UNIVERSIDAD PARA LA COOPERACION INTERNACIONAL
(UCI)

FINAL GRADUATION PROJECT NAME

A Project Management Plan for the Computerization
of the Manual Operations for General & Maritime Agencies.

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DEDICATION

This research project is dedicated to the unwavering support given by my family; my husband Kurtis, my muse, my memory, and our two year old daughter Taswya, my motivation. I love and appreciate you.

To my extended family and friends, thank you for your patience, assistance, and love throughout the program. I also dedicate this work to all professors and tutors of the UCI family for their continual support in developing this skill that is well worth learning. Most importantly to the Most High God, (Romans 11:36) 'All things are from God, through God, and to God. The Glory is all His.'

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INDEX OF CONTENTS

INDEX OF FIGURES

INDEX OF CHARTS

ABBREVIATIONS AND ACRONYMS

B/L-   Bill of Lading

BAU-   Business as Usual Interview

CCB-   Change Control Board

CPI-   Cost Performance Index

CR-   Cost Reimbursement Contract

DMAIC-s-   Define Measure Analyze Improve Control & Synergize

EC$-   Eastern Caribbean Dollars

E-mail-   Electronic Mail

FGP-   Final Graduation Project

FOB-   Free on Board

FP-   Fixed Price Contract

GMA-   General and Maritime Agencies

IP-   Internet Protocol

IT-   Information Technology

Memos-   Memorandums

OPA's-   Organisational Process Assets

PDCA-   Plan-Do-Check-Act

PM-   Project Manager

PMBOK-   Project Management Book of Knowledge

PMI-   Project Management Institute

PMO-   Project Management Office

PMP-   Project Management Plan

QA-   Quality Assurance

QC-   Quality Control

RACI-   Responsible Accountable Consulted Informed

RBS-   Risk Breakdown Structure

RFQ-   Request for Quotation

SPI-   Schedule Performance Index

SVG-	Saint Vincent and the Grenadines
T & M-	Time and Material Contract
US$-	United States Dollars
VPN-	Virtual Private Network
WBS-	Work Breakdown Structure

EXECUTIVE SUMMARY (ABSTRACT)

The importance of shipping to a nation's economy is extensive, equally so in Saint Vincent and the Grenadines (SVG). Shipping services affect most sectors whether agriculture, manufacturing, government, even consumers using recreational cruises. The company in study, General and Maritime Agencies, is a shipping company that facilitated the import/export needs with over 16 years of existence and dedicated service.

The company represented over fifteen ships with continued growth. This growth posed a challenge because the manual operation system used in the agency ineffectively met the reporting obligations of all stakeholders.

This research examined the current operation system of General and Maritime Agencies and adapted a Project Management Plan to circumvent the deficiencies brought about through its manual operations. The Project Management Plan addressed the transition procedures and documentation. The conversion from manual accounting documentation to computerization eliminated deficiencies directly related to procedural and financial records.

The general objective was to develop a process and create a Project Management Plan for the Computerization of Manual Operation System Project for General and Maritime Agencies.

The specific objectives were to develop a Scope Management Plan that clearly defines what the project scope is and how it will be developed and controlled through the scope statement, work breakdown structure and associated work breakdown structure dictionary.

To develop a Change Management Plan to clearly design and estimate the scale of the change effort made to a system to ensure the effective implementation into the business. To develop a Schedule/Time Management Plan that clearly define the format and establish the criteria for controlling the project schedule by outlining the development of the project schedule processes used to compare actual work progress to the planned activity schedule.

To develop a Cost Management Plan to clearly specify the format and establish the criteria for planning, structuring, budgeting, and controlling project costs to determine a high level of accuracy of cost estimates. To develop a Quality Management Plan to clearly establish and properly distribute information on how quality assurance performed for the project by providing benchmarks as a Quality Policy.

To develop a Human Resource Management Plan to clearly identify and document the organization plan by demarcating project roles, responsibilities, required skills, reporting relationship. To develop a Communications Management Plan that clearly outlines the processes of identifying stakeholder communication requirements and information format and the methods or techniques for conveying the information.

To develop a Risk Management Plan that clearly define the strategies to increase the probability and impact of positive events and decrease the probability and impact of negative events in a project by utilizing the processes set out by Project Management Book of Knowledge. To develop a Procurement Management Plan to clearly determine activities in relation to purchasing or acquiring services from outside the project entity whether buyer or vendor

The methodology used for this research was the Project Management Methodology and was descriptive in nature. An interview performed and the personal narrative analyzed in the development of this methodological solution; by analyzing and observing the existing environment with official and unofficial records. Shortcomings identified, and strategies developed in a Project Management Plan optimized the Conversion of the Operation System Project developed in the company General & Maritime Agencies by integrating the Project Management Methodology.

The Project Management Plan results concluded that the project management methodology founded by the Project Management Body of Knowledge be adapted as the standard for good practices within the project. The analysis conducted on information-acquired though project management planning processes, tools and techniques fashioned each component of the subsidiary plans used in the development of a thorough Project Management Plan for the Computerization of the Manual Operating System of GMA.

Abiding by the research results my recommendation is that the new methodology found in the Project Management Approach be adapted for the Computerization of the Manual Operating System project for General & Maritime Agencies, to lay the foundation for quality. The Project Management Planning process and its documentation are considered imperative when developing a Project Management Plan. This framework guided the comprehensive development of each subsidiary plan, which would become the standard for future projects. The company's investment in project management tools' software and annual subscription to Project Management Body plethora of knowledge derive continual benefits and unexposed opportunities.

1. INTRODUCTION

1.1. Background

For over 16 years, General and Maritime Agencies has provided its patrons with exceptional quality it the maritime sector. The company registered in Saint Vincent and the Grenadines in 1996. It consists of seven (7) shareholders and two (2) directors. At the heart of this company is its shipping agency. Over the years General and Maritime has expanded its operations to include customs brokerage, multi-vessel agent's services, wholesale and recently, property rentals.

The company facilitates the import/export needs of its clients. The fifteen-permanent staff and approximately twelve temporary staff facilitate the shipping process. With multiple accounts related to varying ships, manual operations reduce the efficiency and add burdens to an already hectic workload.

This project is the first that the company has acquired to date and by following the Project Management Plan created in this research project, the operations will improve significantly. Therefore, a project management approach uses an integrated method that incorporates the knowledge areas and specified management plans to present a holistic perspective for the manual operation system conversion for General and Maritime Agencies.

1.2. Statement of the problem

General and Maritime Agency is a fast-growing shipping agency that currently represents over fifteen ships. This type of growth equates progress and success, yet it poses a challenge because huge amounts of transactions make up daily tasks and makes it difficult to keep finances in order as well as functioning in a clutter free environment.

The manual operation system used in the agency highlights the need to sustain good records to ensure that they meet reporting obligations to all stakeholders. The hope is that the conversion from manual documents such as ledgers to accounting computerization will eliminate deficiencies directly related to procedural and financial records. The Project Management Plan seeks to address the transition through project completion.

1.3. Purpose

The purpose of this research is to examine the current operation system of General and Maritime Agencies and adapt a project management plan approach as a scalable solution, using automation to provide easier access to reliably accurate data in a secure cost-effective manner. This would assist in the improvement of operational and financially efficacy.

The Project Management Plan is beneficial to this research through the use of the Project Management Methodology. Its processes and tools and techniques clearly defined the project in detail by providing validation for the decisions made while establishing the project's integration of scope, time, cost, quality, human resources, communication, risk, procurement, and stakeholder management plans to circumvent the deficiencies brought about through its manual operations.

Planning is proactive. It looks at every decision made, and problem solve before the project begins to curb risks. Therefore, developing a Project Management Plan using the methodology developed from the Project Management Book of Knowledge (PMBOK) should be a requirement, because its knowledge areas capture a holistic view of the project and used as a best practice for future projects. In other words, information captured through this methodology used as a yardstick checked against future projects. Effective planning leads to project success, not just meeting deadlines within budget but also delivering what the client wanted.

The Project Management Plan integrates the knowledge area management plans into a cohesive whole through progressive elaboration. The final document is assembled after all the component plans have been created. This approach identifies and foresees many dangers and problems; and plans to control

activities so that the project is completed as successfully as possible in spite of all the risks.

1.4. General objective

To create a Project Management Plan through integrated application of Project Management knowledge for the Computerization of Manual Operation System Project for General and Maritime Agencies.

1.5. Specific objectives

1. To develop a Scope Management Plan to clearly define how the project scope will be defined, developed and controlled through the scope statement, work breakdown structure and associated work breakdown structure dictionary.

2. To develop a Change Management Plan to clearly design and estimate the scale of the change effort made to a system to ensure that it is implemented effectively into the business.

3. To develop a Schedule/Time Management Plan to clearly define the format and establish the criteria for controlling the project schedule by outlining the development of the project schedule processes used to compare actual work progress to the planned activity schedule.

4. To develop a Cost Management Plan to clearly specify the format and establish the criteria for planning, structuring, budgeting, and controlling project costs to determine a high level of accuracy of cost estimates.

5. To develop a Quality Management Plan to clearly establish and properly distribute information on how quality assurance will be performed for the project by providing benchmarks as a Quality Policy.

6. To develop a Human Resource Management Plan to clearly identify and document the organization plan by demarcating project roles, responsibilities, required skills, reporting relationship.

7. To develop a Communications Management Plan to clearly outline the processes of identifying stakeholder communication requirements and information format and the methods or techniques for conveying the information.

8. To develop a Risk Management Plan to clearly define the strategies to increase the probability and impact of positive events and decrease the probability and impact of negative events in a project by utilizing the processes set out by Project Management Book of Knowledge.

9. To develop a Procurement Management Plan to clearly determine activities in relation to purchasing or acquiring services from outside the project entity whether buyer or vendor.

10. To develop a Stakeholders Management Plan to document, identify, engage, and collaborate with all the project stakeholders to ensure effective stakeholder partnership.

2. THEORETICAL FRAMEWORK

2.1 Company Background

General and Maritime Agencies (GMA) is a shipping company that is committed to serving the import/ export needs of the Vincentian population. GMA has expanded its enterprise to two locations: the shipping agency and the wholesale department that is not computerized. Therefore, to transition to a fully automated enterprise, the shipping agency is required to convert from its manual operations using a comprehensive management plan.

Vision Statement-

General and Maritime Agencies seeks to be recognized as a highly effective, efficient, responsible and progressive maritime administration that provides optimum service to its clients; we understand that people and systems in the organization must be constantly evolving to meet customers need and management's concept of service excellence that lifts the competitiveness of the sector.

Mission Statement-

Our mission is to maximize customer value through world-class service practices and continually striving for excellence in the services, we provide and:
to develop and implement a holistic and integrated maritime development program that has a positive impact on national economy; To provide high quality services through changing conditions that combine performance with value pricing, while establishing a successful relationship with our customers

Organization Structure

1. The General Manager- The manager of the daily operations.

2. The Technical Team: The basic function of this team is to look after the day-to-day operations of their vessels. Technicans are generally people with considerable sea going experience, like Captains. The stevedores' team works in close cooperation with the ship as it docks.

3. The Operations team: They look after things like port clearances, appointment of local agents etc. They contribute to the task of chasing the charterers for the charter fee and manage supply vendors for the wholesale department.

4. Clerical Department: This department corresponds with the ships and the people on land to rotate crews and assemble the vessels' documents appropriately. They work in close cooperation with the technical team, and customers especially in the wholesale department. *Figure 1* below depicts the Organisational Structure of GMA.
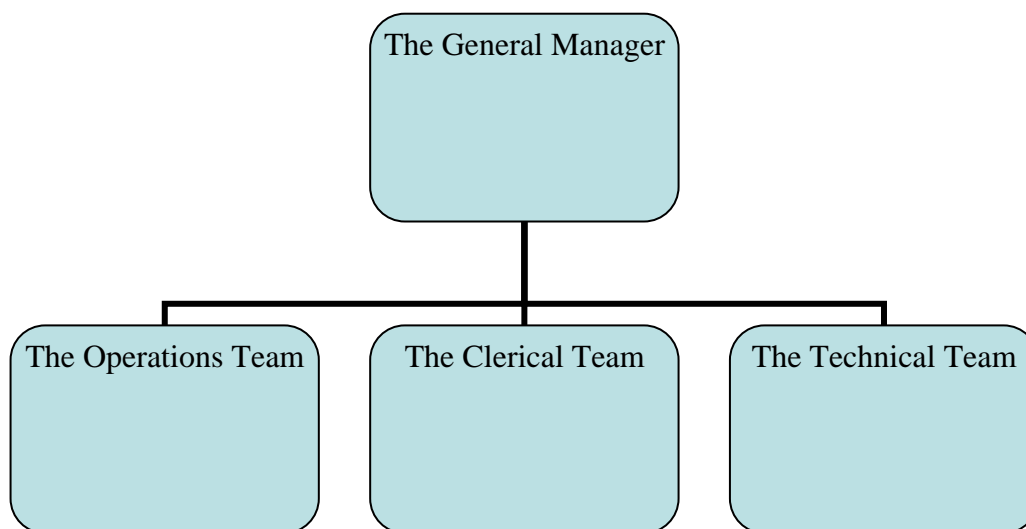
Figure 1 Organisational Structure (Source by Author)

2.2 Project Management Concepts

Project

The PMBOK ® Guide to Project Management defines a project as "a temporary endeavor undertaken to create a unique product, service, or result. The temporary nature of projects indicates that a project has a definite beginning." (Project Management Institute, 2013, pg. 3)

Project Management

"Project Management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements." (Project Management Institute, 2013, pg. 3)

The Association for Project Management (United Kingdom) 2017 defines project management as "the application of processes, methods, knowledge, skills and experience to achieve the project objectives. A final deliverable and a finite time span distinguish project management from the ongoing process of management."

Project Life Cycle

As seen in *figure 2* below, the Project Life Cycle represents the path a project takes from the Starting of the Project which produces the Project Charter, then organizing and preparing the Project to produce the Project Management Plan through its execution and the closing of the Project. This research project focuses on the starting of the project and its organisation and preparation.
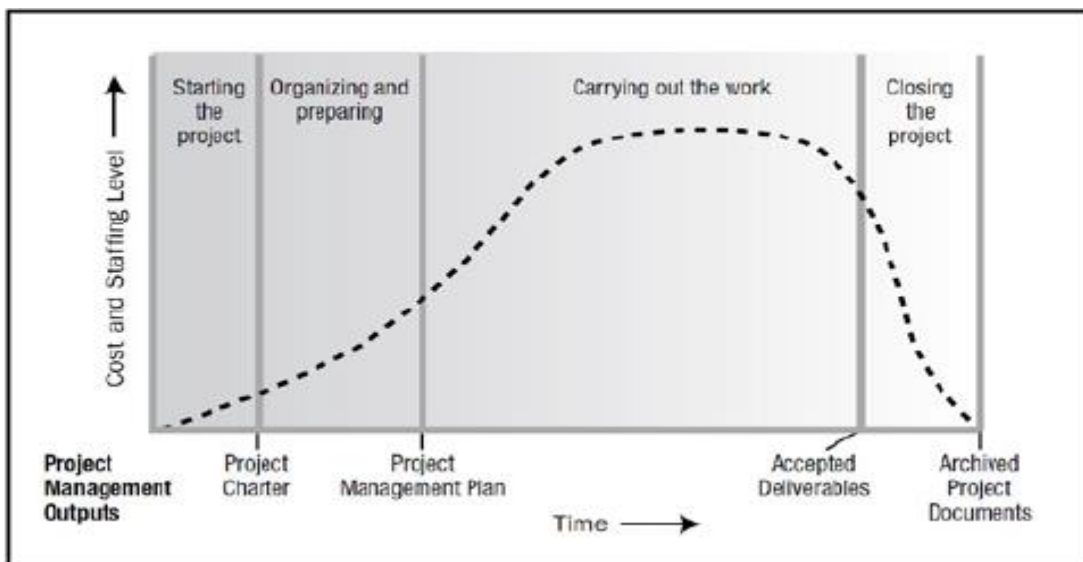
Figure 2 Generic Project Life Cycle Structure (Source: PMBOK Fifth Edition 2013)

Project Management Processes

The PMBOK ® Guide describes the nature of project management in terms of the integration between the processes, their interactions and the purposes they serve. (Project Management Institute, 2013, pg. 49.)

There are five process groups or phases identified by the PMBOK ® Guide that represent the processes that a project undergo, they are initiating, Planning, Executing, Monitoring and Controlling, and Closing Phases.
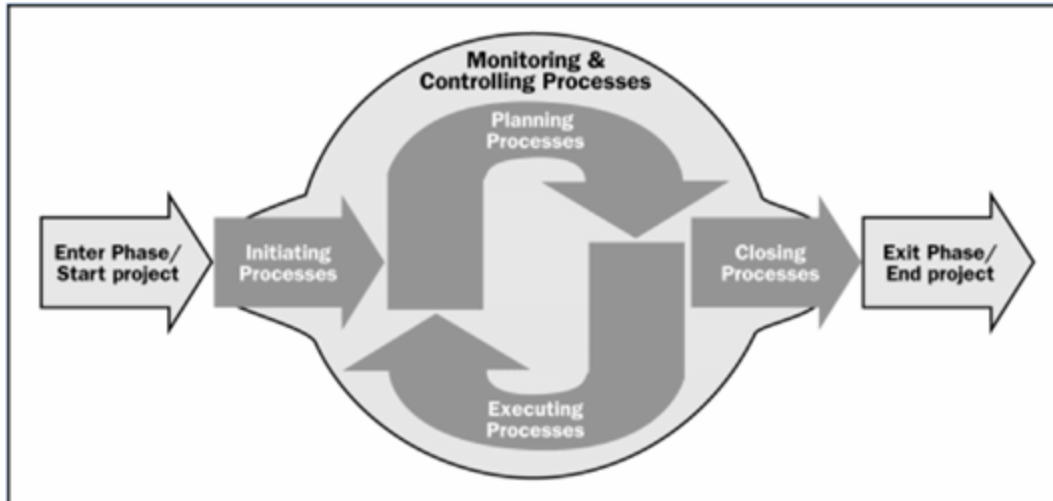
Figure 3-1. Project Management Process Groups

A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Fourth Edition. ©2008 Project Management Institute, Inc. All Rights Reserved.

Figure 3 Project Management Process Groups (Source: PMBOK Fifth Edition 2013)

Figure 3 begins at the start of the project, the initiation process, which produces the Project Charter. The Project Charter documents the project requirements and scope. The Project Charter formally authorizes the existence of a project, issued by the project sponsor and it provides the project manager the authority to utilize resources in project activities.

The planning process produces several project management plans. It defines, organizes, prepares, integrates and coordinates planning activities. The Project Management Plan progressively elaborated by updates throughout the project and used to communicate to stakeholders an understanding of the project. The Project Management Plan (PMP) is used to manage project execution.

Project Execution carries out the work defined in the project management plan to satisfy the project requirements. The Monitoring and Controlling phase regulates and reviews the performance of the project. In this phase any area, which changes the plan, are identified and addressed. The deliverables are then accepted.

