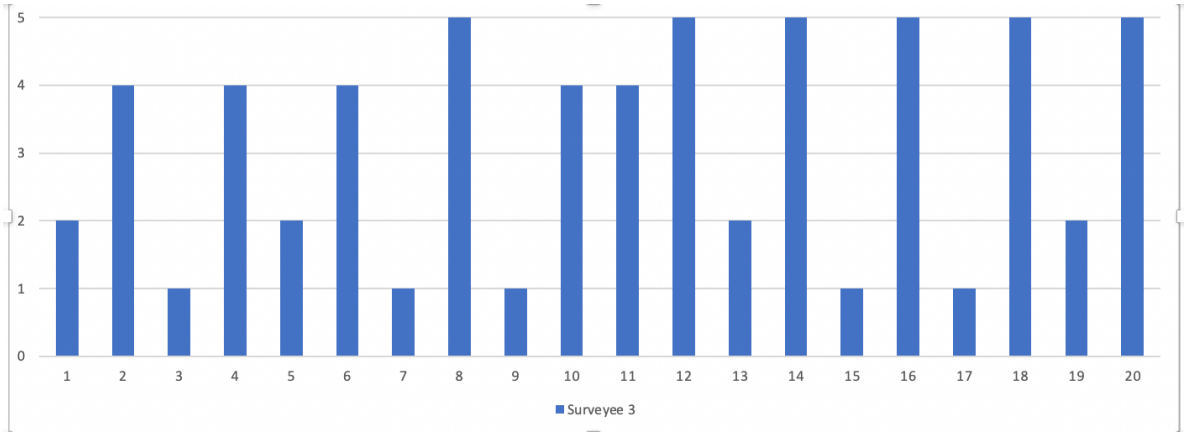

Figure 8: Head Topographer Survey (Source: Interviews)

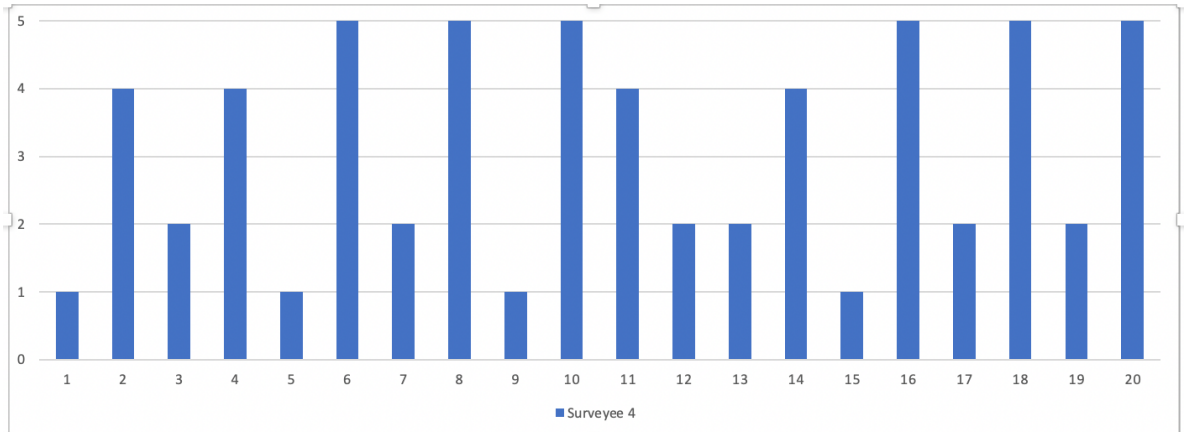

Figure 9: Construction Chief (Source: Interviews)

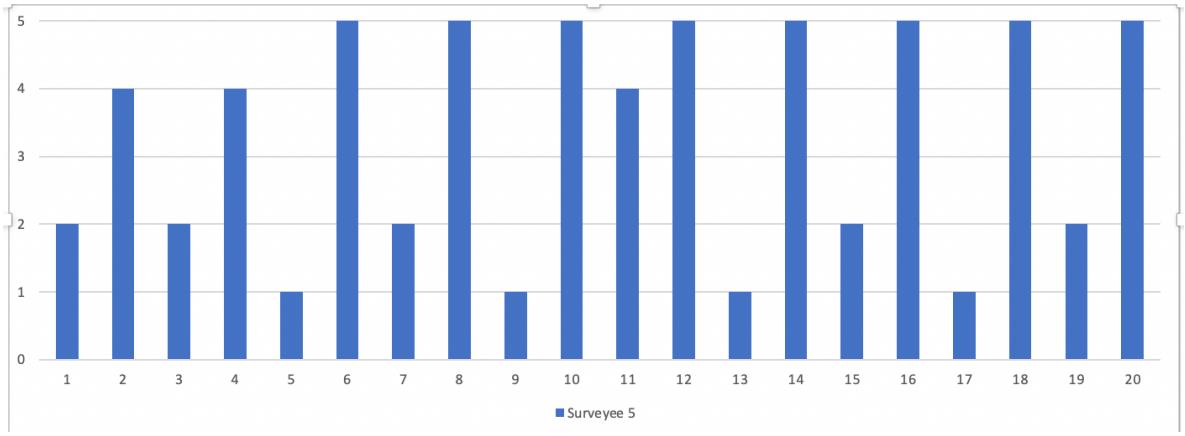

Figure 10: Technical Illustrator Survey (Source: Interviews)