Finally, all activities finalized in the Closing Phase over all process groups to formally close the project and archive all project documents. See *figure 4* below as it represents the dataflow into each process groups.
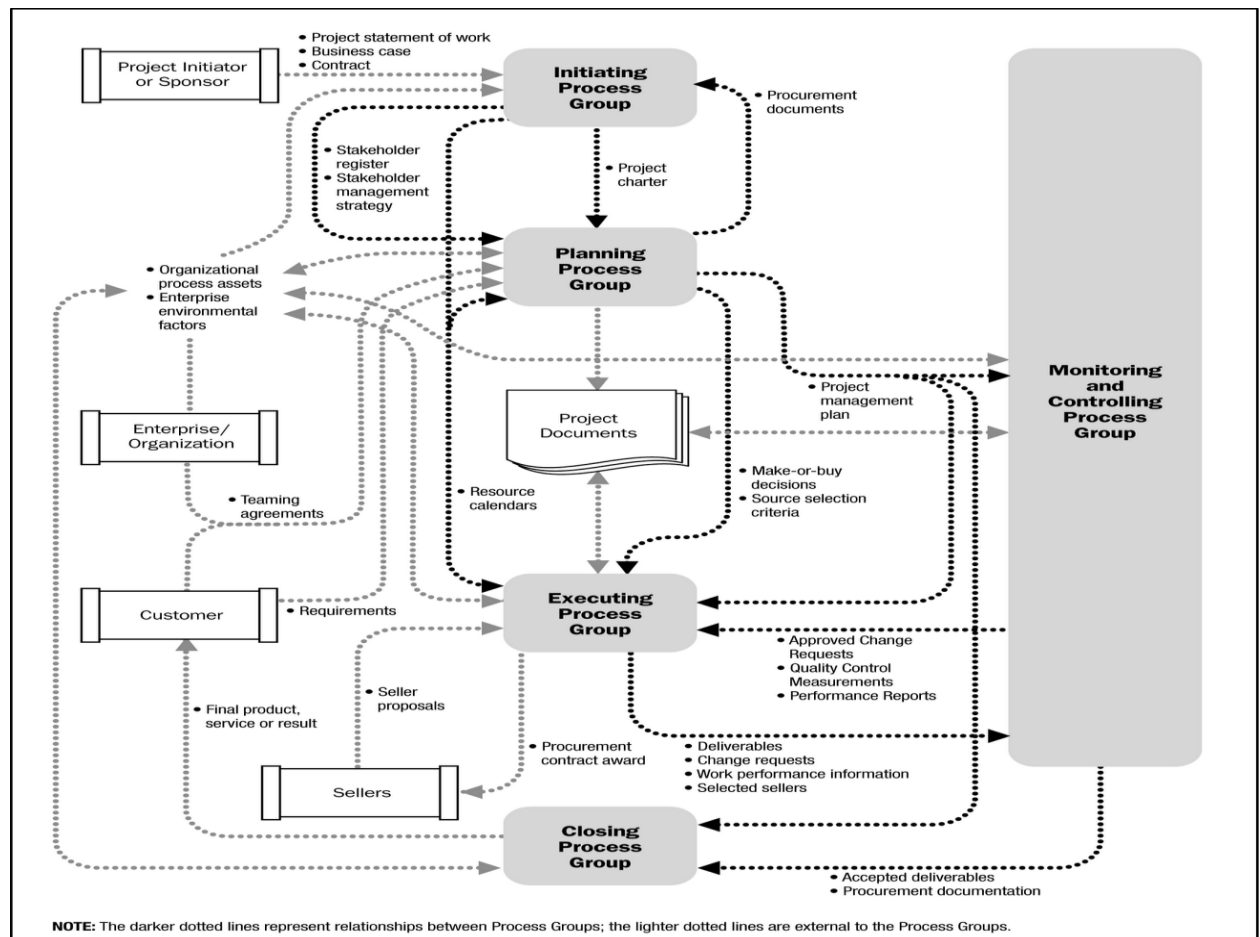
Figure 4Project Management Groups Data Flow (Source: PMBOK Fifth Edition 2013)

The Project Management Plan employs the first two processes in project management. They are the initiating and planning processes groups. The compilation of supporting documents including several management plans such as project scope management plan, project time management plan, project quality management plan, project human resource management plan, project communication management plan, project risk management plan, and project stakeholder management plan develops the Project integrated plan known as the Project Management Plan. See *figure 5* below.
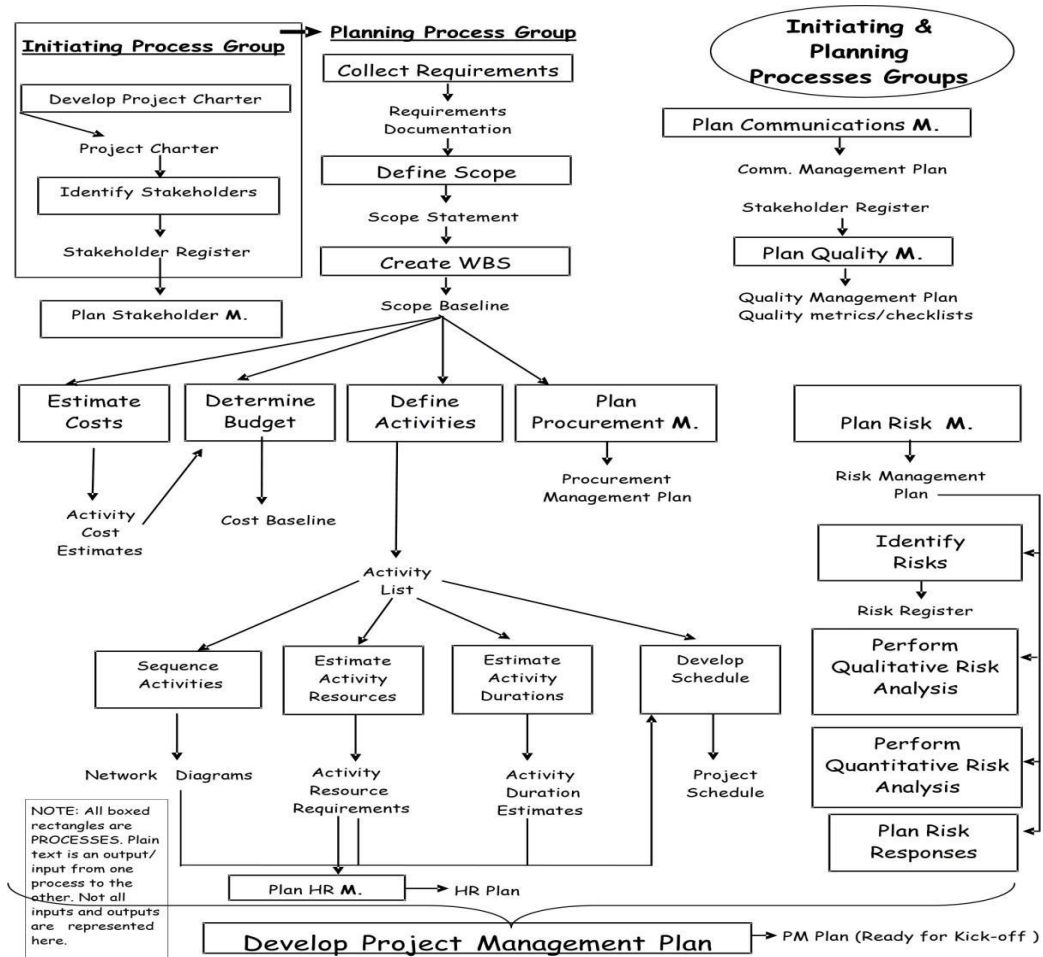
Figure 5 Initiation & Planning Process Groups Dataflow (Source: PMI 2013)

Project Management Knowledge Areas

According to PMBOK ® Guide, a knowledge area represents a complete set of concepts, terms, and activities that make up a project management field. There are Ten Knowledge Areas used in most projects.

They are Project Integration Management, Project Scope Management, Project Change Management, Project Time Management, Project Cost Management, Project Quality Management, Project Human Resource Management, Project Communication Management, Project Risk Management, Project Procurement Management and Project Stakeholder Management.

Each of the previously mentioned knowledge area integrated into the five process groups. The knowledge areas provide a description of process inputs and outputs along with tools and techniques described and explained within each process noting the project planning process group. The planning process group as shown in *figure 6* indicates the expected output produces in the research 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 Monitor and Control Project Work 4.5 Perform Integrated Change Control	4.6 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 Time Management		6.1 Plan Schedule Management 6.2 Define Activities 6.3 Sequence Activities 6.4 Estimate Activity Resources 6.5 Estimate Activity Durations 6.6 Develop Schedule		6.7 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 Perform Quality Assurance	8.3 Control Quality	
9. Project Human Resource Management		9.1 Plan Human Resource Management	9.2 Acquire Project Team 9.3 Develop Project Team 9.4 Manage Project Team		
10. Project Communications Management		10.1 Plan Communications Management	10.2 Manage Communications	10.3 Control 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 Control Risks	
12. Project Procurement Management		12.1 Plan Procurement Management	12.2 Conduct Procurements	12.3 Control Procurements	12.4 Close Procurements
13. Project Stakeholder Management	13.1 Identify Stakeholders	13.2 Plan Stakeholder Management	13.3 Manage Stakeholder Engagement	13.4 Control Stakeholder Engagement	

Figure 6 Project Management Process Groups and Knowledge Areas (Source: PMBPK 2013)

Project Integration Management

Project integration ensures that all processes in a project run smoothly and produce a series of deliverables. These deliverables include the project charter, project plan, and preliminary project scope statement.

Integration management involves several processes starting with the project charter , which authorizes the project to get underway. It states the project objectives and names the project manager.

The preliminary scope statement defines what part of the project and list all the work involved with a specific project.The next process is the development of the project plan. This includes the project charter, the definition of the project, project objectives, the project budget, the project schedule, project resources, the approach, management plans, and the initial risk assessment.

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 Monitor and Control Project Work 4.5 Perform Integrated Change Control	4.6 Close Project or Phase

Figure 7 Project Integration Management Process (Source: PMI 2013)

Project Scope Management

Project Scope Management is a set of processes that defines the project's scope. This technique allows project managers to allocate just the right amount of work necessary to complete a project successfully. It is primarily concerned with controlling what is and what is not part of the project's scope.

Three processes form part of Project Scope Management - planning, controlling, and closing. The project management plan focused on Planning. This process defines the work that needs completion. It entails collecting requirements, defining project scope and creating a Work Breakdown Structure (WBS).
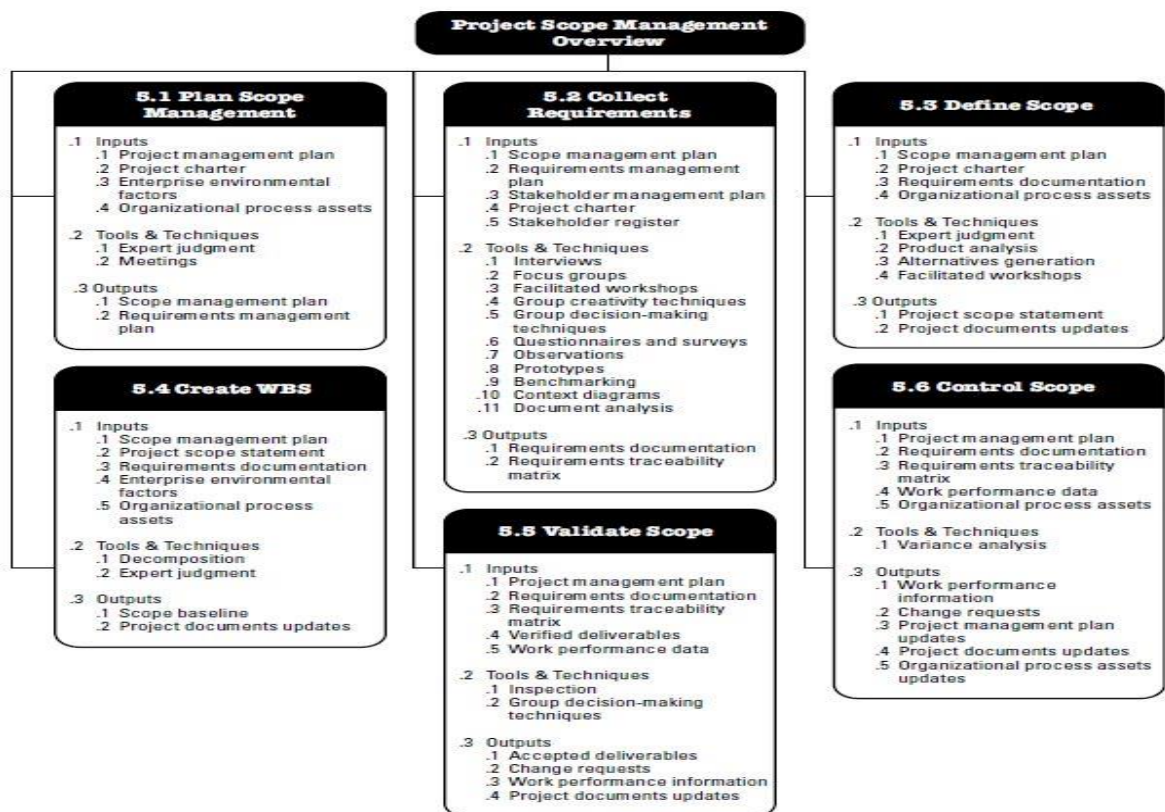
Figure 8 Project Scope Management Overview (Source: PMBOK 2013)

Project Time Management

Time management is a core knowledge area and is closely knit to scope and cost areas. The main purpose of this knowledge area is to build processes and outputs into the project that assist the project manager and team to complete the project in a timely fashion.

During the plan schedule management, shown in *figure 9*, activities illustrate how project tasks sequenced and allocated. Project managers reflect on what contributed to time estimates being accurate. This reflective process helps them to build better time plans for future projects.

Figure 9 Project Time/Schedule Management Planning Process (Source: PMP Study Guide 2017)

Project Cost Management

Project cost management involves planning, estimating, getting the financing, managing and controlling the costs and of course budgeting too.

7.1 Plan Cost Management—The process that establishes the policies, procedures, and documentation for planning, managing, expending, and controlling project costs.

7.2 Estimate Costs—The process of developing an approximation of the monetary resources needed to complete project activities.

7.3 Determine Budget—The process of aggregating the estimated costs of individual activities or work packages to establish an authorized cost baseline.

7.4 Control Costs—The process of monitoring the status of the project to update the project costs and managing changes to the cost baseline.

Figure 10 Project Cost Management Overview (Source: PMI 2013)

Cost Management defines the necessary budget and processes to execute the project within the approved budget. Plan cost management process is the first process of cost management knowledge área as referred in **figure 10**. Plan cost management is the process of establishing policies, procedures, and documentation for planning project costs.

The Cost management plan process aims to plan, manage and control expenses in a project. It will guide how to estimate costs for each activity, each deliverable and how to construct the overall project budget respectively. After the project budget is determined, cost baseline is taken.

Cost baseline shows the initial cost estimate of the project. If there are no approved change requests, the determined project budget will be met. Therefore, the Cost management plan guide spending throughout the project and assures the determined project budget is met.

Project Quality Management

According to Webster, Quality is a characteristic or attribute of something: a property. However, Plan Quality Management is the process of identifying quality requirements and standards for the project and its deliverables and documenting how the projects will demonstrate that quality standards are used.

Quality Management involves the skill of forming and managing a team of people to achieve a qualitative goal within an effective cost and period, which will result in the production of a quality product or service. It entails selecting the specification parameters along with the systems and procedures needed to assure quality in all phases. See *figure 11* below.

Figure 11Project Quality Management Plan Inputs, Tools & Techniques, Outputs (Source: PMBOK 2013)

There is a cost associated with quality, *refer to figure 12*, in preventing nonconformance to requirements, appraising the product or service for conformance to requirements.

Figure 12 Project Quality Management Cost of Quality (Source: PMBOK 2013)

Project Human Resource Management

Project Human Resource Management includes the process that organizes, manage, and lead the project team.

Plan Human Resource Management is the process of identifying and documenting project roles, responsibilities, required skill, reporting relationships, and creating a staffing management plan. This established inputs, tools, techniques, and outputs of the process.

Human Resource Management Plan includes: Roles and responsibilities and defines role, authority, responsibility and competency. It also includes project organization charts and staffing management plan. ***See figure 13 below.***
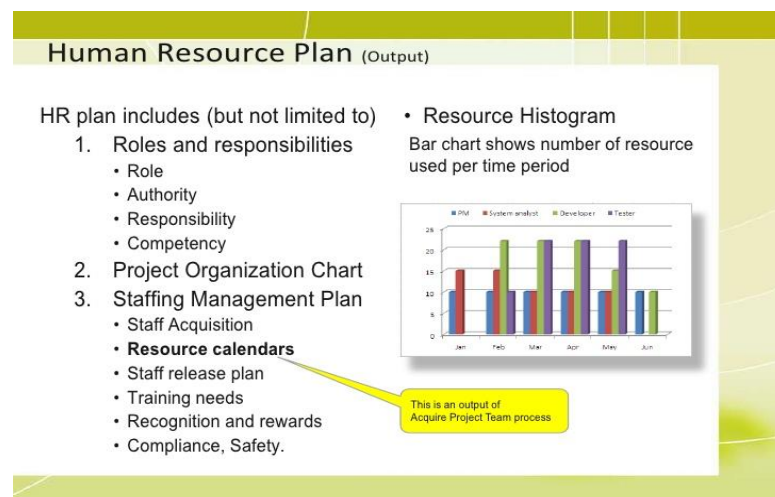
Figure 13Project Human Resource Management Plan Overview (Source: PMP Training Slideshare, 2017)

Project Communication Management

Verzuh (2008) posits 'the communications plan describes the strategy for keeping the project's stakeholders sufficiently informaed to avoid any disappointment regarding cost, schedule or quality.'

Project Communications Management three processes in Project Communication Management are plan communications management, manage communication and control communications.

The communication activities involve processes that may have potential dimensions. Some are internal, formal, vertical, official and written forms of communication.

Plan communication management develops an appropriate approach and plan for project communications based on stakeholder's information needs and requirements, and available organizational assets seen if *figure 14*. This process identifies and documents the approach to communicate most effectively and efficiently with stakeholders. The plan identified the kinds of information distributed to which stakeholders (Schwalbe, 2010).
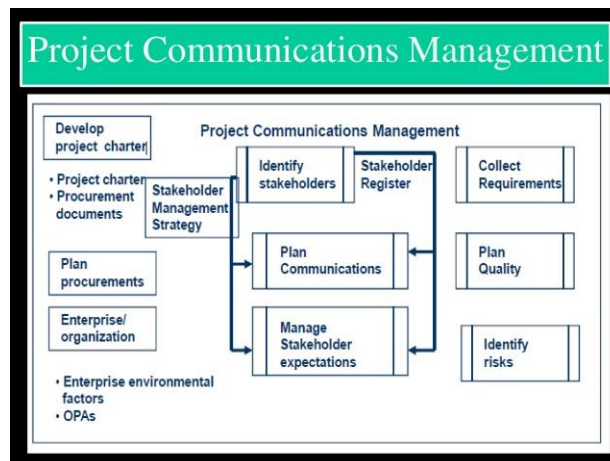
Figure 14 Project Communication Management Dataflow (Source: PMP Training Slideshare, 2017)

Project Risk Management

According to the Project Management Institute's PMBOK, Risk management is one of the ten knowledge areas in which a project manager must be competent.

Project Risk (PMI) defined as "an uncertain event or condition that, if it occurs, has a positive or negative effect on a project's objectives."
Good Project Risk Management depends on supporting organizational factors, having clear roles and responsibilities, and technical analysis.

General project risk management processes used for the new projects:

- A Planning risk management

- Risk identification with sometimes monetary identification

- Performing qualitative risk analysis

- Communicating the risk to stakeholders and the funders of the project

- Refining or iterating the risk based on research and new information

- Monitoring and controlling risks

Finally, projects integrated into enterprise wide risk management seize opportunities related to the achievement of their objectives.

Figure 15 Project Risk Management Plan Input, Tools & Techniques, Output (Source: PMBOK, 2013)

Project Procurement Management

Project Procurement Management is the process related to purchasing or acquiring the products, services or results needed from outside the project team. According to PMI: Plan procurements is a part of the Planning process group this involves documenting procurement decisions on how procurements will be managed and deciding the criteria for seller selection on the project. See *figure 16* below.

Conduct procurements: This is a part of the Executing process group and involves initiating the bidder selection process, obtaining seller responses, choosing a seller and ultimately awarding the contract.

Administer procurements: This involves maintaining the procurement relationship with the chosen vendor as well as monitoring contract performance and managing the changes and corrections needed to ensure compliance. The process group is monitoring and controlling.

Close procurements: This is the process of completing each project procurement transaction and the contract services at the end of the project. This is .a part of the Closing process group.

PLAN PROCUREMENT MANAGEMENT

Inputs
1. Project management plan
2. Requirements documentation
3. Risk register
4. Activity resource requirements
5. Project schedule
6. Activity cost estimates
7. Stakeholder register
8. Enterprise Environmental Factors
9. Organizational process assets

Tools and Techniques
1. Make-or-buy analysis
2. Expert Judgment
3. Market research
4. Meetings

Outputs
1. Procurement management plan
2. Procurement statement of work
3. Procurement documents
4. Source selection criteria
5. Make-or-buy decisions
6. Change requests
7. Project documents updates

Figure 16 Project Procurement Management Plan Input, Tools & Techniques, Output (Source: PMBOK 2013)

Project Stakeholder Management

Project Stakeholder Management describes the processes required to identify people, groups or organizations that could affect the project, to analyze stakeholder expectations and their impact on the project, and to develop appropriate management strategies for effectively engaging stakeholders in project decisions and execution. (PMBOK Guide® Fifth Edition)

The processes of Project Stakeholder Management Plan are:

- Identify stakeholders,

- Plan stakeholder management, (See *figure 17* below)

Stakeholder management plan is a formal document outlining how stakeholders will be engaged in the project. A stakeholder is a person or group who has a stake in the project. By thinking through when and how stakeholders will be involved, a project team can appropriately gather input and feedback from stakeholders as well as keep those stakeholders informed to maximize stakeholders' positive impact on the project.
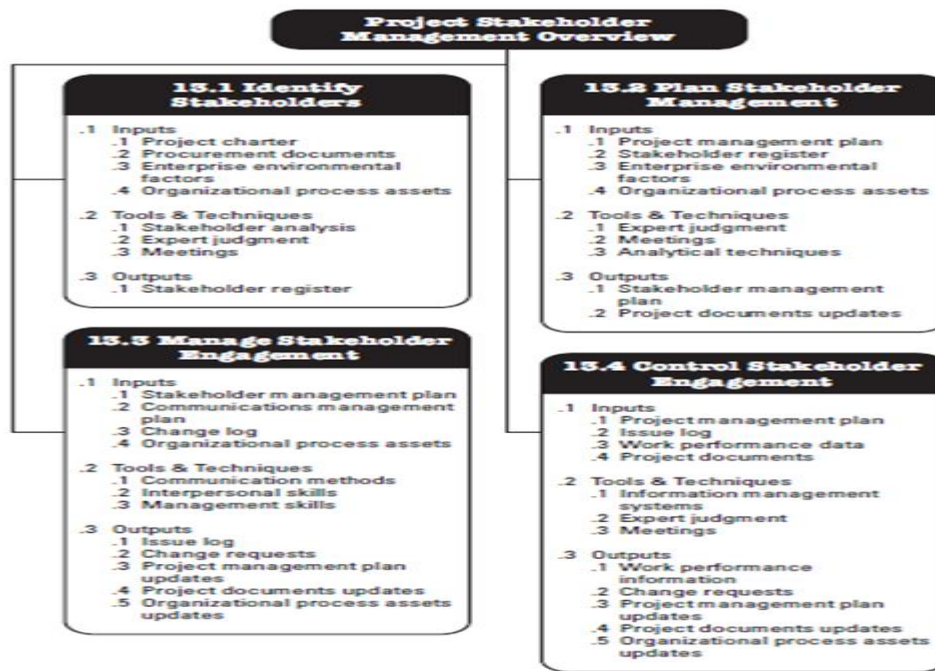
Figure 17 Project Stakeholder Management Overview (Source: PMBOK 2013)

2.3 Products Offered

There are two parts needed in shipping documents in a trade process. One is the export process at the loading port, and the other is the import process at the destination port or airport. If the client is buying FOB, this means your supplier will handle the documents and make the export process correctly. It is the responsibility of the shipper.

1. A Packing List will specify the volume, different types of products and quantity per type of product. This document often serves as the means for the recipient to verify that the items identified on the bill of lading are delivered to the recipient. Documents needed for importing or exporting transactions usually depend on the type of goods you have.
2. Other paper works such as Certificate of Origin,
3. Product Licenses,
4. Product Certification, etc. are optional based on different kinds of products. The customs clearance for commercial cargo also involves and/or electronic submissions, the calculation (and usually the payment) of taxes, duties and goods and service tax.
5. A Commercial Invoice will specify the order value, types of products and consignee. This document serves for customs to determine the true value of goods when assessing customs duties.
6. Bill of Lading - Ocean B/L for the ocean carrier can be fax or send the originals.
7. Delivery Notes.

2.4 Other applicable theory related to the project topic

"Six Sigma is a disciplined, data-driven product and process-improvement methodology that was originally developed by Motorola. The idea was to improve processes by eliminating defects." (Successful Projects, 2017)

'Six Sigma methodology' starts in operations, and then affects business design and other supporting areas. This methodology quickly introduces a great deal of improvement through reengineering each department. Every department assesses its value contribution to the Agency's performance. Automation usually becomes a key process to reduce cost and communicating information becomes improved to ensure control, governance, and shareholder value.

According to Quality Digest 2017, 'Six Sigma applied to any company its intent is to create value through improvement and innovation in every department.' Priority lies in recognizing opportunity for improvement and breaking down processes into manageable pieces.

Introspection into the internal workings of each department is the first step in the Six Sigma methodology thereafter, the establishing of objectives and roles. Subsequently identifying opportunities for improvement comes by seeking feedback from all stakeholders including customers. Key performance indicators identified and individual departments establish Six Sigma goals with the implementation of the DMAIC-(S) process, which stands for Define, Measure, Analyze, Improve, Control, and sometimes Synergize. See *figure 18* below.
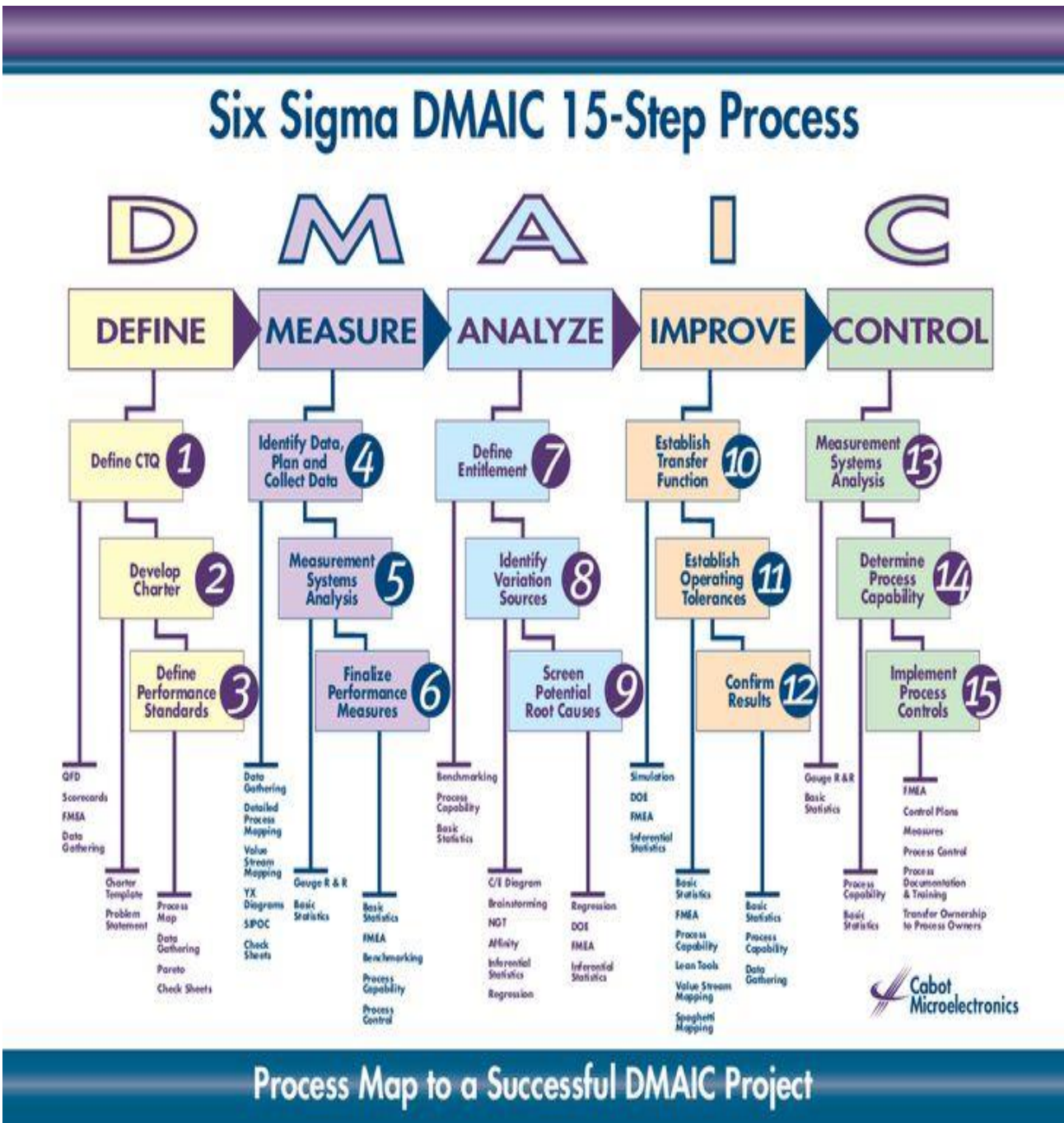
Figure 18 Six Sigma DMAIC 15 step process (Source: Pinterest highlighting Cabot Microelectronics 2017)

Both Six Sigma and Project Management methodology influenced organizational strategy and their implementation affects the bottom line. The project managers align the project goals with organisational strategy to avoid any potential conflicts that can occur. Therefore, timely implementation of improvement actions can achieve growth and profitability objectives. Both methodology identify, document and address any conflicts that may occur.

3. METHODOLOGICAL FRAMEWORK

3.1 Information Sources

According to Wikipedia (2017), an information source "is a person, thing, or place from which information comes, arises, or is obtained" The source can then enlighten the individual about something or provide useful knowledge. The concept 'Information Sources', for the Final Graduation Project, are divided into distinct categories namely primary and secondary sources.

Primary Sources

Primary sources are the original materials or evidence analyzed, evaluated, contextualized, or synthesized in the research process (University of Victoria, 2017). Varying disciplines have a unique view on primary sources for example; in the Social Sciences, they are usually offer first-hand accounts or direct evidence responsive to the research question, whereas in the Engineering fields they are the first articles published formally describing a research project or study. The primary information sources used are organizational documents whether historical or legal, library sources, personal interviews with staff of General and Maritime, interviews with other stakeholders, surveys, and personal account research.

Secondary Sources

According to the Ithaca College Library (2017), "Secondary sources describe, discuss, interpret, comment upon, analyze, evaluate, summarize, and process primary sources." Scholarly journals discuss or evaluate someone else's original research. For this Final Graduation Project, the PMBOK® Guide and the PMI database used. Ithaca College also highlighted that even articles in newspapers or popular magazines, and books or movie reviews are secondary sources.

Chart 1 Information Sources (Source: Compiled by Author)

Objectives	Information sources	
	Primary	**Secondary**
1. To develop a Scope Management Plan to define clearly how the project scope was defined, developed and controlled through the scope statement, work breakdown structure and associated work breakdown structure dictionary.	Personal Interview with lead expert, meeting minutes	PMBOK® Guide and PMI database
2. To develop a Change Management Plan to clearly design and estimate the scale of the change effort made to a system to ensure that it is implemented effectively into the business.	Personal Narratives from Interview with lead expert	PMBOK® Guide and PMI database. Books, websites, journal articles
3. To develop a Schedule/Time Management Plan to clearly define the format and establish the criteria for controlling the project	Personal Interview with lead expert, Official and Unofficial Records of Organizations	PMBOK® Guide and PMI database

schedule by outlining the development of the project schedule processes used to compare actual work progress to the planned activity schedule.		
4. To develop a Cost Management Plan to clearly specify the format and establish the criteria for planning, structuring, budgeting, and controlling project costs to determine a high level of accuracy of cost estimates.	Interview, Observation of Official and Unofficial Records	PMBOK® Guide and PMI database Books, websites, journal articles.
5. To develop a Quality Management Plan to clearly establish and properly distribute information on how quality assurance will be performed for the project by providing benchmarks as a Quality Policy.	Personal Interview with lead expert,	PMBOK® Guide and PMI database
6. To develop a Human Resource Management Plan to clearly identify and	Interview, Observation,	PMBOK® Guide and PMI database Books, websites, journal articles

document the organization plan by demarcating project roles, responsibilities, required skills, reporting relationship.		
7. To develop a Communications Management Plan to outline clearly the processes of identifying stakeholder communication requirements and information format and the methods or techniques for conveying the information.	Personal Interview with lead expert,	PMBOK® Guide and PMI database Books, websites, journal articles
8. To develop a Risk Management Plan to define clearly the strategies to increase the probability and impact of positive events and decrease the probability and impact of negative events in a project by utilizing the processes set out by Project	Personal Interview with lead expert,	PMBOK® Guide and PMI database

Management Book of Knowledge.		
9. To develop a Procurement Management Plan to clearly determine activities in relation to purchasing or acquiring services from outside the project entity whether buyer or vendor.	Observation of Purchasing institutions documenets, personal interviews with lead project manager (expert)	PMBOK® Guide and PMI database Books, websites, journal articles
10. To develop a Stakeholders management plan to document, identify, engage, and collaborate with all the project stakeholders to ensure effective stakeholder partnership.	Personal Interview stakeholders and with lead expert, meeting minutes	PMBOK® Guide and PMI database

3.2 Research Methods

According to the Business Dictionary (2017), Research method is "the process used to collect information and data for the purpose of making business decisions." The methodology could include both present and historical information not limited to publication research, interviews, surveys, observation and other research techniques.

Research Methodology (2016) affirms that "according to the purpose of the study, types of research methods can be divided into two categories: applied research and fundamental research." Applied research referred to as an action research, and the fundamental research sometimes called basic or pure research used for this Final Graduation Project.

Fundamental Research aims to solve a problem by adding to the field of application of a discipline; and often researches individual cases to say how things can be changed and concluded with a compiled report in a common language.

Interviews

According to the Robert Wood Johnson Foundation (2008) "Interviewing involves asking questions and getting answers from participants in a study." There is a variety of interviews including individual, face-to-face interviews and face-to-face group interviewing. Interviews are structured; semi-structure or unstructured therefore any asking and answering of questions mediated by the telephone or other electronic devices.

Observation – Merriam Webster (2017) maintains that observation is an act of recognizing and noting a fact or occurrence often involving measurement with instruments. Observation provides contextual information needed to frame an evaluation; make sense of data collected and learn about sensitive issues that participants may be unwilling to discuss.

Chart 2 Research Methods (Source: Compiled by Author)

Objectives	Research Methods	
	Interviews	Observations
1. To develop a Scope Management Plan to clearly define how the project scope will be defined, developed and controlled through the scope statement, work breakdown structure and associated work breakdown structure dictionary.	A Scope management plan will be developed from interviews with experts and stakeholders	A Scope Management Plan will be developed from data observed from official and unofficial organizational documents
2. To develop a Change Management Plan to clearly design and estimate the scale of the change effort made to a system to ensure that it is implemented effectively into the business.	A Change Management Plan will be developed from data observed from interviews with experts and stakeholders	A Change Management Plan will be developed from data observed from official and unofficial organizational documents.
. 3. To develop a Schedule/Time Management Plan to clearly define the format and establish the criteria	A Schedule/Time Management Plan will be developed from	A Schedule/Time Management Plan will be developed from

for controlling the project schedule by outlining the development of the project schedule processes used to compare actual work progress to the planned activity schedule.	data observed from interviews with experts and stakeholders	data observed from official and unofficial organizational documents
4. To develop a Cost Management Plan to clearly specify the format and establish the criteria for planning, structuring, budgeting, and controlling project costs to determine a high level of accuracy of cost estimates.	A Cost Management Plan will be developed from data observed from interviews with experts and stakeholders	A Cost Management Plan will be developed from data observed from official and unofficial organizational documents
5. To develop a Quality Management Plan to clearly establish and properly distribute information on how quality assurance will be performed for the project by providing benchmarks as a Quality Policy.	A Quality Management Plan will be developed from data observed from interviews with experts and stakeholders	A Quality Management Plan will be developed from data observed from official and unofficial organizational documents
6. To develop a Human Resource Management Plan to clearly identify and	A Human Resource Management Plan will be	A Human Resource Management Plan will be

document the organization plan by demarcating project roles, responsibilities, required skills, reporting relationship.	developed from data observed from interviews with experts and stakeholders	developed from data observed from official and unofficial organizational documents
7. To develop a Communications Management Plan to outline clearly the processes of identifying stakeholder communication requirements and information format and the methods or techniques for conveying the information.	A Communications Management Plan will be developed from data observed from interviews with experts and stakeholders	A Communications Management Plan will be developed from data observed from official and unofficial organizational documents
8. To develop a Risk Management Plan to define clearly the strategies to increase the probability and impact of positive events and decrease the probability and impact of negative events in a project by utilizing the processes set out by Project Management Book of Knowledge.	A Risk Management Plan will be developed from data observed from interviews with experts and stakeholders	A Risk Management Plan will be developed from data observed from official and unofficial organizational documents

9. To develop a Procurement Management Plan to clearly determine activities in relation to purchasing or acquiring services from outside the project entity whether buyer or vendor.	A Procurement Management Plan will be developed from data observed from interviews with experts and stakeholders	A Procurement Management Plan will be developed from data observed from official and unoffcial organizational documents
10. To develop a Stakeholders management plan to document, identify, engage, and collaborate with all the project stakeholders to ensure effective stakeholder partnership.	A Stakeholder Management Plan will be developed from data observed from interviews with experts and stakeholders	A Stakeholders Management Plan will be developed from data observed from official and unoffcial organizational documents

3.3 Tools

PMBOK® Guide defines a tool is defined as "something tangible, such as a template or software program, used in performing an activity to produce a product or result" (Project Management Institute, 2013, p. 565).