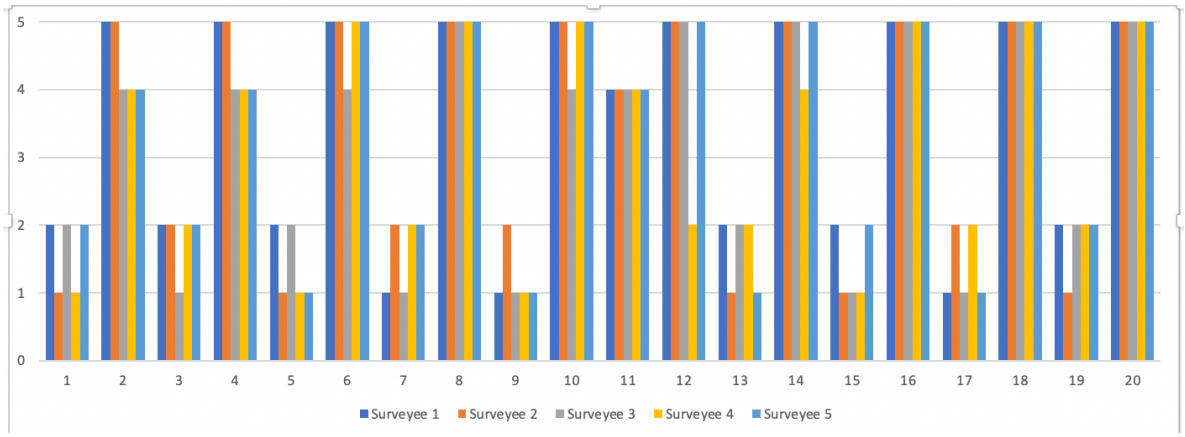

Figure 11: Condensed Survey Data (Source: Interviews)

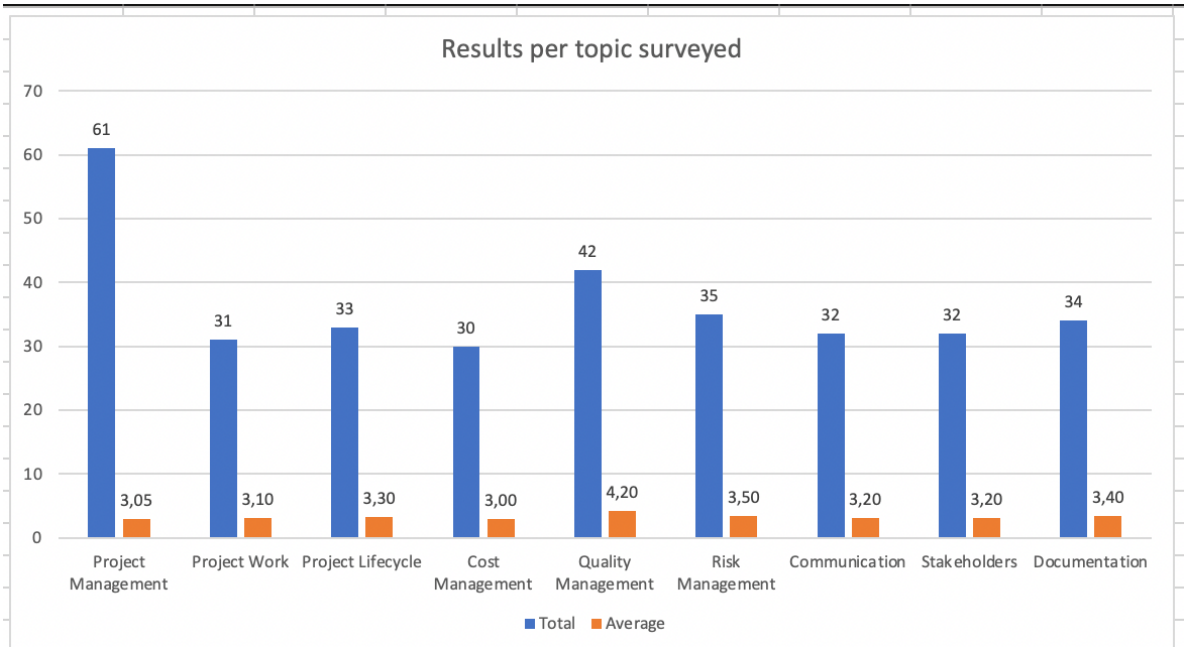

Figure 12: Condensed Results per Survey Topic (Source: Interviews)

The criteria used in the survey to assess the questions have a range from one to five depending on the degree of knowledge or agreement from the surveyed party with each item in the survey. One and two signify a low knowledge or disagreement with the statements. Three and four

express agreement to a medium degree or proper knowledge of the situation. Five expresses full agreement and expertise in the surveyed topics.

The items in this survey are sorted into two categories. Odd numbered questions are focused on previous knowledge on the item's question, and even numbered items are related to the degree of interest shown by the surveyed in the asked topic (see Annex 4).

Analysis: At a glance, the results from the survey show two major trends in the responses from the participants. First is the lack of knowledge relating to project management methodologies shown in the surveys. There is a notion about the practices to be known by the participants, but there is not more information handled, nor are any of the project management practices taking place in the day-to-day management of work in the company. The second trend, however, shows a complete level of interest in the improvement of the application of project management methodologies and body of work by the members of the company. There is a very high interest in these methodologies and procedures to be implemented in the company's management of orders or work and projects in general.

We see consistency in the trends of each surveyed item, not only in the consolidated data (Figure 11) but also in the individual answers in each of the surveys. There is an almost four-point gap, in average, between the knowledge scores (odd numbered items) versus the improvement scores (even numbered items). This differential is consistent throughout the survey in all aspects of the analysis.