The following contains the function of the tools used in this Final Graduation Project:

The Project Management Plan template - guides the development and organization of the project management plan and all its subcomponents.

Scope Management Plan Tools
  I.   Project charter template - guides the development of the project charter.
  II.   Work Breakdown Structure (WBS) - breaks down the project into smaller manageable components.
  III. Work Breakdown Structure Dictionary

Change Management Plan Tools
  I.   Change request log
  II.   Change request form
  III. Business as Usual (BAU) Change Readiness Assessment/Interview

Schedule Management Plan Tools

    I.   Schedule Management Plan template - guides the development of the project management plan and all its subcomponents.

   II.   Scheduling tool output– developed in Project Professional Visio 2016 to create the Project Schedule using Schedule Network Diagram.

  III.   Activity List template – captures the list of activities for the project.

Cost Management Plan Tools

    I.   Cost Management Plan template – develops the cost management plan that will guide the project team during the project's lifecycle.

   II.   Project Budget Summary– created in Microsoft Excel 2016, summarizes the project budget throughout the project's lifecycle.

  III.   Cost Baseline– outlines the development of the cost baseline.

Quality Management Plan Tools

    I.   Quality Management Plan template – outlines the development of the Quality Management Plan.

   II.   Quality Management tools –include check sheet used as a control chart to be used throughout the project.

Human Resource Management Plan Tools

    I.   Responsibility Assignment Matrix – identifies team members and assigns them responsibilities.

Communication Management Plan Tools

    I.   Communication Matrix – created in Microsoft Excel 2016, plans communications between project team and stakeholder management.

Risk Management Plan Tools

    I.   Risk Breakdown Structure -

   II.   Risk Register – developed in Microsoft Excel 2016, identifies and classifies risks, and plans risk responses.

  III.   Probability and Impact Matrix with scale

Procurement Management Plan Tools

    I.   Procurement Management Plan template – aids in identification of contracts and purchasing decisions.

Stakeholder Management Plan Tools

    I.   Stakeholder Register – aids in identification of project stakeholders.

   II.   Stakeholder Engagement Assessment Matrix – details how each project stakeholder should be engaged based on their level of involvement in the project.

Objectives	Tools
1. To develop a Scope Management Plan to clearly define how the project scope will be defined, developed and controlled through the scope statement, work breakdown structure and associated work breakdown structure dictionary.	Project charter template. Work Breakdown Structure (WBS) Work Breakdown Structure Dictionary
2. To develop a Change Management Plan to clearly design and estimate the scale of the change effort made to a system to ensure that it is implemented effectively into the business.	Change Logs Change Forms
. 3. To develop a Schedule/Time Management Plan to clearly define the format and establish the criteria for controlling the project schedule by outlining the development of the project schedule processes used to compare actual work progress to the planned activity schedule.	Activity List template Schedule Network Diagram
4. To develop a Cost Management Plan to clearly specify the format and establish the criteria for planning, structuring, budgeting, and controlling project costs to determine a high level	Cost Management Plan template – Project Budgeting Summary Cost Baseline

of accuracy of cost estimates.	
5. To develop a Quality Management Plan to clearly establish and properly distribute information on how quality assurance will be performed for the project by providing benchmarks as a Quality Policy.	Quality Management Plan template Quality Management tools: Quality Check sheet
6. To develop a Human Resource Management Plan to clearly identify and document the organization plan by demarcating project roles, responsibilities, required skills, reporting relationship.	Human Resource Management Plan template Responsibility Assignment Matrix
7. To develop a Communications Management Plan to clearly outline the processes of identifying stakeholder communication requirements and information format and the methods or techniques for conveying the information.	Communications Management Plan template Communication Matrix
8. To develop a Risk Management Plan to clearly define the strategies to increase the probability and impact of positive events and decrease the probability and impact of negative events in a project by utilizing the processes set out by Project Management Book of Knowledge.	Risk Breakdown Structure Risk Register template Probabilty and Impact Matrix with scale
9. To develop a Procurement Management Plan to clearly determine	Procurement Management Plan template

activities in relation to purchasing or acquiring services from outside the project entity whether buyer or vendor.	
10. To develop a Stakeholders management plan to document, identify, engage, and collaborate with all the project stakeholders to ensure effective stakeholder partnership.	Stakeholder Management Plan template Stakeholder Register template Stakeholder Engagement Assessment Matrix

3.4 Assumptions and constraints

Learning Tree International (2012) postulates that assumptions are factors believed to be true, although these factors are not confirmed to be true. Assumptions add risk to a project since it is possible that they will turn out to be false. Assumptions can impact any part of your project life cycle. Constraints are factors that limit the team's time, schedule, resources, cost, and scope.

Chart 4 Assumptions and Constraints (Source compiled by Author)

Objectives	Assumptions	Constraints
1. To develop a Scope Management Plan to clearly define how the project scope will be defined, developed and controlled through the scope statement, work breakdown structure and associated work breakdown structure dictionary.	The Clients disclose all of the information required to develop the scope.	The scope may change as the project continues.
2. To develop a Change Management Plan to clearly design and estimate the scale of the change effort made to a system to ensure that it is implemented effectively into the business.	The Clients disclose all of the information required to develop the scale of change effort.	Change effort may be insufficient.
-3. To develop a Schedule/Time Management Plan to clearly define the format and establish the criteria for controlling the project schedule by outlining	There is specific time allocated for the	Some parts may not be completed in time.

Objectives	Assumptions	Constraints
the development of the project schedule processes used to compare actual work progress to the planned activity schedule.	development of the Project Management Plan.	
4. To develop a Cost Management Plan to clearly specify the format and establish the criteria for planning, structuring, budgeting, and controlling project costs to determine a high level of accuracy of cost estimates.	The budget depicts the financial resources needed by the project management plan.	Insufficient financial resources allocated to the project.
5. To develop a Quality Management Plan to clearly establish and properly distribute information on how quality assurance will be performed for the project by providing benchmarks as a Quality Policy.	The quality management plan identifies the quality requirements of the project.	Inadequate benchmarks in Quality Policy
6. To develop a Human Resource Management Plan to clearly identify and document the organization plan by demarcating project roles, responsibilities, required skills, reporting relationship.	The organization has sufficient human resources the project.	The human resources may have inadequate skills to complete their role.
7. To develop a Communications Management Plan to clearly outline the processes of identifying stakeholder communication requirements and information format and the methods or techniques for	The organization provides the required communication	Some communication devices may not be available

Objectives	Assumptions	Constraints
conveying the information.	devices for all stakeholders.	
8. To develop a Risk Management Plan to clearly define the strategies to increase the probability and impact of positive events and decrease the probability and impact of negative events in a project by utilizing the processes set out by Project Management Book of Knowledge.	There is enough information to identify all, project risks.	Some risk may not be identified.
9. To develop a Procurement Management Plan to clearly determine activities in relation to purchasing or acquiring services from outside the project entity whether buyer or vendor.	The company personnel have identified a list of suppliers.	Some suppliers may not have required services available.
10. To develop a Stakeholders management plan to document, identify, engage, and collaborate with all the project stakeholders to ensure effective stakeholder partnership.	The stakeholders' management plan will include a complete list of all stakeholders involved.	Stakeholders' interest may change during the poject.

3.5 Deliverables

According to the Project Management Institute (2013), a deliverable was defined as "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 (Source compiled by Author)

Objectives`	Deliverables
1. To develop a Scope Management Plan to clearly define how the project scope will be defined, developed and controlled through the scope statement, work breakdown structure and associated work breakdown structure dictionary.	Scope Management Plan documents how the project scope defined, validated and controlled.
2. To develop a Change Management Plan to clearly design and estimate the scale of the change effort made to a system to ensure that it is implemented effectively into the business.	Change Management Plan defines the process of managing change on the project.
3. To develop a Schedule/Time Management Plan to clearly define the format and establish the criteria for controlling the project schedule by outlining the development of the	Time Management Plan identifies a scheduling plan and scheduling tool and sets a format for developing and controlling the project.

project schedule processes used to compare actual work progress to the planned activity schedule.	
4. To develop a Cost Management Plan to clearly specify the format and establish the criteria for planning, structuring, budgeting, and controlling project costs to determine a high level of accuracy of cost estimates.	Cost Management Plan describes how project cost will be planned, structured and controlled.
5. To develop a Quality Management Plan to clearly establish and properly distribute information on how quality assurance will be performed for the project by providing benchmarks as a Quality Policy.	Quality Management Plan describes how the organization quality will be implemented and set quality requirements.
6. To develop a Human Resource Management Plan to clearly identify and document the organization plan by demarcating project roles, responsibilities, required skills, reporting relationship.	Human Resource Management describes roles and responsibilities, reporting relationship, and addresses the staffing management structure within the project.
7. To develop a Communications Management Plan to outline the processes of identifying stakeholder communication requirements and information format and the methods or techniques for conveying the information.	Communication Management Plan describes the approach for project communication based on stakeholder's information needs and requirements and available organization devices.
8. To develop a Risk Management Plan to define the strategies to	Risk Management Plan defines how to conduct risk management activities.

increase the probability and impact of positive events and decrease the probability and impact of negative events in a project by utilizing the processes set out by Project Management Book of Knowledge.	
9. To develop a Procurement Management Plan to clearly determine activities in relation to purchasing or acquiring services from outside the project entity whether buyer or vendor.	Procurement Management Plan documents project procurement decisions, and specifying the approach and may identify potential vendors.
10. To develop a Stakeholders management plan to document, identify, engage, and collaborate with all the project stakeholders to ensure effective stakeholder partnership.	Stakeholder Management Plan develop appropriate management strategies to effectively engage stakeholders throughout the project life cycle.

4. RESULTS

4.1 Scope Management Plan

Scope Management is a collection of processes that ensures the project includes all work required for completion. The planning processes begin with the Plan Scope Management used Expert Judgment and Meetings with the Sponsor and Accountant. The Project Scope Management follows a five steps process, namely;

1) Collect Requirements – We defined and documented the requirements needed to meet all project objectives. The foundation of this process is the project charter and stakeholder register. From these, requirements are identified and details associated with meeting each requirement are listed. Interviews are conducted (*appendix 13*) and a follow-on discussion to clarify, and document the requirements in sufficient detail to measure them once the project planning begins. This documentation also serves as an input to the next step in the process defines scope.

2) Define Scope – This is critical to project success, as it requires the development of a detailed project or product description to include deliverables, assumptions, and constraints and establishes the framework within which project work was performed. This company knowledge was obtained from the Accountant through an interview. He is responsible for system management and other stakeholders.

3) Create WBS – The Work Breakdown Structure (WBS) uses expert judgment techniques to break project deliverables down into progressively smaller and more manageable called work packages. This hierarchical structure allows for more simplicity in scheduling, costing, monitoring, and controlling the project.

4) Verify Scope – This process was done through inspection by the project team who receives a formalized acceptance of all deliverables from the sponsor and/or customer.

5) Control Scope – This process of monitoring/controlling the project/product scope as well as managing any changes in the scope baseline. Changes may be necessary to the project scope but it is imperative they are controlled and integrated in order to prevent scope creep.

The Scope Management Plan described the GMA project scope through its definition, development, and verification. It acted as a guide for managing and controlling the scope and specified who is responsible for managing the project's scope.

This five steps process helped to develop the Scope Management Plan. The Scope Management Plan documents the scope management approach; roles and responsibilities related to the project scope; scope definition; verification and control measures; scope change control; and the project's work breakdown structure and WBS dictionary. Any project communication that pertains to the project's scope should adhere to the Scope Management Plan.

Scope Management Approach

Scope Management Approach is important to managing the project's scope and must be clearly defined and documented in detail. This section provides a summary of the Scope Management Plan in which it addresses for this project the following: roles and responsibilities related to the project scope; scope definition; verification and control measures; scope change control; and the project's work breakdown structure.

The Work Breakdown Structure (WBS) and WBS Dictionary defined the scope see appendix 4 and 5. The Project Manager will be responsible for scope management. The Sponsor Mr. Veira, Stakeholders and the Project Manager will approve and determine documentation for measuring project scope including work performance measurements and quality checklists.

Any member of the project team may initiate proposed scope changes. Any change requests submitted to the Project Manager was evaluated. If scope change request is accepted, the Project Manager will submit the scope change request to the Change Control Board and Project Sponsor for acceptance.

Once the Change Control Board and Project Sponsor approved scope changes, the Project Manager will update all project documents and communicate the scope change to all stakeholders.

Roles and Responsibilities

For the project scope, all roles and responsibilities for scope management were clearly defined. This section defines the role of the Project Manager, Project Team, Stakeholders and other key persons who are involved in managing the scope of the project. It identifies the person(s) responsible for scope management and their responsibility throughout the entire duration of the project.

The table below defines the roles and responsibilities for the scope management of this project.

Chart 6 Scope Management Roles and Responsibiities (Source compiled by Author)

Name	Role	Responsibilities
Oswald Veira	Sponsor	❖ Approve or deny scope change requests as appropriate ❖ Deals directly with the Project Manager ❖ Evaluate need for scope change requests ❖ Accept project deliverables ❖ Actively reviews the project and authorizes decisions, scope changes and end-phase reviews. ❖ Has overall accountability for the project ❖ Provides financial resources for the project ❖ Ensures that the project delivers the agreed business benefits and remains

		❖ a viable business proposition
		❖ Involved from project initiation to closure
		❖ Approves key project deliverables
Tonie Cato	Project Manager	❖ Measure and verify project scope
		❖ Facilitate scope change requests
		❖ Facilitate impact assessments of scope change requests
		❖ Organize and facilitate scheduled change control meetings
		❖ Communicate outcomes of scope change requests
		❖ Update project documents upon approval of all scope changes
		❖ Assign resources and leads the Project Team.
		❖ Develops the project management plan with the Project Team
		❖ Reviews and prioritizes project work plans as deemed necessary for timely completion of tasks
		❖ Participates in the approval of the project plan and deliverables

		❖ Assess organizational culture and the applicability of the project approach. ❖ Communicates project specific information to team and other stakeholders. ❖ Detects, monitors and responds to project risks influencing scope ❖ Receives information from and reports to Project Sponsor ❖ Secures acceptance and approval of deliverables, firstly from Project Sponsor then from other key stakeholders
Ralph Baynes	Accountant/ Team lead	❖ Measure and verify project scope ❖ Validate scope change requests ❖ Participate in impact assessments of scope change requests ❖ Communicate outcomes of scope change requests to team ❖ Facilitate team level change review process ❖ Provides policy and functional direction, leadership, assists in

		supervision to the project ❖ May assume responsibility for further project related matters based on project organization e.g. fund sourcing and resource contributions ❖ Involved in project oversight and general control ❖ Independently champions the project and its deliverables at the senior level within company's departments
Donna Defreitas	Team Member	❖ Participate in defining any change resolutions ❖ Evaluate the need for scope changes and communicate them to the team lead or project manager as necessary

Scope Definition and Development

The scope definition section developed a detailed description of the project and its deliverables. This can only be completed after the requirements are identified and defined. This section detailed the description of the project and its deliverables. Documents such as the Project Charter (Appendix 1), was used to tie the scope definition process back to project's scope answers for the project.

The initial scope for this project was defined through a comprehensive collection process and a thorough analysis was performed on the company's current operations based on employee and sponsor feedback. From this information, the accountant developed the preliminary product scope statement. The tools and techniques used to define the project scope were expert judgment and operations analysis.

Product Scope Description –

The product of this project is the Project Management Plan for the Computerization of General and Maritime Agencies. This plan used several subsidiary management plans and supporting documents to provide a framework that can create an effective and efficient operation system that relies on the computerization of information. This computerized system will be a mix of several programs that place data in spreadsheets or databases. Improvements in computer hardware and software made it easier to move from a mix of paper and spreadsheet-based tools to a computerized system, or to upgrade an existing system.

Scope Control Measures

Scope control is the process of monitoring the status of the scope of the project. Project scope can easily evolve to include unnecessary or irrelevant items and is a harbinger of increased expenses, delays, and volatility. Project scope controls safeguard the project's mission when given proper priority. The Project Manager and the project team worked together to control of the scope of the project. The project team managed the WBS Dictionary by using it for each WBS element. The project team generated the defined deliverables for each WBS element. Project Manager oversaw the project team and project progression to confirm scope control process.

Scope Change Control

The scope of an effective change control provides reasonable assurance safeguarding reliability, and compliance with regulations to provide management with the appropriate balance between business practice risk and the level of control required to ensure business objectives are met.

Scope changes are coordinated against the scope baseline. The Project Manager and her Project Team will control the Scope of Works for the computerization of the operations system project. The Project Team performed work reflected in the WBS and the WBS Dictionary and they function as reference for each WBS component. However, changes can occur.

The process for recommending changes to the scope of the project must be carried out for changes in the project scope. Any member of the project team can request changes to the project scope. Change requests forms (Appendix 3) are submitted to the Project Manager in the form of a project change request document. The Project Manager review suggested change to the scope of the project. The Project Manager either deny the change request if it does not apply to the project intent or convene a change control meeting between Change

Control Board or the project team and Sponsor to review the change request further to perform an impact assessment of the change. If the scope change is approved the Project Sponsor formally accept the change by signing the project change control document (Appendix 4).

Upon acceptance of the scope change by the Change Control Board and Project Sponsor, the Project Manager will amend all project documents and communicate the scope change to all project team members' stakeholders. The completed form is archived as an Organization Process Asset. All revised work activity assignments are then developed and the team member responsible for the execution of the project change complete.

SCOPE VERIFICATION

Scope verification discusses how the deliverables verified against the original scope and how the deliverables from the project are formally accepted. Scope verification is concerned with two simple questions:

1. Is every item in the scope statement included in the WBS?
2. Is every item in the WBS included in the scope statement?

As this project progresses, the Project Manager verified interim project deliverables against the original scope as defined in the scope statement, WBS and WBS Dictionary. Once the Project Manager verified that the scope meets the requirements, the Project Manager and Sponsor will meet for formal acceptance of the deliverable in a series of periodic, individually scheduled meetings. The deliverables for the project was formally accepted, and signed off by the Sponsor throughout the lifecycle of the project. This will ensure that project work remains within the scope of the project on a consistent basis throughout the life of the project. The Project Sponsor and Project Manager sign off on the Project Deliverable Acceptance Document.

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WORK BREAKDOWN STRUCTURE

The Work Breakdown Structure (WBS) and Work Breakdown Structure Dictionary are key elements to effective scope management. This section should discuss how the GMA project scope was subdivided into smaller deliverables in the WBS and WBS Dictionary (Appendix 4 and 5) and how these smaller components are managed during the life of the project.

To manage effectively the work required to complete this project, it was subdivided into individual work packages. This will allow the Project Manager to manage the project's scope as the project team works on the tasks necessary for project completion. The project is broken down into phases then subdivided further down to work packages.

To define clearly the work necessary for project completion the WBS Dictionary was used. The WBS Dictionary includes an entry for each WBS element. The WBS Dictionary includes a detailed description of work for each element and the deliverables, budget and resource needs for that element. The project team will use the WBS Dictionary as a statement of work for each WBS element.

SCOPE ACCEPTANCE CRITERIA

The following requirements were met for the project to be accepted as complete:
- ✓ All work depicted in the Scope baseline is completed;

- ✓ An effective plan, with clear instructions are established for funds used it the purchase and acquisition of equipment to aid the business' computerization;

- ✓ A clear, scheduled execution plan for system conversion related activities;

- ✓ A plan for stakeholders' engagement at the various stages of the project life cycle to ensure heightened appreciation for, and appropriate

participation in system conversion related activities; and Sponsor Acceptance.

4.2 Change Management Plan

Project Change Management is an important part of this project. It is incumbent that system changes are vetted; and managed to ensure that it is within the projects scope. Changes are communicated to all stakeholders once approved. The process for submitting, reviewing, and approving changes are communicated to all stakeholders to properly set expectations.

The Change Management Plan was created for the all departments to set expectations on how changes will be managed. This includes; what defines a change, the purpose and role of the change control board, and the overall change management process. All stakeholders will be expected to submit or request changes in accordance with this Change Management Plan and all requests and submissions will follow the process detailed herein.

Throughout GMA project's lifecycle there may be very few or many submitted changes. The process taken to manage these changes must be consistent and repeatable in order to provide a quality change management plan. Only changes within the scope of this project are approved and implemented. The Change Management process has been designed to prevent unnecessary change from occurring and focus its resources only on beneficial changes within the project scope.

Types of Change

There are several types of changes which may be requested and considered for the conversion to a computerized system Project. All proposed changes including project documentation will be notified to all stakeholders. Types of changes include:

- ✓ Scope Changes: changes which are necessary and impact the project's scope which may be the result of unforeseen requirements which were not initially planned for. These changes may also impact schedule and budget. These changes may require revision to WBS, project scope statement, and other project documentation.
- ✓ Scheduling Changes can impact the approved project schedule. These changes may require fast tracking, crashing, or rebase lining the schedule depending on the significance of the impact.
- ✓ Budget Changes will impact the approved project budget. These changes may require requesting additional funding and changes to the cost baseline.

The project manager must ensure that any approved changes are communicated to the project stakeholders. Additionally, as changes are approved, the project manager must ensure that the changes are captured in the project documentation where necessary. These document updates must then be communicated to the project team and stakeholders as well.

Change Control Board

The Change Control Board (CCB) is the approval authority for all proposed change requests pertaining to the Project. The purpose of the CCB is to review all change requests, determine their impacts on the project scope, cost, schedule and risk and to approve or deny each change request. As change requests are submitted to the Project Manager by the project team/stakeholders, the Project Manager will log the requests in the change log and the CCB will convene every other Friday to review all change requests.

For a change request to be approved, all CCB members must vote in favor. In the event more information is needed for a particular change request, the request will be deferred and sent back to the requestor for more information or clarification. If a change is deemed critical, an ad hoc CCB meeting can be called in order to review the change prior to the next scheduled CCB meeting.

The following chart provides a list of the CCB members for the Project:

Chart 7 Change Control Board Members (Source compiled by Author)

Name	Position	Role
O. Veira	Project Sponsor	CCB Chair
T. Cato	Project Manager	CCB Member
R. Baynes	Project Team Lead (Accountant)	CCB Co-Chair
D. De Freitas	Project Member	CCB Member

Roles and Responsibilities

The Change Management Plan describes the roles and responsibilities of project team members in regard to the change management process and everyone involved must understand their role and responsibilities as they work through the change management process. These roles and responsibilities must be communicated as part of the change management plan to all project stakeholders.

The following are the roles and responsibilities for all change management efforts related to the Project:

Chart 8 Change Control Board Roles and Responsibilities (Source compiled by Author)

Roles	CCB Responsibilities
Project Sponsor	❖ Approve all changes to budget/funding allocations ❖ Approve all changes to schedule baseline ❖ Approve any changes in project scope ❖ Chair the CCB
Project Manager	❖ Receive and log all change requests from project stakeholders ❖ Conduct preliminary risk, cost, schedule, scope analysis of change prior to CCB ❖ Make documentation revisions/edits as necessary for all approved changes ❖ Participate on CCB
Team Lead (Accountant)	❖ Seek clarification from change requestors on any open issues or concerns ❖ Provide feedback as necessary on impact of proposed changes

	❖ Review all changes to budget/funding allocations requests on standard organizational change request forms ❖ Provide necessary details on change request forms ❖ Be prepared to address questions regarding any submitted change requests
Project Member	❖ Submit all change requests on standard organizational change request forms ❖ Provide applicable information and detail on change request forms ❖ Provide feedback as necessary on impact of proposed changes

Change Control Process

The Change Management Plan describes the change control process. Typically, this change control process should be repeatable and the organizational standard. This tool was used to ensure observance to the organization's change management. Adhering to all the steps, the project team incorporates approved changes, communicate the changes, and update project documentation.

The Change Control Process for the conversion Project will follow the organizational standard change process. The project manager has overall responsibility for executing the change management process for each change request.

A. Change requestor (Stakeholders) submits a completed change request form (*Appendix 6*) to the project manager.

B. The project manager will keep a log (*Appendix 7*) of all submitted change requests throughout the project's lifecycle.

C. The project manager will conduct a preliminary analysis on the impact of the change to risk, cost, schedule, and scope and seek clarification from team members and the change requestor.

D. The project manager will submit the change request, and the preliminary analysis to the CCB for review.

E. The CCB discuss the proposed change and decide whether or not it will be approved based on all submitted information.

F. Implement change if approved by the CCB, and the project manager will update and re-baseline project documentation as necessary.

4.3 Schedule Management Plan

Schedule Management Approach

This Schedule Management Plan account for how the project activities were planned and organized. Planning was done during the months of June 2017 to July 2017 in compliance with the Graduation Seminar preapproved timelines. In planning this project schedule, activities were established, managed, monitored and controlled within the preapproved project timeline. It provided a guided plan for final project milestone accomplishment and for the coordination of other scheduled activities.

The Results Chapter phase consist of the student developed the ten (10) Subsidiary Project Plans and the Conclusion and Recommendations sections. A schedule was developed to account for how and when work packages were to be realized. Throughout the aforementioned phases, the tutor provided feedback to the student who made the necessary project amendment.

All project activities were defined and scheduled during the preapproved timeline. Schedule related matters were identified, recorded, prioritized, approved or rejected then published as necessary for project success realization. The schedule included activity progress reporting templates. The project was then monitored, and changes were controlled once the schedule baseline was established. The key benefit of this process is that it provides guidance and direction on how the project schedule will be managed throughout the project.

The schedule planning processes during the three (3) month project timeline is as follows:

- ❖ Plan Schedule Management
- ❖ Define Activities
- ❖ Sequence Activities
- ❖ Develop Schedule
- ❖ Cost Control section

Define Activities

The schedule management plan provides guidance on the level of detail you will use to record the project activities. To define activities, start with the scope baseline: in particular, the WBS. The *WBS* contains the work packages that you will decompose to determine activities. An activity list (**Appendix 8**) is a comprehensive list with an activity identifier and scope of work description of the schedule activities required to complete each work package (PMI, 2013, p. 152). While defining activities, milestones are created and modified. Organizational process assets (OPAs), such as templates helped.

Sequence Activities

- ❖ Activity definitions will identify the specific work packages which must be performed to complete each deliverable as shown in the GMA milestone list. See **Appendix 9**.
- ❖ Activity sequencing will be used to determine the order of work packages and assign relationships between project activities.
- ❖ Activity duration estimating will be used to calculate the number of work periods required to complete work packages.
- ❖ Resource estimating will be used to assign resources to work packages in order to complete schedule development.

Once an initial schedule has been developed, the project manager assesses it and the project team and resources must agree to the proposed work package assignments, durations, and schedule. Once this is achieved the project sponsor review and approve the schedule and it will then be baseline. A Schedule network diagram was created to distinguish how the Project management methodology was utilized throughout the project and the logical order in which different activities must be completed. It provides a clear sequence of events for the efficient completion of a project.

Chart 9 GMA Schedule Network Diagram (Source compiled by author)
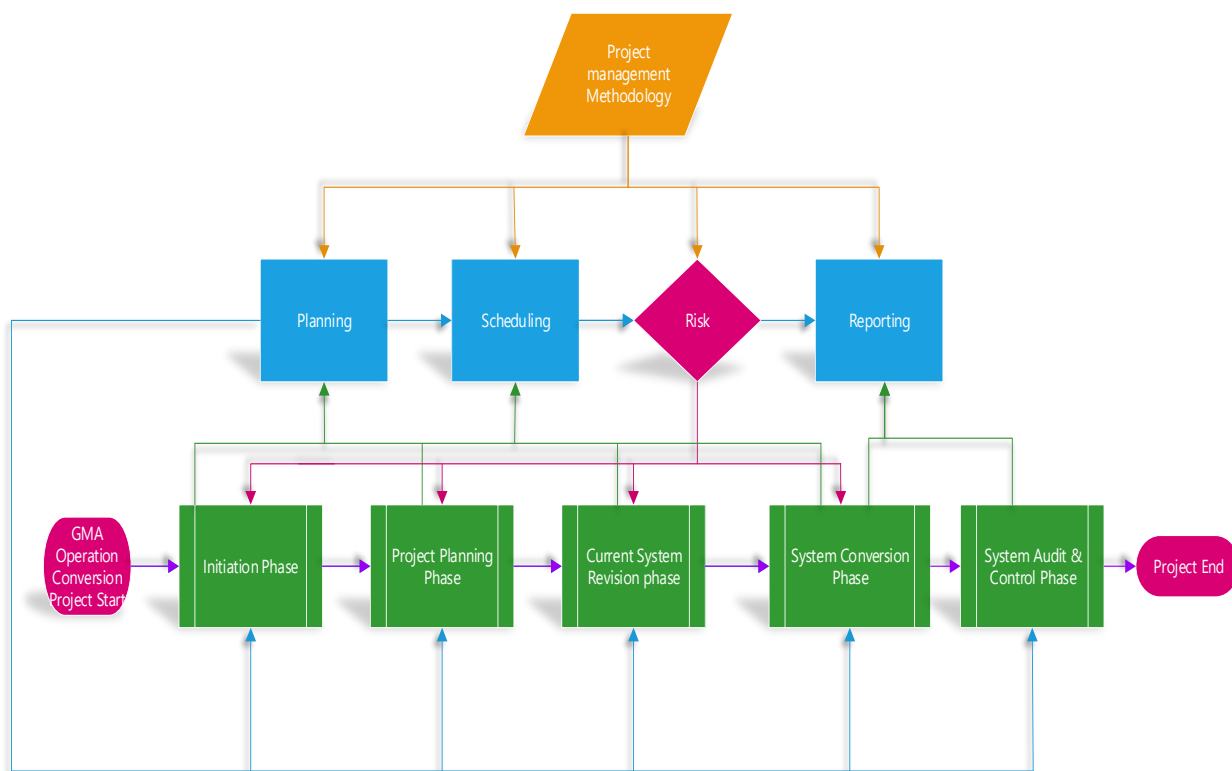
Roles and responsibilities

The roles and responsibilities for schedule development are as follows:

The project manager is responsible for facilitating the breakdown of work packages into activities that provide a basis for sequencing, and estimating duration and resources with the project team and create the project schedule and validate the schedule with the project team, and stakeholders.

The project manager will obtain schedule approval from the stakeholders and baseline the schedule.

Schedule Changes and Thresholds

The project manager and team meet to assess and evaluate the change. The project manager and project team conclude tasks impacted, variance from the potential change, and alternative resolution activities they may utilize it to see how it would affect the scope, schedule, and resources. Submittal of a schedule change request to the project stakeholder(s) for approval is required if the proposed change is estimated to reduce or increase the duration of an individual work package or if the change is estimated to reduce the duration of the overall baseline schedule. When the change request has been reviewed and approved the project manager is responsible for adjusting the schedule and communicating all changes and impacts to the project team and stakeholders. The project manager must also ensure that all change requests are stored for safety.

Baslined Schedule

Changes in the project scope, which were approved by the project stakeholder, will require the project team to evaluate the outcome of the scope changes in the schedule. If the project manager determines that the scope change affect the current project schedule, they may insist that the schedule be baseline. The project stakeholder must review and approve this request before the schedule can be baseline.

4.4 Cost Management Plan

Cost Management plan detailed the processes for managing project financial resources that are to be followed through all stages of the project. The Plan should contain information regarding cost estimation activities, budget determination and procedures to establish a baseline, as well as project cost control measures. The Cost Management Plan should establish the management activities required to ensure that project activities can be completed within the defined budget.

The Project Management Book of Knowledge (PMBOK) defines the three project cost management processes as follows:

- Estimate Costs - Estimation of the monetary resources needed to complete the project
- Determine Budget - Aggregation of costs and activities to determine a cost baseline
- Control Costs - Monitoring project status to update budget and manage changes to the cost baseline

The Cost Management Plan should contain information regarding the activities, procedures, and roles and responsibilities for these processes.

Purpose

The purpose of this Cost Management Plan is to define the methodology by which costs were managed throughout the project lifecycle. The plan ensured the successful completion of the project within the allotted budget, this plan sets the format and standards by which the project costs are measured, reported and controlled. Several cost components are associated with this project. Metrics, cost variance considerations, and reporting activities will be outlined in this plan.

Project Cost Management Approach

The Cost Management Plan approach required that the project resources assist in establishing and managing the total cost of ownership of the project. This includes establishing the estimated budget and measuring actual spending against the planned budget for the following items.

The Cost Management Plan established the activities and criteria for planning, structuring, and controlling project costs. Cost estimating, and cost controls are the most important evaluation and control items for State projects. Actual costs and cost variances must be reported regularly to project sponsors. Any cost change over five percent requires project steering committee approval.

The Project Sponsor jointly created the cost baseline and the Cost Management Plan. Beginning with the preliminary cost estimates identified in the Initiation phase, the Project Manager develops updated cost estimates to perform the work included in the revised schedule.

Cost Estimation

Cost estimation involves developing an approximation of the monetary resources needed to complete project activities. These estimates are a prediction based on the information known at a given point in time and should include the identification and consideration of costing alternatives to initiate and complete the project. Cost trade-offs and risks must be considered, such as develop versus buy, buy versus lease, and the sharing of resources to achieve optimal costs for the project. Costs are estimated for all resources that will be charged to the project. This includes, but is not limited to labor, materials, equipment, hardware, software, services, and facilities. The project is estimated around approximatedly EC$89,000.00 according to the preliminary budget estimates seen in *Appendix 10*.

The Cost Management Plan documents the methods to be used to manage and control the many internal and external cost components. Metrics and variance analysis must be applied to these cost components throughout the project lifecycle for tracking, re-estimating and adjusting the project budget if needed. These cost components include:

Internal
- Project management/project team resources
- Recruiting and hiring for additional staffing
- Hardware and other equipment
- Software and licensing

External
- Vendor contract costs

Budget Determination

Budget determination involves the process of totaling the estimated costs of individual activities or work packages to establish a baseline for the project budget. The project budget consists of the sum of the monetary resources necessary to successfully execute the project, including the use of internal resources, such as existing staff who will work on the project. A budget baseline should be established for the entire project.

Tools to use with the budget determination process include:

- Expert judgment
- Historical relationships

Outputs from the budget determination process include:

- Updates to project documents as necessary
- Project budget baseline

Items	Project Costs(EC$00.00)
Direct Costs	825.00
Indirect Costs	200
Project Management	21600
Equipment Costs	42200
Staffing	16000
Contingency (10%)	8083
Total Cost of Project	**88,908.00**

Figure 19 GMA Project Budget Summary (Source compiled by Author)

Cost Management Roles & Responsibilities

The Project Manager work with the Project Sponsor to define roles and expectations for resources involved in managing the overall project cost. The Project Manager was responsible for managing and reporting on the project costs throughout the duration of the project. During the monthly project status meeting, the Project Manager present and review the project's cost performance for the preceding month. Performance was measured using earned value, as defined below. The Project Sponsor has the authority to make changes to the project to bring it back within budget.

Cost Performance Measurement

Cost control is the process of monitoring the status of project spending, updating the project budget, and managing changes to the budget baseline. Any adjustments to the baseline budget to address any overages in spending should only occur through an integrated Change Control Process. The approach for cost performance measurement is to use **Earned Value Management (EVM)** for measuring and controlling the project costs. EVM is a broad and powerful tool. It integrates project scope, cost, and schedule data to help the project management team assess and measure project performance and progress.

The Project Manager and/or project team will review the following earned value measurements:

- Schedule Variance
- Cost Variance
- Schedule Performance Index
- Cost Performance Index

4.4.1 Cost Variance Response Process

There are two types of control thresholds. The first threshold is met if at any given point in time, any one of the indexes varies from a value of 1 by an amount greater than that agreed to by the Project Sponsor and Project Steering Committee. The second threshold is met if any one of the indexes varies by an amount greater than that agreed to between reporting periods.

The threshold of 10% was set for the yellow condition and 20% for the red condition. This variance threshold converts into actual dollars. If it is too lenient, the project may go over budget and if it is set too tight, the project may churn as a result of having to take corrective action frequently.

Chart 10 Cost Variance Index (Source: PMP Slideshare)

Performance Measure	Yellow Condition	Red Condition
Schedule Performance Index (SPI)	Between 0.9 and 0.8 or Between 1.1 and 1.2	Less Than 0.8 or Greater than 1.2
Cost Performance Index (CPI)	Between 0.9 and 0.8 or Between 1.1 and 1.2	Less Than 0.8 or Greater than 1.2
To Complete Performance Index (TCPI)	Between 0.9 and 0.8 or Between 1.1 and 1.2	Less Than 0.8 or Greater than 1.2

Cost Change Control Process

The Cost Change Control Process approvals for project budget/cost changes must be approved by the Project Sponsor. A summarization of the change control process is as follows:

❖ Identify and assess the change generated from a cost variance analysis.

❖ Complete a Change Request Form and submit the form, along with required supporting documentation, to the Project Manager.

❖ The Project Manager reviewed the change request and may request additional documentation prior to review with the Project Manager.

❖ Using the Change Request Form, the Project Manager will mark the change as:

    o Approved, in which case both the Change Board and Project Manager will sign off on the change request and adjust other project planning factors as necessary.

    o Approved, pending additional supporting documentation, in which case both the Change Board and Project Manager will mark the change as approved / pending in the change control system, and sign off on the change request. The Project Manager will specify and coordinate gathering of the required documentation, incorporate the change and adjust other project planning factors as necessary.

    o Denied, in which case both the Change Board and Project Manager will mark the change as denied in the change control, and sign off on the change request. The Project Manager will notify the requestor of the status and reason for denial.

❖ The project manager will document the change request outcome as necessary (update WBS, schedule and budget documentation if impacted). If there is a change in the total cost of ownership or in how the estimated costs will be incurred over the remaining life of the project, a new project budget baseline should be set.