SWOT

To detail the information gathered from the surveys more, the team held meetings where a SWOT analysis was done. SWOT analysis is a way to address the four main topics relating to the

organization: strengths and weaknesses, which are positive and negative aspects of internal nature. In other words, these are part of the organization's inner processes, and they affect or benefit the organization from inside out, whereas opportunities and threats are external in nature and will affect processes in such way. When analyzing each topic, it is important to take into consideration the different aspects of the analysis. The amount of information drawn from this exercise needs to be manageable but detailed enough to provide a clear image of what the organization is doing right or wrong without overwhelming the participants of this exercise.

This analysis was executed in an open discussion format where the moderator conducted the conversation towards each topic but did not provide any input of his own. The role of the moderator was simply to collect the data and move the conversation forward from topic to topic so as to not interfere with the production flow and ideas of the session and to minimize his own bias in the provided answers. After a brief explanation of the exercise dynamic, the moderator tool noted and moved on to each topic as the conversation was drawn to a halt or when information was not being produced any longer by the participants.

The sample of participants for this exercise was the same team members who had previously taken the personal surveys.

Chart 7: Strengths, Weaknesses, Opportunities, and Threats Analysis. (Source: Author)

Strengths:	Weaknesses:
Highly qualified professionals and highly skilled workers A trustworthy environment with a big drive to deliver the highest possible project quality Excellent interpersonal relationships between the personnel High attention to detail and excellent customer relationships	Lack of constancy in the way projects are approached. Processes are not properly defined. Procedural inconsistencies produce financial drains. There is a lack of order in the way billing and collections are managed. Budgeting processes are deficient and affect the profit margins. Scope management and change request

A healthy professional network of associates that enhance the quality of delivered products The company has been in the market for over five years with good success. Legal and social law compliance is one of the top priorities of the company and one of its driving forces.	management need improvement. This affects profit. Day-to-day work is not planned ahead. A steady week planning is needed. Communication management, both internal and external, is not optimal. Requests are not channeled properly between clients and the company.
Opportunities: The demand for projects has risen despite of the current Covid crisis. Healthy relationships with local government and regulators External vendors and suppliers express positive sentiment to working with the company. Customers often refer new customers based on the good quality of received projects. Fellow professionals seek out the company for assistance with larger projects. Projects have had international advertising due to a satisfied customer.	Threats: The construction industry as a whole has been affected by the Covid crisis. Unfair competition practices among the sector affects workflow and overall profit margins. The state's treasury administration has very steep fines for non-compliance, and the procedures are slow and difficult to understand. State bureaucracy and slow processes push customers towards outlaw practices.

Analysis: This is a young company, but its staff has been in the business for a long time. The human element is a huge strength, as it is comprised of the highest quality professionals available. Their project delivery is always with the comfort and care of the customer as a top priority, and as such, all needed precautions are taken. However, it is important to note that some works still need to improve areas, such as scope or budgeting, which, in the past, have been a problem that financially affected the company. Even though these problems do not hinder the image of the company with their clients, there are financial losses that need consideration. Communication management is another sensitive topic that needs attention, as both external and internal change requests or approvals are not always communicated appropriately, causing misunderstandings between the staff over previously discussed items. Again, the usual result of these misunderstandings falls on the profit margins for the company. Organizationally, it is also

advisable to improve the standardization of certain processes and make sure that all decisions made in staff meetings in accordance with a client are acknowledged and abided to by all company staff.

Externally, the company faces mostly government officials and policies that make the paperwork flow hard. Most times, this makes a perfect scene for certain illegal practices, and there are potential fines if the company fails to comply to a very complicated set of requirements for each step of the process. Even with all this going on, it is noteworthy that the company strives to maintain an ethic line of work and promotes the idea of association with other companies and strict compliance protocols as a high point of their sale strategy.

Semi-Structured Interview

The third tool used to explore and contextualize the proposal to be made was a semi-structured interview to investigate the previous SWOT analysis further and establish key elements to give priority to the elaboration of the implementation proposal. Chart 7 details the proposed questions for the interview as well as the key elements drawn from each topic.

Chart 8: Group Semi-Structured Interview Guideline (Source: Author)

Question	Main discussed topics
How are projects received and catalogued?	Customers who inquire are provided with a quota for consideration. This is usually provided in digital format (MS Office Suit). These are filed in a folder system and updated as the project progresses.
What are the processes that have shown more difficulties?	Budgeting has been a process that has shown difficulties in the history of the company due to miscalculations or errors when negotiating with potential clients. Communication in general is also an issue that permeates other areas of the project

	work, such as scope management. A thorough effort needs to be put in the communication management area in order to make other project workflow areas more easily.
What processes could be implemented to the company to mitigate current problems?	Process standardization through technological means. The implementation of standards of operations (SOPs) and an improvement of the communication channels and their proper follow up to the client, vendors, and within the company. This will drive changes within the organizational culture to ensure a communicative environment where all procedures are correctly tracked and performed to the client's request.
What external factors influence, positively or negatively, the execution of the projects and how can those be turned into advantages for the company?	The current situation with the Covid pandemic has brought to light a wide array of professional conducts that can be detrimental to the company's ability to gain new clients through illegitimate practices or other unethical procedures. Along with a state regulation that is complicated to navigate, the overall scenario negatively impacts the company's performance. However, this situation is seen as an opportunity to liaise with other professionals in the field, promote a more ethical and compliant construction industry, and use that as a selling point for future projects. The interest of the company is to make the business as a whole shift to more collaboration and an improvement of the client's experience throughout the process.

Analysis: This follow-up interview to the previous SWOT analysis and survey provides a more in-depth view at the situation that the company faces in its management of day-to-day business and also their approach to new and ongoing projects. The main issues are related to communication management, as agreed by this interview and the initial SWOT analysis. Adjustments to this process will not only improve communication management but also scope

and budget management. It is the belief of the company staff that with better communication, other areas will also improve.

The standardization of processes is another main point in the vision of the company to improve its processes and make more efficient use of project management methodologies for their projects. Through this process, all components of each project will be similar in form and length, and although every project is different, the basis of the process for each one will be homogenous and make better traceability.

Following this analysis and interview, the project team worked on a bibliographical study of the project management framework as established by the PMBOK (PMI, 2017), where the main concepts and best practices were summarized and reviewed for a better understanding of the framework on its own as well as the establishment of a project management office within the organization.

The main result of this deliverable is the assessment of the company as it stands regarding the practices related to project management and a number of improvement areas for the staff to work on with the supervision of the project team.

Proposal for the Implementation of a Project Management Office

Justification

Drawing from the information gathered in the tools and techniques described above, we find an important necessity for an organization of the project work that was done in the company. There is an important need for education in project management methodologies and basic concepts that will provide standardization and a more organized project work flow, under a solidified structure that allows for measurement and improvement plans.

The role of the project management office is one of guidance and being an information repository as well as keeping a record of project work and lessons learned throughout time. The consultation aspect of the PMO consists in guiding the company in the best practices proposed by project management methodologies and the constant education of the company staff, both as a team and on a one-on-one basis. Constant coaching and keeping practices updated is vital to the improvement of the company's maturity.

Scope

According to Giraudo et al. and Hobbs and Aubry (2007) the scope of this PMO needs to be established keeping in consideration the nature and size of the company. For the purpose of this proposal, we have established a PMO that will be primarily at a departmental Scope and operational in its Approach. This assures us a position in which a vast repository of information and constant guidance will be provided to the company as it matures and grows in size. The training and facilitation aspects of the PMO will adjust perfectly to the types and sizes odf the projects currently being developed by the firm. Additionally it will make a more organic process of growth for the company to think in an assistance and consultation role while the framework is developed into an enterprise culture and a support to the stakeholder´s decision making.

Communication Management

One important aspect drawn from the diagnosis is the need for a communication system, to instill a communication culture where all involved parties are on a level playing field, and to constitute a space where agreements and decisions are taken and worked as a team. It is of most importance to develop a communication system that is dynamic and allows for meaningful interactions and the value development for the projects (both current and new) and that will move the project work at hand forward.

With a basis of a solid platform from Microsoft Exchange for internal as well as external communication, the company will have solidity in the tracing and record keeping of communication as well as calendar management and a closer follow up of all aspects related to communication. This improvement meets the pre-established organizational objective to build and maintain a strong and effective communication culture within the company and beyond with their clients. Having a solid technological platform allows the company to pursue this objective and improve its positioning in the construction and architecture market. This underlying platform also allows the company to concentrate in the inner dynamics of the communication culture of the company.

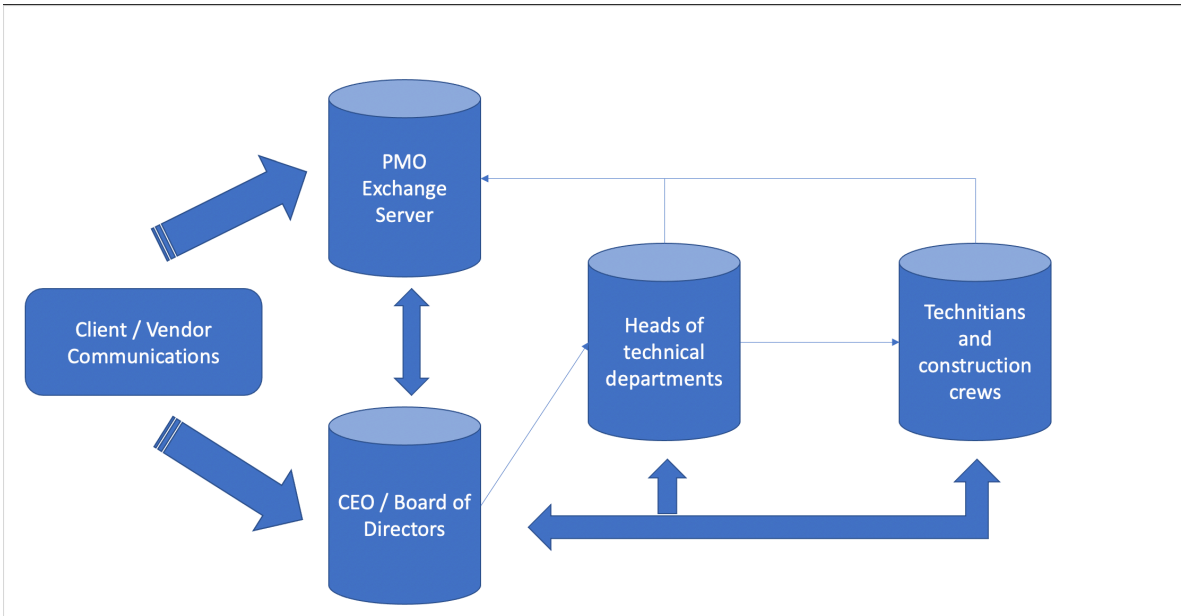

Figure 13: Communication Systems and Dynamics (Source: Interviews)

The diagram above lays down the flow of communication and its connections between departments and management as well as out to the clients. The construction of this diagram is the result of a series of conversations that looked to integrate the ideas and concepts of communication held by the different team members. Within that conversation, there were agreements, and the design of the communication flows came to be.