4.5 Quality Management Plan

Purpose

Quality Management Plan describes how quality is managed throughout the lifecycle of the project, and defines how the Project Team will implement, support, and communicate the processes and procedures for conducting quality planning, quality assurance, quality control and continuous process improvement. All stakeholders should be familiar with these procedures. Quality is planned for and managed through the "Plan-Do-Check-Act" (PDCA) cycle for business processes

Project Quality Plan

A project quality plan has several inputs for running the project quality planning process. These are the scope, stakeholder requirements, *risk register* and the implementation schedule. By using all this input information, the project manager in cooperation with the quality team should develop a quality plan for verification.

Quality Methodology (Plan-Do-Check-Act)

Plan

- ❖ Identify the Quality Objectives. Express quality expectations in objective, quantitative terms.

- ❖ Identify professional standards including legal, environmental, economic, code, life safety and health.

- ❖ Balance needs and expectations of customers and stakeholders with cost, schedule, and professional standards. Evaluate the costs and Sample Quality Management Plan benefits of selected quality objectives and the processes to be used to achieve objectives.

- ❖ Develop an effective plan and processes, including quality assurance and quality control procedures, to achieve objectives. Consider risk factors and adapt processes to provide the requisite level of quality. Document in the risk management plan any project variations from the local quality management plan requirements.

- ❖ Develop performance measure thresholds to ensure agreement on the definition of success relative to Quality Objectives.

- ❖ Ensure endorsement of all quality objectives included in the Quality Management Plan.

Do

- ❖ Do the work according to the approved PMP and standard operating procedures.

- ❖ Project execution is a dynamic process. The Project Team must communicate, meet on a regular basis, and adapt to changing conditions. The Quality Management Plan and PMP may require modification to ensure that project objectives are met.

- ❖ Document in Lessons Learned

Check

❖ Perform independent technical review, management oversight, and verification to ensure that quality objectives are met consistent with District Quality Management Plans.

❖ Check performance against the PMP and Customer Quality Objectives performance measures thresholds to verify that performance will accomplish Quality Objectives and to verify sufficiency of the plan. Share findings with all project stakeholders to facilitate continuous improvement.

Act

❖ If performance measures thresholds are exceeded, take specific corrective actions to fix the systemic cause of any non-conformance, deficiency, or other unwanted effect.

❖ Document quality improvements that could include appropriate revisions to the quality management plan, alteration of quality assurance and control procedures, and adjustments to resource allocations.

Project Quality Assurance

Quality assurance is focused on the project processes, provides confidence that the quality requirements can be fulfilled and helps ensure that the project processes used to manage and deliver the project's product or service are effective and being applied.

The Project Manager scheduled regular occurring meetings to review the findings of the quality assurance activities. In these reviews, an agenda item will include a review of project processes, discrepancies and/or audit findings from the project team, and a discussion ensued on process improvement initiatives. All process improvement efforts must be documented, implemented, and communicated to all team members as changes are made.

The focus of quality assurance is on the processes used in the project. Quality assurance ensures that project processes are used effectively to produce quality project deliverables.

Chart 11 Quality Assurance Activity Chart (Source compiled by Author)

Project Process	Quality Assurance Activity	Frequency/Interval
QA1. Develop project charter	Audit charter updates by phase	Once per project phase
QA2. Develop/refine project plan	Audit plan content and updates, project priorities, and task estimation	Once per project phase
QA3. Execute and control project as per project plan	Audit the following project activities: Quality Communications Project progress	Weekly Monthly Monthly
QA4. Approve each project phase	Audit stage checkpoints	Once per project phase/stage
QA5. Close project with post project review	Audit project reviews by phase	Once per project phase

Quality Control

Quality Control (QC) is a series of activities to monitor the quality management process, quality performance, reveal defects in project facilities and products, and generating necessary suggestions and recommendations for improving the project quality plan and increasing the quality levels. The primary goal of performing quality control activities is to ensure that the project deliverables are produced correctly and in compliance with the quality requirements specified for those deliverables.

It is inseparably linked to quality assurance. Though quality assurance activities are performed to ensure that appropriate quality standards and operational definitions are applied, quality control activities are carried out to monitor and record the results of quality assurance, measure quality performance levels and recommend necessary changes (corrective actions) to the overall quality management plan.

Quality control activities serve as a foundation for using continuous improvement approaches throughout the project implementation process.

The following are examples of activities for quality control:
- ❖ Use control measurements to analyze and evaluate the quality standards and processes.

- ❖ Perform quality control assessments and audits.

- ❖ Compare quality control measurements against established control limits and tolerances.

- ❖ Identify non-compliance and reasons for that.

Chart 12 GMA Quality Matrix (Source compiled by Author)

Project Product	Quality Control Standards	Inputs Include:
Project Schedule Inspection	• Resource allocations do not exceed 100% • Plan is base lined • All tasks (excluding summary & milestone) have resources assigned • All project phases realistically represented	• Project Plan Document • Project Schedule Standards
Change Management Documentation Review	• minutes are updated weekly with next actions, owners, and due dates • Change Orders are properly documented and contain all necessary impact assessments and approvals • Approved change orders are reflected in the schedule	• Change Management Plan • Change Control Board Guidelines • Project Management Plan • Change and Configuration Management Standards and Guidelines
Risk & Issue Management Documentation Review	• Risks & Issues are properly documented in the tracking tool • Risks & Issues not open greater than 30 days • Risks & Issues properly categorized	• Project Management Plan • Risk & Issue Management Plan

Project Product	Quality Control Standards	Inputs Include:
Requirements Traceability Matrix audit	• User requirements are traced to software requirements • Requirements uniquely identified and traced to design document(s)	• Design Standards & Guidelines • Requirements Management Plan
Design Documentation Inspection	• Proper template used to create the design • Approvals obtained and documented in the design or a corresponding document • Design free of spelling and grammar errors	• Design Standards & Guidelines • Functional Design Plan

Acceptable Quality Standards

This quality planning process establishes the QA & QC standards – the process descriptions, standards, and procedures – the Project Team will use. The Project Manager, in collaboration with the Team Lead, have defined and developed the quality process descriptions, standards, and procedures that are applicable to the project phases.

Identify Quality Metrics

This quality planning process identifies the metrics the Team will use. The Project Manager, in collaboration with the Team Lead have identified and developed the quality metrics applicable to the project. The metrics are based on the quality standards established by the Project Team and are refined during the different phases of the project, and documented in updates to this Quality Management Plan. The Project Team used the quality metrics to evaluate whether the project is achieving its goals.

Create Quality Checklists

This quality planning process identifies the quality checklists the Team will use. The Project Manager, in collaboration with the Team Lead developed quality checklists that are applicable to the project. The Project Team will use the quality checklists an integral part of the process and product quality reviews. The Process Quality Assurance of this Quality Management Plan discussed the application of these checklists to the respective quality assurance processes.

Chart 13 Quality Management Checklist (Source:)

Quality Management Audit Checklist	Objective Evidence
Has the organization established, documented, implemented, and maintained a QM and continually improved its effectiveness in accordance with ISO9001-2000?	
Where has Organization identified the processes needed for the QM and their management system and their application throughout the organization?	
Has the organization determined the sequence and interaction of these QM processes, processes?	
What are the criteria and methods organization use to ensure that these operation and control of QM processes are effective?	
Has organization provided resources and information needed to support the operation necessary to monitoring of QM processes?	
How does organization monitor, measure and analyze QM processes?	
How has organization implemented actions necessary to achieve planned continual improvement of these processes for the QM?	
Are processes needed for the QM managed by the organization in accordance with the requirements of ISO 9001:2000?	
When organization outsources any process that affects product that affects product conformity with conformity with requirements, how is control ensured over such processes?	

| Where is the control of outsourced processes that affect product with requirements identified within the QM? | |

Problem Remediation

The Project Manager scheduled separate meetings as needed to determine corrective actions and process improvements. Through the incorporation of quality management recommendations from the preceding review stage into the activities and related deliverables for the next stage, the quality of project activities and deliverables will increase incrementally throughout the project life cycle.

Chart 14 Roles and Responsibilities for Quality Management Activities (Source compiled by Author)

Project Team Role	Quality Control and Quality Assurance Responsibilities
Project Sponsor	Approve each project stage per framework checkpoints Assess practice of project management framework activities Assess satisfactory resolution of project management gaps
Project Manager	Assure practice of quality control measures and communications in project plan Assure framework and PM reviews by Project Team, Communicate prioritized changes per Change Board Assure deliverables meet broad set project management requirements Assure training plan addresses all project management skill levels Assure project management gap resolution

Project Team Role	Quality Control and Quality Assurance Responsibilities
Project Team Lead	Confirm accurate delivery of framework and completeness of operation system Edit operation system framework to assure it is clear and concise Assure structure meet operation system standards
Project Team Members	Prioritize changes per Change control guidelines Assure accurate delivery of work

4.6 Human Resource Management Plan

The Human Resource Plan explained how project processes was used to make the most effective use of the people assigned to the project. It provided a general description of how the project manager and project team can manage project resources effectively.

The purpose of the Project Human Resource Plan is to achieve project success by ensuring the suitable human resources with the necessary skills are acquired, resources are trained or acquired if any gaps in skills are identified; team building strategies are clearly defined and team activities are effectively managed. This plan is a tool to aid in the management of human resource activities throughout the project closure.

This plan includes a summary of the following information:

- Roles and responsibilities of team members throughout the project

- Project organization charts

- Staffing management plan to include:
    o How resources will be acquired
    o Training required to develop skills
    o Performance reviews
    o Recognition and rewards system

Roles and Responsibilities of Project Team Members

Project Team Member (Internal Accounts Manager)

- Manages both product and process of quality activities for the project

- Provides insight into project health by reviewing process and product activities for adherence to standards and plans

- Supports the Project Team Lead by administering the project management process

- Coordinates, Manages and coordinates the product related, items

- Conducts audits

- Works with Change Management for approval of programs and modifications into the production environment

Project Team Lead

- Maintains accountability for the management of all resources assigned to the project

- Serves as the primary liaison between the project and the Project Sponsor and the Steering Committee

- Manages internal accounting staff who are engaged in the accounting management aspects of the project

- Leads in the technical disciplines of the project, unlike and Project Manager who will focus on the overall project management of the project

- Partners with other Information Technology (IT) areas to acquire appropriate technical assistance for such areas as enterprise architecture, database, software development, security, testing, configuration management, change management, release management, and other technical areas of the new system

- Provides leadership and support to staff that are augmented to the project throughout the project life cycle

- Provides support to the Sponsor, Project Manager, and Project Team to establish and execute technical policies, processes, and procedures

Project Team Member (Shipping/Wholesale/Retail Clerk)

- Manages for the implementation portion of the project
- Provides implementation activities assigned by project manager
- Effectively manages all information technology resources assigned by the project manager
- Participates in the operations of the new system, and monitors operations and operations support problems
- Interfaces directly with customers to ensure product satisfy all expectations

Project Sponsor

- Provides vision, direction, and policy leadership for the project
- Assists in removing barriers and supports change management initiatives
- Participates in the Steering Committee, and provides support to this group as needed
- Has overall authority for the project
- Responsible for ensuring that deliverables and functionality are achieved as defined in the Project Charter and subsequent project plans

Steering Committee

- Acts as the Project stakeholders group
- Ensures that the deliverables and functionality of the project are achieved as defined in the project initiation documents and subsequent project management plans
- Provides high-level project direction, receives project status updates, and addresses and resolves issues, risks, or change requests
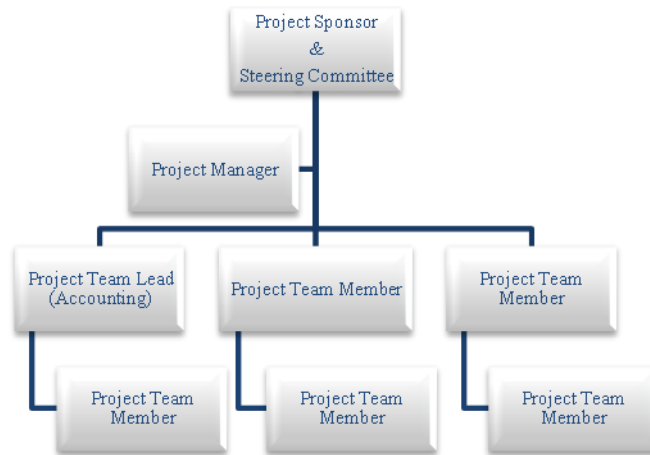
Figure 20 Project Human Resource Organisational Chart (Source compiled by Author)

Any proposed changes to project responsibilities must be reviewed and approved by the Project Manager. Changes will be proposed in accordance with the project's change control process. As changes are made, all project documents will be updated and redistributed accordingly. RACI chart shows the relationship between project's tasks/phase and team members.

Chart 15 RACI Chart showing relationship between project phase and team members (Source compiled by Author)

Roles	Initiation Phase	Planning	Current System Revision	System Conversion Phase	System Audit & Control
Project Sponsor	C	C	C	I	I
Steering Committee	I	I	I	C	I
Project Manager	RA	C	RA	RA	I
Project Team Lead	I	A	C	C	A
Project Team Member	I	A	I	I	A

Key:

R – Responsible for completing the work

A – Accountable for ensuring task completion/sign off

C – Consulted before any decisions are made

I – Informed of when an action/decision has been made

Staffing Management

Staffing management relates to all of the reasons staffing is needed and contain samples of the following: how human resources were acquired; the timeline for resource additions and releases; training solutions for any resources with identified skill gaps; how performance reviews will be performed; rewards and recognition systems to be used.

Day-to-day management of the project staff for the project is the responsibility of the Project Manager and Project Team Lead functional manager. Performance evaluations, performance issues and recognition, promotions, and disciplinary actions are the responsibility of the General Manager (Sponsor) respective of the organizational chain of command.

Staff Acquisition

The Project Manager with support from the Sponsor discussed with functional managers to identify and assign resources in accordance with the project organizational structure approved in the project charter. All resources must be approved by the appropriate functional manager then Project Manager before the resource may begin any project work. The project team must be co-located at the General & Maritime.

Staff Training

When new staff joins the project, the Project Manager provided a project orientation. The orientation should include discussions related to the following topics:

- Background of the Project
- Current Status of the Project
- Specific Job Duties and Expectations
- Introduction to the Staff
- Overview of the Facility and Infrastructure
- Overview of the Project Processes

Performance Reviews

The Project Team Lead functional manager review each team member's assigned work activities at the onset of the project and communicate all expectations of work to be performed. Then evaluate each team member throughout the project to evaluate their performance and how effectively they are completing their assigned work. Prior to releasing project resources, the project manager will meet with the appropriate Project Team Lead functional manager and provide feedback on employee project performance. The functional manager performed a formal performance review on each team member.

Recognition and Rewards

Although the scope of this project does not allow for monetary rewards, there are several planned recognition and reward items for project team members. The Project Manager identified potential opportunities and tools for creative recognition and rewards.

Suggested Rewards:

- Upon successful completion of the Project, celebration of the success of each team member.

- Upon successful completion of the project, any team member who satisfactorily completed all assigned work packages on time will receive a certificate of thanks from the Sponsor.

- Team members who successfully complete all of their assigned tasks will have their photo taken for inclusion in the company newsletter and publicly as employee of the month or year.

4.7 Communication Management Plan

The Communication Plan described the planned and periodic communications occurring between all the Project stakeholders such as the Project Team, project sponsors, the Sponsor, Steering Committee, and interface partners. The Communication Plan identifies the procedures used to manage communication for the project. The plan focuses on formal communication elements. Other communication channels exist on informal levels and enhance those discussed within this plan. The Communication Plan is an integral part of the overall Project Management Plan and will be used to provide guidance to the Computerization of Manual Operation System of the General & Maritime Project. See communication chart below.

Chart 16 Communication Plan (Source:)

What (The Content of the Communication)	Why (Communication Purpose code; then description. Purpose codes below)	Who (*Responsible, in italics,* then Audiences)	When (Timing or Periodicity)	How (Typical Methods of Communication)
A. Initial Communications				
Initial Request Analysis	Determine Business Case	*Requestor, Leadership Team;* Decision-Makers	At Concept; then updated as it changes	Documented Discussion, Analysis, Formal Report
Project Justification; Business Case or Need for the Initiative	This is the foundation of approval and project continuation	*Requestor, Sponsor;* Executives, Decision-Makers	As early as possible, updated with changed and/or approved status	Discussion; Analysis, Informal or Formal Report
Project Prioritization	Evaluate Business Case, allocate Staff and other resources, and use funds wisely	*Executives, Decision-Makers;* Sponsor, Leadership Team, Interested Parties	At Project Analysis; may be recurring, given new, higher priorities	Meeting, Discussion, Analysis of Justification

Initiative Authorization	Approval to Proceed	*Executives, Decision-Makers;* Sponsor, Leadership Team	At Approval, or if approval is later rescinded	Meeting: Discussion, Decision
Start-up Meeting	Establish Charter, if used in the initiative. build a strong and committed team	*Sponsor;* Leadership Team. Team Members	Day one of initiative, or of each sub-component	Meeting; Discussion, teambuilding exercises
Sizing or Estimating, Evaluating Constraints and Assumptions	Understand the size of an initiative, identify initial effort and cost, and set timelines, typically for alternative strategies	*Leadership Team;* Sponsor, Decision-Makers	As early as possible, updated with changed and/or approved status	Meeting; Discussion, multiple forecasting methods; documented traceable results
Initiative Strategy or Approach	Identify, evaluate and recommend alternative approaches, timings, staging, or delaying options, with strengths and weaknesses of the best alternatives	*Leadership Team, Sponsor, Team Members;* Decision-Makers, Interested Parties	As early as possible, updated at major review points, or upon changes in plan	Meeting; Structured Discussion, Informal Report
Risk Assessment	Identify and manage risk	*Leadership Team,*	As early as possible,	Meeting; Structured

Point	opportunities and threats, responses, and responsibilities for administering them	*Sponsor, Decision-Makers, Team Members;* Executives, Interested Parties	updated at major review or risk realization points	Discussion, Informal Report
Initial or High-Level Plan	Agree to high-level plan and commitments needed to achieve it; Approval to Proceed	*Sponsor, Leadership Team, Decision-Makers;* Executives, Interested Parties	As early as possible, updated with changed and/or approved status	Meeting; Structured Discussion, Formal Report
Stakeholder Expectations	Get commitment to support changes resulting from effort	*Sponsor, Leadership Team;* Interested Parties	As early as possible, updated with changed and/or approved status	Meetings, phone calls or Interviews; summary report
Executive Presentations or Briefing	Maintain executive awareness, thus retaining support	*Sponsor;* Executives, Interested Parties	Very early, and then ongoing as needed	Presentation, or Briefing
Request for Proposal	Obtain offers to assist in the effort from viable sellers	*Buyer;* Seller	When a Buyer/Seller contract approach is an appropriate strategy	Targeted Solicitation Letter to qualified Sellers

Vendors' Meeting	Answer all buyer questions so all have same information	*Buyer;* Seller	When a Buyer/Seller contract approach is an appropriate strategy	Meeting with Discussion, Minutes
Proposal	Submit an offer that wins the bid, meets buyer needs, and achieves seller purposes	*Seller,* Buyer, Decision-Makers [, Executives]	When a Buyer/Seller contract approach is an appropriate strategy	Formal Report, often with presentation
Contract Award	Recognize legal acceptance of buyer's bid or proposal	*Buyer, Decision-Makers;* Seller, Sponsor, Interested Parties, [, Executives]	When a Buyer/Seller contract approach is an appropriate strategy	Meeting with audit trail in a Formal Report