The proposed PMO will work alongside the board and coordinate inwards and outwards while the work requests are expanded down to the experts in each business area who in term will share the information with their teams to then circulate back to management with the value products that each team presents. Between teams, a second layer of communication is agreed upon where all channels are bilateral and remain open at all times. Agreements are reached as a team, and each department will then fulfill its end of the agreements for the increase in value of the delivered product. There is an agreement of an open door policy within the company where

every member is available for a private or group conversation to be had in safe spaces and with appropriate tracking mechanisms to ensure meeting all taken accords.

Documentation Standards

Another important aspect drawn from the diagnosis process is the need for standardized documentation for the various processes pertaining to project work. Although there are some forms and documents, the company lacks standardization in the document management aspect. The company would benefit from a set of standardized documents to manage and control key processes, and in a series of meetings and conversations, a set of documents was crafted, and an agreement was reached to use them as an ongoing policy for all project work.

Chart 9: Document Inventory (Source: Author)

Document code	Title	Description	Approved by
1-PCH-0001	Project charter	A chart documenting the main details of the project. In this document, the name, objectives, budget, stakeholders, and other important details are drafted to seek approval.	CEO
2-BP-0001	Budget proposal	For each new project query, a budget and general work plan are proposed to the would-be client for their consideration and	CEO

		approval. All costs and materials are detailed in this document.	
3-WB-0001	Work breakdown structure	Once a project is approved, the team will plan the schedule and establish the breakdown of each objective to determine the Gannt chart with the schedule and work items per day or week.	CEO
4-RM-0001	Risk management	A risk management matrix for the proper management of risks at each stage of the project. The approach to risk management is a quantitative approach due to the scope of this paper and the size of the company.	CEO
5-QM-0001	Quality management	A chart with each quality standard accepted as satisfactory from the work done to the vendors who provide resources. This document is attached to the client's final dossier of the project.	CEO
6-SM-0001	Stakeholder management	For each project, a stakeholder management	CEO

		matrix is put together with the details, interest, and power.	
7-FP-0001	Finished project delivery	When a project is deemed completed and all quality requirements are met and signed off, a summary of the project work as well as the quality acceptance criteria is delivered to the client for the formal acceptance of the project.	CEO

The proposed documents will serve the purpose of process standardization within each project and in the company as a whole. With these standards in place, the culture in the company will shift to a more project-centered approach to their customer contacts and constitute the norm going forward for the company.

4.2 To educate the staff and directors of the company in project management best practices

For this specific objective, the work performed with the staff and directors consisted in a series of informative workshops where different topics were covered, such as the different phases and knowledge areas explained in the PMBOK (PMI,2017). The sessions were conducted throughout three weeks depending on the availability of all workshop members and roughly followed the schedule below:

Chart 10: Training Workshops for the Staff and Directors of the Company (Source: Author)

Date and time	Topic	Invitees
October 26, 2020	Initiation phase	Staff and directors
October 29, 2020	Planning phase	Staff and directors
November 2, 2020	Executing phase	Staff and directors
November 5, 2020	Quality control	Staff and directors
November 9, 2020	Closing phase	Staff and directors

Each workshop was designed to cover one project phase knowledge area and all of its main processes, inputs, tools, and outputs, then linking the processes to their next natural successor. The workshops will follow a standard opening structure, then the study of the different topics for each project phase, and finally, a closing section for questions and comments.

Chart 11: Summary of Workshop Sessions Done with the Company Personnel (Source: Author)

Workshop date	Main topic	Contents
October 26, 2020	Initiation phase	Project charter Identify stakeholders Project initiation
October 29, 2020	Planning phase	Project management plan Scope management Requirements Work breakdown structure Scheduling and activities Cost management Resource management Risks
November 2, 2020	Executing phase	Managing project work Manage project knowledge Manage quality Acquire resources Team management Communication management Risk responses Conduct procurements Stakeholder engagement
November 5, 2020	Quality control	Monitoring and control Change protocols Validate scope Control schedule Control costs

		Control quality Monitor risks
November 9, 2020	Closing phase	Close project or phase Final round of questions and discussion

Analysis: Throughout these sessions, the team was able to have an overall review of the different phases of the project lifecycle. In general, we were able to cover some of the main processes concerning each phase and with it, see though the different ways in which the company was aligning or not with some of the practices dictated by the PMBOK (2017).

Each topic was reviewed with the structure and the scrutiny of the PMBOK Guide (2017), and the information drawn from it was compared to the staff's experience, both personal and professional. This gave the team a very good grasp of what to expect from each project stage and how to compare what had already been done within the company and what could be added to the procedures and how to standardize them. The main result of this exercise and techniques was the better understanding of the project lifecycle and how to transpose that into the procedures already in place within the company. From this understanding, we drew most of the information to continue further down the project and make the final proposal for an organizational chart that will be discussed in the next specific objective.

4.3 To integrate the proposed PMO into the company's organization chart to establish the roles and responsibilities of the PM

The integration of the proposed PMO into the company's organization chart was a work performed in two stages. First, we did a brainstorming session, a sort of focus group where we gathered the ideas from the staff about how this chart should look like, now knowing what they know about having access to the PMO information and how projects are managed from beginning to end.

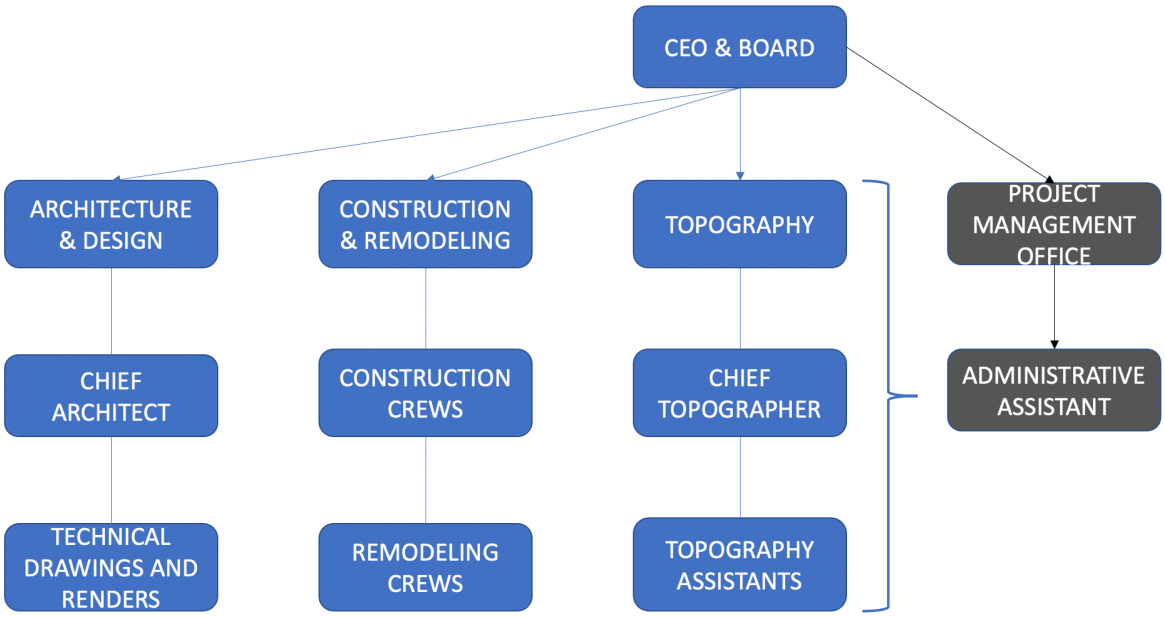

Figure 14: Updated Organizational Chart (Source: Interviews)

The process to construct this chart started with the layout of the organizational chart, as it is before the start of this investigation. In Figure 1 you see the previous layout with basic hierarchies and lines of command. We started the conversations regarding a change to the

organizational layouts throughout the different interviews and training sessions that were provided as well as a focus group type of data gathering technique that produced an important amount of information pertaining to the implementation being proposed in this investigation. The redesign of the organizational chart was a collaborative effort taking opinion from all of the company personnel that also allowed for very meaningful conversations regarding the role of each person within the company as well as towards each other. The resulting diagram includes a project management office that assumes a collaborative and consulting role and that will respond to higher management as the rest of the departments do. Another noteworthy addition to the organization is the inclusion of an administrative assistant that will provide day-to-day support to the different departments as well as the project management office. It was discussed previously that there were delays and time management issues because of office management work being done by people that already had their functions, and it produced a considerable amount of rework and time constraints.

5 CONCLUSIONS

1. The company shows high interest in implementing project management practices in their organization. This interest is the driving motivation to work with the authors in a proposal for Project Management implementation that fits the size and scope of the company. The proposal is based in a diagnosis about their knowledge and intention to learn more in the future.
2. Their organizational processes have different areas of improvement that will benefit greatly from the proposal. The communication spaces established with the organization allowed for a learning atmosphere and the establishment of new improved practices among the company. The main improvement was the elaboration of standardized document templates for all communications (internal and external).
3. Providing information to the organization triggered a list of actionable items to properly benefit the processes within the company. As the staff learns and puts in practice the concepts learned they gain a new perspective in their own view of the company.
4. The company's eagerness to learn about project management makes for an excellent environment to develop a foundation of knowledge from which new improvements can be constructed. The construction of these new improvements includes changes to the very organization in the form of a new company chart and new roles for those involved.
5. The main interest in the early phases of a PMO implementation is essentially a consultation role for the Project Manager. His or her guide will be backed by a vast repository of information that is available to the organization to constantly align their processes to the Best Practices encouraged by PMI.

6. Additional support is needed to relieve the current staff from certain office management tasks that delay them from their main responsibilities and to reduce rework and time constraints.

6 RECOMMENDATIONS

1. We recommend the company management to follow up on the topics discussed during the course of this investigation and follow through the implementation proposed in this investigation.
2. We recommend the company staff to reach out to their management and recommend all actions leading to the best implementation of the proposed project management office.
3. Continuous updates and retraining in project management concepts are recommended to all of the staff and management. The pace at which new concepts and frameworks evolve requires constant research and updates.
4. To constantly reflect and self-diagnose, the company is recommended to keep close attention to its status and work on potential improvement areas.
5. To constantly review and update the organizational chart designed in this investigation Companies are dynamic, and their personnel is in constant growth. Due to this, we recommend these charts to be reviewed constantly.
6. We recommend to recruit additional help to assist the staff with day-to-day office work as well as communication management.