What (The Content of the Communication)	Why (Communication Purpose code; then description. Purpose codes below)	Who (*Responsible, in italics,* then Audiences)	When (Timing or Periodicity)	How (Typical Methods of Communication)
B. Recurring Communications				
A Phase Plan	Identify timings, resources needed for next phase(s)	*Leadership Team, Team Members;* Sponsor, Decision-Makers, Interested Parties	At phase start, updated with approved changes	Meeting or collaboration with informal report
Work Package Assignment	Delegate and understand assignments well enough to estimate them accurately	*Leadership Team, Team Members;* Interested Parties [, Seller]	Phase start or within phase for work package details	Meeting or collaboration with informal report
Individual Time Reporting	Accurately report effort expended and cost consumed, with estimates	*Team Members;* Leadership Team	Daily for assignment effort and as needed for changes in	Time sheets with retention rules; automated entry

	to complete		assumptions	
Individual Status Reporting	Each team member summarizes status on all open and pending assignments	*Team Members;* Leadership Team, Interested Parties	Periodic, weekly or bi-weekly for current assignments, or as identified in plan	Informal report for all current efforts; ideally, use of tagged XML routes each item to the appropriate project manager
Managing By Wandering Around	Pro-actively collect current information from team, without micro-managing	*Leadership Team;* Team Members, Interested Parties	On an ongoing basis; problems occur when you are not watching	Random or targeted discussion
Project Team Diary	A safe way, either anonymous or signed, for team members to share perspectives, attitudes, concerns, questions and accomplishments	*Team Members, Leadership Team;* Interested Parties	On an ongoing basis, and as needed. Especially important to observe activity level and content when team is in "crunch mode"	Wikis are perfect for this, because they can be posted by individual or anonymously
Team Status	Helps to correlate multiple	*Leadership Team;*	On a regular basis,	Meeting with

Meetings	data or information points, and drill down to details, where needed, to see true status	Team Members, Interested Parties	depending on project urgency; weekly or bi-weekly	discussion, informal minutes; summarized in Project Log
Issue Reporting and Logging	Raise Issues that affect project success. analyze their impact. track open issues	*Team Members;* Sponsor, Decision-Makers, Interested Parties	When Issues Occur	Formal report and log of open issues and their latest status
Issue Resolution	Resolve open Issues before they impact the initiative	*Sponsor, Leadership Team;* Decision-Makers, Interested Parties [, Executives]	When Issues Occur, and before they impact the project	Formal report and impact of issues resolved too late
Change Order or Change Request	A request or required change	*Requestor;* Leadership Team	When Changes Needed	Discussion, analysis of impact
Change Authorization	Approve and fund a needed change, accepting impact on initiative time and cost	*Sponsor, Decision-Makers;* Leadership Team [, Executives]	Periodically review and resolve evaluated changes	Formal report and recommendation; project impact and resolution
Status Report,	Identify current status and	*Leadership Team;*	Weekly or in a cycle	Formal report or

with performance analysis, updated forecasts	planned end date and cost; includes open issues, accomplishments, and a high-level schedule	Team Members, Sponsor, Decision-Makers [, Seller]	identified in the plan	electronic report, with briefing for decision-makers who are listeners
Risk Realization Point or Risk Trigger occurs	Implement or identify Risk Responses to mitigate impact or recover	*Leadership Team;* Sponsor, Decision-Makers, PMO [, Sellers]	As Risks are Realized	Discussion, analysis, action, informal or formal report
Targeted Stakeholder Presentations or Newsletters	Inform about progress and organizational change impacts	*Leadership Team, Sponsor;* Interested Parties	Monthly, or as identified in Communication Plan	Electronic or paper newsletters, reports, or video/podcasts
Funding Requirements Status Update	Improve Treasury cashflow management efficiency and assure ongoing funding	*Leadership Team, Sponsor;* Decision-Makers [, Executives]	Monthly, or as identified in Communication Plan	Formal report or email with a trail
Countdown Charts	Visually show progress in results, and/or time or cost used, to maintain	*Leadership Team;* Sponsor, Interested Parties [, Executives]	Monthly, or as identified in Communication Plan	Graphic representation on Project Room walls,

	excitement with those who prefer charts to numbers			in presentations or electronic reports
Press Releases,	For projects with public interested parties, to maintain popular support and interest	*Sponsor, Decision-Makers;* Interested Parties, Team Members	If needed, every 4-6 weeks (or the limits of public attention span)	Electronic or paper updates sent to appropriate media

What (The Content of the Communication)	Why (Communication Purpose code; then description. Purpose codes below)	Who (*Responsible, in italics*, then Audiences)	When (Timing or Periodicity)	How (Typical Methods of Communication)
C. Close-out Communications (assignment, phase or project)				
Quality Assurance Review or Acceptance Review	Verify completeness, acceptability and correctness of incremental results	*Experts, Leadership Team;* Interested Parties, Team Members [, Decision-Makers]	At completion of Work Packages or key results within a phase	Formal report with approval or, open items and tracked closure
Work Package Close-out	Accept incremental results and discuss process improvements	*Leadership Team;* Team Members [, Seller]	At completion of Work Packages or assignments	Discussion and informal documentation of results
Progress and Process Audit	Assure that appropriate processes are being applied, and progress reporting is useful, accurate, and is being used	*PMO, Auditors;* Leadership Team, Sponsor, Decision-Makers [, Executives]	Before major Milestones or Stage-Gate reviews, or at most each 6-12 week, depending on initiative size	Discussion, evaluation of documentation, analysis; informal or Formal report, as needed
Milestone or Stage-Gate Review	Approve results to date, and approval to proceed, revise or cancel	*Sponsor, Decision-Makers;* Leadership Team, Team Members	At Major Milestones or Stage-Gate approvals; no more than 2-3 months apart in most projects	Meeting with decision and a Formal report to document the outcome
Progress Report	Promote the initiative, recognize accomplishments	*Leadership Team;* Executives, Interested Parties, Team Members	Every 4-6 weeks	Electronic or paper publication of project accomplishments

Lessons Learned	. Capture and apply the most important Lessons Learned for later in this initiative, and for later initiatives	*Leadership Team, Team Members;* Sponsor, Decision-Makers, Interested Parties	End of each phase, stage, and subset; summary at end of initiative	Solicitation, then discussion, of Lessons Learned; analysis and then informal reporting
Team Celebration	. Reward all stakeholders for phase and initiative results	*Sponsor;* Team Members, Leadership Team, Interested Parties	End of each phase, stage, and sub-set; major celebration at final end	Best left undocumented, except to identify who approved it
Contract Closeout	Formally accept seller results and authorize payments	*Buyer, Decision-Makers;* Seller, Interested Parties	End of each contract	Legally-binding Formal report, subject to retention periods
Project Closure	Formally end the initiative and accept its product(s)	*Sponsor, Decision-Makers;* Leadership Team, Team Members, Interested Parties	End of each project in an initiative; end of program for those that do end (some have an ongoing portion)	Meeting with discussion and agreement that the effort has or has not delivered to needs; Formal report produced
Post-Project Evaluation	Evaluate process and products, assuring intended benefits are being captured; adjust if not	*Decision-Makers, Sponsor;* Executives, Leadership Team, Interested Parties	Within a predefined period after initiative end, usually at least one business cycle, and often at least 25% of the initiative's duration after	Meet to evaluate process and results, identifying any adjustments needed to achieve benefits; Formal report produced
Benefit Realization	Evaluate results to assure promised benefits realized	*Sponsor, Executives;* Interested Parties, Leadership Team, Team Members	Predefined period after initiative end, usually at least one business cycle	Formal report evaluating the extent to which promised benefits met or

			exceeded
Rewards;	. Reward all who contributed to success, to encourage future successes	*Decision-Makers, Sponsor;* Executives, Leadership Team, Team Members, Interested Parties	When promised initiative benefits to have been realized	None, except for financial impact for future project budgets

Participants Roles and Responsibilities

This section describes the roles and responsibilities of the Project staff with regard to the Communication Plan.

❖ The Project Sponsor is responsible for the success of the project and ensuring that project-related program policies are implemented. The project office/team and project sponsor frequently communicate on project status, issues and risks. The Sponsor is the point of contact for the state agencies. The Project Sponsors met with the Project Manager to review project progress and to provide needed guidance, resources, and funding support.

❖ The Project Manager has the responsibility to ensure that all information related to the Project is consistent, correct and timely. The Project Manager reviewed and approved all information being provided to the various stakeholders and any external agencies. The Project Manager reports directly to the Sponsor and Steering Committee.

❖ The Project Team was responsible for ensuring that all the efforts are accomplished and on time to meet the project's schedule. The Project Team coordinated to ensure the deliverables are accurate and met the quality standards for the project. They ensured the process the staff follows conforms to PMI standards and guidelines. The Project Team reported to the Project Manager for the purposes of this project.

❖ The external stakeholders in the project are the end users of the system, as well as others that could influence the outcome and success of the project. Typical stakeholders include suppliers, government, the customers, interfacing organizations, and unions. Communications were customized to suit each external stakeholder's preferences.

Types of Communication Process

Internal Communication

Informal

Informal communications consist of electronic mail (e-mail), conversations or phone calls and serve to supplement and enhance formal communications. Due to the varied types and ad-hoc nature of informal communications, they are not discussed in this plan.

Formal
The Project engaged in various types of formal communication. The types and their purpose are as followed:

Status Meetings
There are three basic types of status meetings for the Project:

1. Internal status meetings to the Project Team to discuss assignments, activities and to share information;

2. Status meetings and reports between the Project Managers and the Steering Committee; and

3. Status meetings and reports to external entities.

Status Reports
A variety of status reports is produced during the project. The status reports are produced on regular intervals to provide stakeholders project information on the status and progress of the project. At a minimum the reports will contain: Project Status on major activities, Project Schedule, Status of Issues or Risks or Future or planned activities.

The intent of the status reports is to inform stakeholders of the project's progress and keep them actively involved in the project. The information provided will contain enough detail to allow stakeholders to make informed decisions and maintain supervision.

Letters and Memorandums

Letters and memorándums (memos) are formal written communications that will
be used to:

- receive guidance

- document key project decisions

- document key information or facts as a matter of record

- request support

- communicate formal acceptance of project products

- relay information

The use of letters and memorandums are used throughout the project and are
kept at a minimum to avoid delays in dissemination of information. Email,
telephone, tele-conferencing or face-to-face communication is used followed with
a formal letter or memorandum as required.

External Communication

Communication protocols are necessary to properly manage the amount and
type of information that will be communicated. They manage and control the flow
of project-related information, to minimize misinformation and maximize the
sharing of accurate information across the appropriate communication channels,
and to provide structure to the formal and informal communications that are
shared with external stakeholders.

News and Print Media

Project staff is not allowed to communicate with the media unless prior approval
or direction has been granted from the Project Manager.

Public Inquiries and Public Records Requests

A public records request should be made in writing. Public records maintained by
the project are available for inspection by members of the public during the
regular business hours of the project. Requests for inspection or copying of
public records should be directed to the Project Manager and operational
functions of the project will not be suspended to permit inspection of records

during periods in which project personnel in the performance of their duties reasonably require such records.

Electronic Mail

Electronic mail (E-mail) is used as a means for informal, ad hoc communication between project team members and stakeholders. All official outgoing correspondence must always be in the form of a letter, memorandum or document therefore when an official document is sent via email; follow-up with an original signature hard-copy via courier. Appropriate uses of e-mail include scheduling meetings, forwarding documents or other information, and general questions and answers.

Communication Distribution

Various methods are used to distribute project information and communicate with project stakeholders. The primary method to distribute information for this project is through the email system. Hardcopy information is distributed through the normal mail system. Facsimiles are used for hardcopy documents that require immediate distribution and are relatively limited in the number of pages. Teleconferencing is used to the maximum extent possible to communicate to stakeholders in out of town locations.

Communication Tracking and Storage

Written communications received or generated by the project are retained and stored in the project's library as a document management tool, depending on the format in which they were received. Project e-mail decisions with pertinent value to the project are stored in the project's library and retained for historical purposes.

Communication Changes

Changes to the communication process may be proposed by any recipient or communication creator. The Project Manager must approve the change for it to be approved. Often a draft version is used to generate discussion with the communication stakeholders prior to making the change official.

Changes to communication format or content are handled through the normal document change control process. Changes to content must be approved by the project manager and disseminated with an explanation of the change. Appropriate revision and version markings are included with the updated version.

Chart 17 GMA Communication Schedule (Source: Projectmanagementdocs.com)

TYPE OF INFORMATION	PREPARED / CHAIRED BY	DISTRIBUTION LIST/ PARTICIPANTS	PURPOSE OF COMMUNICATION	FREQUENCY	TRANSMITTAL METHOD	NOTE
Weekly Status Meeting	*Project Manager*	*Project Team*	*Discuss status, issues and concerns related to the Project*	*Weekly*	*Oral presentation, discussions*	
Project Status Meeting						
Project Status Meeting						
Monthly Status Report						

Chart 18 Project Directory for Executive Stakeholders (Source: Projectmanagementdocs.com 2017)

NAME	TITLE/FUNCTION	COMPANY/ORGANIZATION	EMAIL	PHONE

Chart 19 Project Directory for Project Team (Source: Projectmanagementdocs.com, 2017)

NAME	TITLE/FUNCTION	COMPANY/ORGANIZATION	EMAIL	PHONE

4.8 Risk Management Plan

 Risk Identification

This section explains the process by which the risks associated with this project were identified. It should describe the method(s) for how the project team identified risks, the format in which risks are recorded, and the forum in which this process was conducted. Typical methods of identifying risks are expert interview, review historical information from similar projects and conducting a risk assessment meeting with the project team and key stakeholders.

Risk Identification was conducted in the initial project risk assessment meeting. The project manager chaired the risk assessment meeting involving members of the project team.

Expert Interview

Expert Interviews were held for this project. The interviews revealed several risks which were then mitigated by making changes to the project plan. The remaining risks are included in the Risk Register.

Historical Review of Similar Projects

The project team tried to review history of similar projects in order to determine the most common risks and the strategies used to mitigate those risks but this project is the first of its kind in General and Maritime.

Risk Qualification and Prioritization

Risks are identified to determine the probability and impact of each risk in order to allow the project manager to prioritize the risk avoidance and mitigation strategy. Risks which are more likely to occur and have a significant impact on the project will be the highest priority risks while those which are more unlikely or have a low impact will be a much lower priority. This is usually done with a probability – impact matrix.

In order to determine the severity of the risks identified by the team, a probability and impact factor was assigned to each risk. This process allowed the project manager to prioritize risks based upon the effect they may have on the project. The project manager utilized a probability-impact matrix to facilitate the team in moving each risk to the appropriate place on the chart. Once the risks were assigned a probability and impact and placed in the appropriate position on the chart, the recorder captured the finished product and the project manager moved the process on to the next step: risk mitigation/avoidance planning.

Risk Monitoring

An effective way to monitor project risks is to add those risks with the highest scores to the project schedule. The project manager monitor these risks closely need to provide status updates at the bi-weekly project team meetings. The key to risk monitoring is to ensure that it is continuous throughout the life of the project and includes the identification of trigger conditions for each risk and thorough documentation of the process.

Risk monitoring was a continuous process throughout the life of this project. As risks approach on the project schedule the project manager ensured that the appropriate risk manager provides the necessary status updates which include the risk status, identification of trigger conditions, and the documentation of the results of the risk response. The most likely and greatest impact risks added to the project plan were monitored during the time the project exposed each risk. During the weekly project team meeting the Project Manager discussed the status of that risk; however, only risks which fall in the current time period were discussed.

Risk Mitigation and Avoidance

Once risks have been qualified, the team must determine how to address those risks which have the greatest potential probability and impact on the project. The project manager led the project team in developing responses to each identified risk. As more risks are identified, they were qualified and the team developed avoidance and mitigation strategies. These risks will also be added to the Risk Register in the project plan to ensure they are monitored at the appropriate times and are responded to accordingly.

Only one of the constraints for this project allows for flexibility as a last resort. If necessary, funding may be added to the project to allow for more resources in order to meet the time schedule constraints. Time and scope are firm constraints and allow for no flexibility. The Project risk factors identified risks according to their quality, scope, cost, and time; however the risk breakdown structure (RBS) (*Appendix 12*) highlighted technical, operational, financial and business risks. There were twenty (20) individual risks identified and associated with mitigations strategies.

RISK REGISTER

A risk register is maintained in order to track risks and associated mitigation strategies. The risk register (*Appendix 9*) describes or log identified risks, their probability and impact to the project, the category they belong to, and mitigation strategy. The register was created through the initial project risk management meeting led by the project manager. The project team identified and categorized each risk. Additionally, the team assigned each risk a score based on the probability of it occurring and the impact it could potentially have. The Risk Register also contains the mitigation strategy for each risk as well as when the risk is likely to occur. The Risk Register is maintained as an appendix to this Risk Management Plan.

4.9 Procurement Management Plan

This Procurement Management Plan sets the procurement framework for this project. It will serve as a guide for managing procurement throughout the life of the project and will be updated as acquisition needs change. This plan identifies and defines the items to be procured, the types of contracts to be used in support of this project, the contract approval process, and decision criteria. The Project Manager will provide oversight and management for all procurement activities under this project. The Project Manager will work with the project team to identify all items to be procured for the successful completion of the project. The Project Management Office (PMO) once established will then review the procurement list prior to submitting it to the contracts and purchasing department. The contracts and purchasing department will review the procurement items, determine whether it is advantageous to make or buy the items, and begin the vendor selection, purchasing and the contracting process.

Procurement Management Approach

The procurement process is designed to obtain a seller at most reasonable prices. The process involves waiting time for the sellers to look at the needs of the project and to respond. The process can thus, take from one month to three months for this type of procurement. The project manager needs to be involved in the entire process of procurement management and he also needs to plan for the amount of time procurements take.

The buyer has needs and he has criteria using which he will select a seller. The plan procurements process involves creating procurement documents which describes these details. Additionally, this process also explains the procurement management plan.

The Plan Procurements process includes:

- Create a procurement statement of work for each procurement

- Select a contract type for each procurement

- Create the procurement documents

- Determine the source selection criteria

Procurement Definition

Definition of project procurement management from the PMBOK is: "the processes necessary to purchase or acquire the products, services, or results needed from outside the project team."

Chart 20 Summary of Procurement List (Source compiled by Author)

Item/Service	Justification	Needed by
Systems Management	Needed for Management of Information System Integration	September 2017
Accounting Software	Needed for integrating data to new operating system	November 2017
Shipping Software	Needed for transferring data into operating system	November 2017

In addition to the above list of procurement items, the following individuals are authorized to approve purchases for the project team:

Name	Role
Oswald Veira	Sponsor
Tonie Cato	Project Manager
Ralph Baynes	Project Team Lead/Accountant

Contract Types

The project manager selects the type of contract. The three broad categories of contracts are:

- Fixed price (FP)

- Time and Material (T&M)

- Cost Reimbursable (CR)

Fixed price-

All items and services to be procured for this project will be solicited under firm-fixed price contracts. The project team will work with the contracts and purchasing department to define the item types, quantities, services and required delivery dates. The contracts and purchasing department will then solicit bids from various vendors in order to procure the items within the required time frame and at a reasonable cost under the firm fixed price contract once the vendor is selected.