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8 APPENDICES

8.1 Appendix 1: FGP Charter

PROJECT CHARTER **It formalizes the project start and confers the project manager with the authority to assign company resources to the project activities. Benefits: it provides a clear start and well defined project boundaries.**	
Date	**Project name:**
28-6-2020	Proposal for the Implementation of a Project Management Office for Livin Group S.A.
Knowledge areas / Processes	**Applicacion area (sector / activity)**
Knowledge areas: Integration, scope, time, cost, quality, resources, communication, risk, procurement, and stakeholder management PM processes: Initiation, planning, and execution	Construction, design, remodeling, topography, and project management
Start date	**Finish date**
28-6-2020	Nov 2020
Project objectives (general and specific)	
General objective:	
To propose the implementation of a project management office and project management methodology in Livin Group S.A.	
Specific objectives:	
1. To elaborate a proposal for the implementation of a project management office	
2. To educate the staff and directors of the company in project management best practices	
3. To integrate the proposed PMO to the company's organization chart into establish the roles and responsibilities of the PM	
Project purpose or justification (merit and expected results)	
The purpose of this project is to elaborate a proposal to educate and implement the project management methodology and best practices. Living Group S.A. is a relatively new company that is currently struggling with maintaining consistent management for their different projects. This has lead to financial mishaps and organizational distress due to not being able to maintain consistency in their projects. This project is to present a model for project management that aims to offer the tools required for a better management of the projects in the company.	

Description of product or service to be generated by the project – project final deliverables
The main deliverable is a document offering a proposal for a fully functional and properly established project management office for the Livin Group S.A. firm. The proposal intends to educate and offer the option to establish a project management office and all its benefits to provide help in improving the organization and audit of the company's projects.

Assumptions
The company is eager to implement a project management office. .
Constraints
The staff and owners of the company do not have previous knowledge regarding project management practices. There will be a learning curve that needs to be taken into account.
Preliminary risks
Training the staff in project management processes and areas of knowledge may impact the overall timeframe needed to complete the implementation. Costs associated with adding a new department to the company may impact the time it will take to complete said implementation.
Budget
The working budget for the proposal for the implementation of a project management office is $500 to cover all project expenses.
Milestones and dates

Milestone	**Start date**	**End date**
Project start	28-Jun	28-Jul
Presentation of the project draft	Aug-20	Nov-20

Relevant historical information
Founded in 2013, Living Group provides design and construction solutions to a vast array of clients from personal homes to commercial constructions. This is a small firm that has steadily gained traction with their network of professionals and busines partnerships with other companies in the same industry. The main products offered are topography, architecture, and maintenance. However, with the increase in projects, a need for more oganized project management practices was made evident to the point that it became a pain point for the day-to-day operations and a growing need for better organization of the projects. .
Stakeholders
Leonardo Muñoz (CEO) Maria Isabel Gutierrez (Design Chief) Ricardo Sojo (Costruction Chief)

Project Manager: Rodolfo Gutierrez	**Signature:**

Authorized by:	**Signature:**

8.2 Appendix 2: FGP WBS

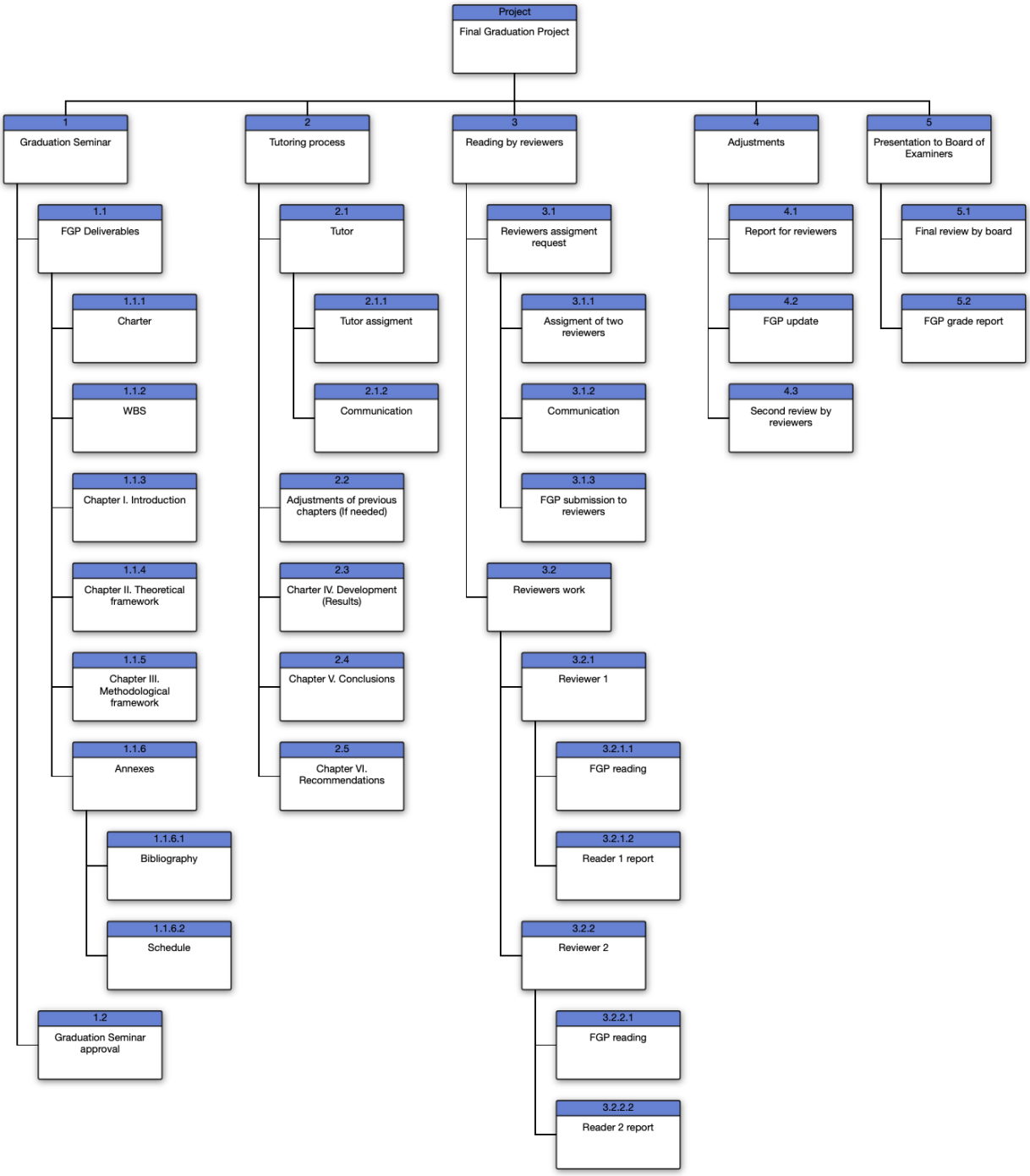
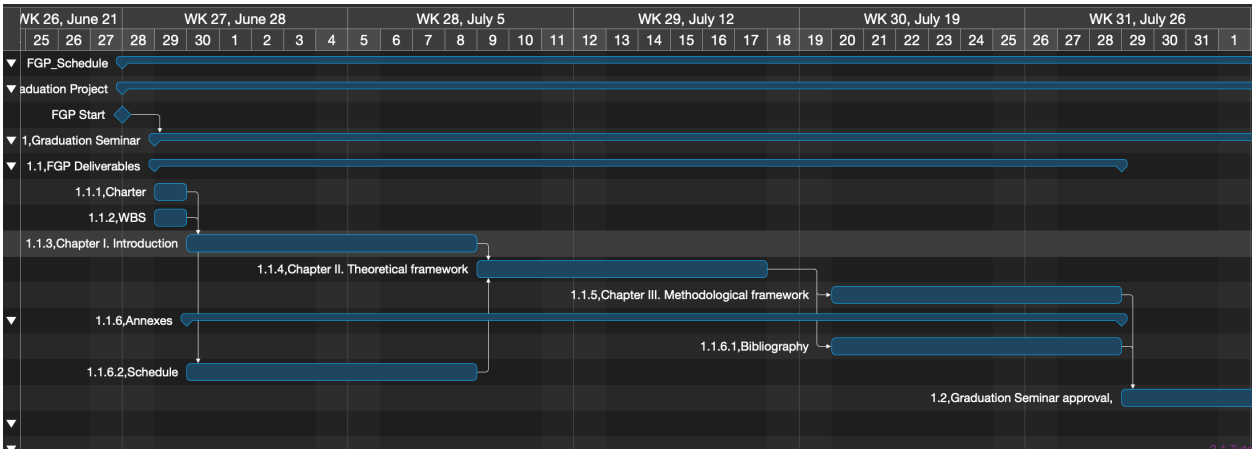


Figure 2 Organizational Structure (Source: Interviews)

8.3 Appendix 3: FGP Schedule



#	Traits	Title	Given Work	Given Earliest Start
0		**FGP_Schedule**		**Jun 28, 2020**
1		**Final Graduation Project**		
2		FGP Start		Jun 28, 2020
3		**1,Graduation Seminar**		
4		**1.1,FGP Deliverables**		
5		1.1.1,Charter	1 day	Jun 28, 2020
6		1.1.2,WBS	1 day	Jun 28, 2020
7		1.1.3,Chapter I. Introduction	7 days	
8		1.1.4,Chapter II. Theoretical framework	7 days	
9		1.1.5,Chapter III. Methodological framework	7 days	
10		**1.1.6,Annexes**		
11		1.1.6.1,Bibliography	7 days	
12		1.1.6.2,Schedule	7 days	
13		1.2,Graduation Seminar approval,	7 days	

Figure 3 Organizational Structure (Source: Interviews)

8.4 Appendix 4: Questionnaire Tabulation

Tabulation																					
Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	Average
Surveyee 1	2	5	2	5	2	5	1	5	1	5	4	5	2	5	2	5	1	5	2	5	69	3,45
Surveyee 2	1	5	2	5	1	5	2	5	2	5	4	5	1	5	1	5	2	5	1	5	67	3,35
Surveyee 3	2	4	1	4	2	4	1	5	1	4	4	5	2	5	1	5	1	5	2	5	63	3,15
Surveyee 4	1	4	2	4	1	5	2	5	1	5	4	2	2	4	1	5	2	5	2	5	62	3,1
Surveyee 5	2	4	2	4	1	5	2	5	1	5	4	5	1	5	2	5	1	5	2	5	66	3,3
Total	8	22	9	22	7	24	8	25	6	24	20	22	8	24	7	25	7	25	9	25		
Average	1,6	4,4	1,8	4,4	1,4	4,8	1,6	5	1,2	4,8	4	4	1,6	5	1,4	5	1,4	5	1,8	5		

8.5 Philology review Acceptance Letter

San José, February 2, 2021

Universidad para la Cooperación Internacional

To Whom It May Concern:

Natalia Alvarado Mata, identification number 305030705, Bachelor in English with a focus on translation, hereby states that the project titled: "**Proposal for the Implementation of a Project Management Office in an Architecture Firm: Livin Group"**, carried out by Rodolfo Gutiérrez Rodríguez, has been revised.

The project was carried out to obtain the **Master In Project Management (MPM)** Degree. Aspects such as paragraph form, language quirks in written language, orthography, punctuation, and other aspects related to syntax and grammar were inspected and proofread. Therefore, taking into account the changes that were made, the project is ready to be presented.

Sincerely,

Natalia Alvarado

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Natalia Alvarado Mata
English Translator and Proofreader
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