Acquiring any goods or services with well-defined specifications or requirements and there is enough competition to determine a fair and reasonable fixed price, these are the situations where a fixed price contract is used. These are the most common types of contracts. The seller bears additional costs if the costs are more than agreed upon costs. The buyer has the least cost risk in this type of contract.

A fixed price contract is inappropriate when either of the parties (buyer or the seller) do not have expertise or past experience in preparing detailed accounting records.

Procurement Method used for Cost Determination

Request for Quotation (RFQ); This procurement method is used for small-valued goods or services. Request for quotation is by far the least complex procurement method available. If you have the option, use this method to ensure a fast procurement process and not a lot of paperwork. There is no formal proposal drafted from either party in this method. Essentially, the procurement entity selects a minimum of three suppliers or service providers that they wish to get quotes from. A comparison of quotes is analyzed and the best selection determined by requirement compliance is chosen. RFQs request a price quote per item, hour, meter, or other unit of measure.

The following standard documents will be used for project procurement activities:

Standard Request for Proposal Template to include:

Background
Proposal process and timelines
Proposal guidelines
Proposal formats and media
Source selection criteria
Pricing forms
Statement of work
Terms and Conditions

Internal source selection evaluation forms
Non-disclosure agreement
Letter of intent
Firm fixed price contract
Procurement audit form
Procurement performance evaluation form
Lessons learned form

Contract Approval Process

The first step in the contract approval process is to determine what items or services will require procurement from outside vendors. This was determined by conducting a cost analysis on products or services and a list of items and services to be procured externally. Solicitations are sent to outside vendors. Once solicitations are complete and proposals have been received by all vendors the approval process begins. The first step of this process is to conduct a review of all vendor proposals to determine which meet the criteria established by the project team and the purchasing and contracts department. Purchases less than a determined amount only require the approval of the Project Manager; whereas, purchases greater than defined amount must be approved by the Sponsor.

Decision Criteria
The criteria for the selection and award of procurement contracts under this project will be based on the following decision criteria:

- ❖ Ability of the vendor to provide all items by the required delivery date
- ❖ Quality
- ❖ Cost
- ❖ Expected delivery date
- ❖ Comparison of outsourced cost versus in-sourcing
- ❖ Past performance

These criteria will be measured by the Project Manager. The ultimate decision will be made based on these criteria as well as available resources.

4.10 Stakeholder Management Plan

Stakeholder Management identifies the people, groups and organizations that affect or can be affected by the project. Stakeholder Management analyzed stakeholder expectations and their impact on the project, and developed tactics for engaging stakeholders based on the stakeholders' interest and involvement in the project.

According PMBOK 5th Edition, Stakeholder Management Plan helps ensure that stakeholders are effectively involved in project decisions and execution throughout the lifecycle of the project. The Stakeholder Management Plan includes several sections:

- **Identify Stakeholders** – identify by name and title the people, groups, and organizations that have significant influence on project direction and its success or who are significantly impacted by the project.
- **Plan Stakeholder Management** – identify the strategies and mechanisms that will be used to achieve the greatest support of stakeholders and minimize resistance.
- **Manage Stakeholder Engagement** – outlines the processes and steps that will be undertaken to carry out the planned strategies.
- **Control Stakeholder Engagement** – describes the methods that will be used to monitor stakeholder engagement and alert the project team if problems are surfacing.

Figure 21 Overview of Stakeholders Management Plan (Source: PMBOK 2013)

Stakeholder Analysis Grid

A stakeholder of a project can come in many forms and as such needs to be managed. The project manager needs to have a thorough understanding of each of your stakeholders so that your interactions with them fit their level of interest and influence over your project.

Stakeholder Analysis Grid has the following sections:

❖ Key Player - High Power, high Interest: these are the stakeholders that must be fully engaged, and make the greatest efforts to satisfy.

❖ Important Player - High Power, low Interest: put enough work in with these stakeholders to keep them satisfied, but not so much that they become bored with your message.

❖ Affected Player - Low power, high Interest: keep these stakeholders adequately informed, and talk to them to ensure that no major issues are arising. These stakeholders can often be very helpful with the detail of your project.

❖ Potential Player - Low power, low Interest: again, monitor these stakeholders, but do not bore them with excessive communication.

High

Important Players (Keep Satisfied) High Power, Low Interest	**Key Players (Manage Closely) High Power, High Interest**
Potential Players (Monitor for Change) Low Interest, Low	**Affected Players (Keep Informed) Low Power, High Interest**

Power

Low

Low   Interest   High
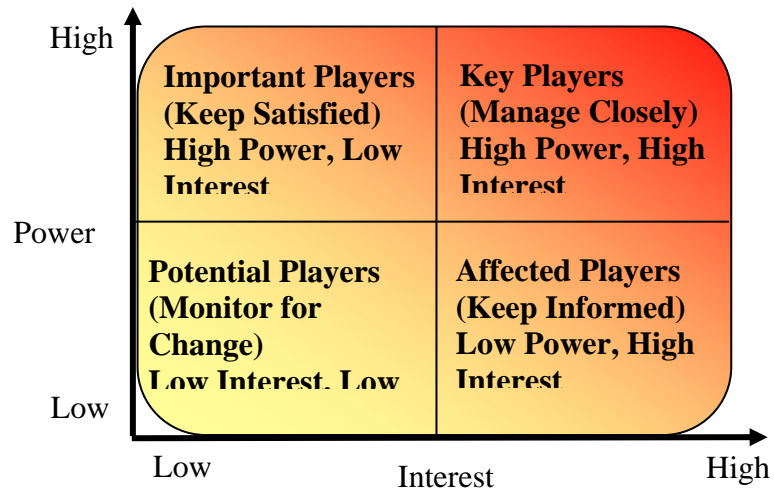
Figure 22 Stakeholders' Analysis Grid (Source: PMBOK 2013)

4.10.1 Identify Stakeholders

Stakeholders need to be clearly identified and assessed by performing stakeholder analysis where stakeholders and relevant information are gathered, documented and analyzed.

Figure 23 Typical Stakeholders (Source: PMBOK 2013)

Chart 21 General & Maritime Stakeholder Register (Source compiled by Author)

Name	Department	Title	Role on Project	Expectations	Power (E.g. ability to effect changes to planning or execution) – low or high?	Interest (E.g. level of impact /involvement) – low or high?	Stakeholder Category & Action (See Appendix A grid to assign category)
Oswald Veira	All	Manager, Operations	Sponsor	Project to fulfill Business Case objectives: process efficiencies, improved compliance, security, reporting, integration and collaboration	High	High	Key Player (manage closely)
Bert King	Nil	Director	Steering Committee	instrumental in implementing and sustaining project management standards, structures, and policies	High	High	Key Player (manage closely)
Cornelius Joseph	Shipping	Shareholder	Steering Committee	instrumental in implementing and sustaining project management standards, structures, and policies	High	High	Key Player (manage closely)
Donna De Freitas	All	Internal Auditor	Project Team Member	Contributing to overall project objectives; Completing individual deliverables; Providing expertise; Working with users to establish and meet business needs; Documenting the process	Low	high	Keep Informed
Capt. Jordan Monocandilos	Shipping	Ship Owners	Stakeholder	Project activities are central to the success of the industry.	High	Low	Keep Satisfied
Tonie Cato	all	Project Manager	Project Manager	Develop a project plan; Manage deliverables according to the plan;	High	High	Key Player (manage closely)

				Recruit project staff; Lead and manage the project team; Establish a project schedule and determine each phase; Assign tasks to project team members; Provide regular updates to upper management			
Ralph Baynes	all	External Accountant	Project Team Lead	provide company policy an resources, particularly people who are involved in the project	High	High	Key Player
Shanna Ryan	Wholesale /Retail	Employees	Project Team Member	Contributing to overall project objectives; Completing individual deliverables; Providing expertise; Working with users to establish and meet business needs; Documenting the process	Low	High	Keep Informed
House of Paper	Wholesale /Retail	Suppliers	Suppliers	Nil	High	low	Keep Satisfied
Public	all	Customers	Customers	The person or group that receives the final output(s) the project produces;	Low	High	Keep Informed

The very nature of this plan was closely linked to the communications management plan. It is within this plan that the level and nature of communication will be defined for each stakeholder. Such communications will contain sufficient information so that the interests of each stakeholder are met.

To manage stakeholders effectively a project manger must have excellent communications skills and good working to preserve individual's support and respect. There are several tools that project managers use to effectively control stakeholder engagement. With the support from key stakeholders the project was kept on track and these individuals win the support of the other stakeholders.

Chart 22 GMA Stakeholder Engagement Matrix (Source compiled by Author)

Stakeholders' Name/Group	Contact Information	Influence	Impact	Main Interests	Strategy for engaging Stakeholders
Oswald Veira	17844562400	High	High	Company sustainability, share options Salary	Face to Face, Emails
Cornelius Joseph	17844562400	High	High	Share price growth, dividends	Face to Face. Emails
Donna DeFreitas	17844562400	Low	High	Salary, Job Satisfaction, Job Security	Employee Information Boards, Fortnightly meetings
Tonie Cato	Tonie.fosterbaynes @gmail.com	High	High	Timely Project Completion, within Budget Quality Product	Face to Face, Emails, Information Boards, Fortnightly meetings
Ralph Baynes	Ralph.baynes@gmail.com	High	High	Company Sustainability, Job Satisfaction	Face to Face. Emails

Shanna Ryan	17844562400	Low	High	Salary, Job Satisfaction, Job Security	Employee Information Boards, Fortnightly meetings
Vendors	Directory	Low	Low	Reliable and prompt payment, long term contracts	Quotation Requests, Email
Public/ Customers	Directory	Low	High	Quality products and services, value for money and prompt customer service	Public Information Board

5. CONCLUSION

The development of the Project Management Plan for General & Maritime Agencies Computerization of Manual Operation System Management has lead to a methodology for improved efficacy through strategic facilitation of the GMA's scope, change, schedule, cost, quality, human resource, communication, risk, procurement and stakeholder components. Each component evaluated using the project management methodology, including its tools and techniques to produce a comprehensive output, the project management plan.

1. The components of this study were geared towards planning for the conversion of the current manual operations into an efficient, user-friendly, computerized environment using analytical research method and the fifth edition of the *PMBOK® Guide;* established project management tools and techniques; reassessment; and periodic discussion, developed a plan for the GMA.

2. The Project Charter was the first element of the Project Management Plan. Using a template as a guide, the business needs and objectives, project description, preliminary scope statement, initial project risks, project deliverables, summary milestones, and FGP budget captured and organized as part of the stakeholder engagement and formally adopting the project. The Project Charter also included identification of the project manager and the sponsor's authorization for the project to commence.

3. The scope of the project was not easily attainable yet through interviews and expert consultation it was defined and specified. The Scope Management Plan created for specific objective one was the first deliverable. Other documents within this plan are the WBS, and the WBS dictionary. They developed from a table or template, capturing the

information gathered during meetings with project stakeholders and from project document reviews.

4. The Change Management Plan fulfilled specific objective two. The deliverable details the change control process, roles and responsibilities relating to changes. It identifies the documentation used in change management namely Change Request Forms and Change Control Log. This facilitates the conversion process associated with the project by maintaining its day-to-day operations, address employee concerns and align existing resources.

5. The Schedule Management Plan functioned in accordadnce with specific objective three. It contained the Activity List and Resource Assignments table and Schedule Network Diagram to identify each project activity to propose the project's completion within the time constraints.

6. The Cost Management Plan was created, and the project budget developed in Microsoft Excel, and the Cost Baseline. This plan fulfills the specific objective and deliverable number four.

7. To develop the Quality Management Plan, deliverable five, a template was used to identify the project's quality management approach, quality standards, quality assurance, quality control, and the quality control measures that will be used throughout the project.

8. The Human Resource Management Plan address specific objective number six, all human resources required to complete the project were identified and classified on their roles and responsibilities. In addition, details identifying how the human resources will be managed throughout the project are detailed in the plan.

9. The Project Communications Plan fulfilled specific objective number seven. A template was used along with a list of all stakeholders and their roles and responsibilities. In addition, a Communications Matrix was developed, detailing all project stakeholders (names/titles, information, format) throughout the project lifecycle.

10. The Risk Management Plan was created using a template and satisfied deliverable number eight. It captured and classified project risks, so that effective risk responses could be planned, a Risk Register was developed. A Qualitative and Quantitative Risk Analysis was not performed during this process as the tools were not available for use.

11. The Procurement Management Plan deliverable, created for specific objective nine, was developed using a template to identify the project's procurement management approach, types of contracts used and contract approval process. The plan is comprehensive in that it also details procurement risks and constraints, and how these issues, along with vendors, will be managed effectively.

12. The Stakeholder Management Plan, developed for specific objective ten, was developed using a template. In addition to the plan, which detail how stakeholders will be identified, classified, managed and engaged throughout the project, the Stakeholder Register and Stakeholder Analysis and Level of Engagement were also developed to provide more information for effective stakeholder engagemen

6. RECOMMENDATIONS

Having completed this exercise the student makes the following recommendations to the Managing director of the General and Maritime Agencies. The following recommendations are related to the Project Management Plan and are meant to further supplement the current project objectives.

I. General and Maritime Agencies should initiate a formal Project Management method to advance its project processes from planning, execution through to the completion of their computerized operation system project.

II. The development of project management planning documents and templates ensures that project requirements be fulfilled and establish traceability regarding work done. Appropriate documentation laid the foundation for quality for the entire project.

III. General and Maritime Agencies should use the Project Management Framework to guide the development of each subsidiary plan within the Project Management Plan to ensure that all knowledge areas application is methodical and comprehensive.

IV. Investment in project management tools including software and Project Management body subscription facilitates employees across the organization. They can effectively collaborate and have an input in the project management application process where milestones and tasks are assigned with a specific deadline.

V. The project management team should create a document management and storage system, using a computerized system to

organize and store all documents created for future use and review of a complementary quality management plan to comply with international source document standards.

VI. Develop a General and Maritime Operations Manual using project management methods, and tools and techniques; to aid staff in the revised system and it functions. Repetitive use and easy access to Project Management Knowledge foster learning about methodology's impact on the system and enable each staff member to be able to perform tasks efficiently.

VII. Investigation into a static IP and VPN Routers as a communication channel for the operation using a single data file to complete the management communication requirement incorporate the data flow of the from all departments and engage all stakeholders cost effectively.

VIII. The Managing Director of General and Maritime Agencies should ensure that the project management team be hired and in place prior to the execution of the project and ensure that this team conduct all project planning related activities in order to enhance the proper management of the project during its lifecycle.

8. BIBLIOGRAPHY

Busines Dictionary. (2017, August). Retrieved from
www.businessdictionary.com/definition/research-methodology.html

Ithaca College Library. (2017, August). Retrieved from
https://library.ithaca.edu/sp/subjects/primary

K., S. (2010). In *Revised An Introduction to Project Management Third Edition* (p. 510). Kathy Schwalbe, LLC .

Learning Tree International. (2017, August). Retrieved from
http://blog.learningtree.com/identifying-project-assumptions-and-constraints/

Project Management Institute. (2013). *A Guide to the Project Management Body of Knowledge (PMBOK Guide) Fifth Edition.* Project Management Institute Inc.

Quality Digest. (2017, August 28). Retrieved from
https://www.qualitydigest.com/sixsigma/index.lasso

Robert Wood Johnson Foundation. (2017, August). Retrieved from
www.qualres.org

Study.com. (2017, August). Retrieved from Research Methodology:
study.com/academy/lesson/research-methodology-approaches-techniques-quiz.html

Successful Project. (2017, August 23). Retrieved from
www.successfulprojects.com/

The Association for Project Management United Kingdom. (2017, August 7). *APM Organisation United Kingdom*. Retrieved from
https://www.apm.org.uk/resources/what-is-project-management/

University of Victoria. (2017, August). Retrieved from
https://www.uvic.ca/library/research/tips/primvsec/index.php

Verzuh. (2008). The Fast Forward MBA in Project Management. Wiley.

Webster Dictionary. (2017, August 8). *Websters*. Retrieved from
    https://www.merriam-webster.com/dictionary/quality
Wikipedia. (2017, August 30). Retrieved from
    https://en.wikipedia.org/wiki/Information_source

APPENDICES

Appendix 1: FGP Charter

PROJECT CHARTER	
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:**
26th June, 2017	Project Management Plan for the Computerization of Manual Operations for General and Maritime Agencies.
Knowledge Areas / Processes	**Applicacion Area (Sector / Activity)**
Knowledge areas: Integration Scope Time Cost Quality Procurement Human resources Communications Risk management Stakeholder management **Process groups:** Initiating Planning	**Corporate**
Start date	**Finish date**
26th June, 2017.	February 18th 2018.
Project Objectives (general and specific)	

General objective:

To create a project management plan through integrated application of project

management knowledge for the computerization of manual operation system project

for General and Maritime Agencies. Specific objectives:

1. To develop a Scope Management Plan to clearly define how the project scope

   will be defined, developed and controlled through the scope statement, work

   breakdown structure and associated work breakdown structure dictionary.

2. To develop a Change Management Plan to clearly design and estimate the

scale of the change effort made to a system to ensure that it is implemented effectively into the business.

3. To develop a Schedule/Time Management Plan to clearly define the format and establish the criteria for controlling the project schedule by outlining the development of the project schedule processes used to compare actual work progress to the planned activity schedule.

4. To develop a Cost Management Plan to clearly specify the format and establish the criteria for planning, structuring, budgeting, and controlling project costs to determine a high level of accuracy of cost estimates.

5. To develop a Quality Management Plan to clearly establish and properly distribute information on how quality assurance will be performed for the project by providing benchmarks as a Quality Policy.

6. To develop a Human Resource Management Plan to clearly identify and document the organization plan by demarcating project roles, responsibilities, required skills, reporting relationship.

7. To develop a Communications Management Plan to clearly outline the processes of identifying stakeholder communication requirements and information format and the methods or techniques for conveying the information.

8. To develop a Risk Management Plan to clearly define the strategies to increase the probability and impact of positive events and decrease the probability and impact of negative events in a project by utilizing the processes set out by Project Management Book of Knowledge.

9. To develop a Procurement Management Plan to clearly determine activities in relation to purchasing or acquiring services from outside the project entity whether buyer or vendor.

10. To develop a Stakeholders management plan to document, identify, engage, and collaborate with all the project stakeholders to ensure effective stakeholder partnership.

Project purpose or justification (merit and expected results)

A Final Graduation Project is part of the University's criteria for final year students to show professionalism, applicability, attitude and implementation in the process of elaborating. Students demonstrate that they can develop a project, based on knowledge, skills and abilities which have been taught and developed through their graduate studies in project management.

There are several benefits gained by developing a project management plan. First, establishing a project management plan determines future projections and progress is checked against these projections.   In addition, using the project management methodology developed from the Project Management Book of Knowledge should be a requirement, because its knowledge areas capture a holistic view of the project and is used as a best practice for future projects and to problem solve before the project begins to curb risks. Finally effective planning leads to project success, not just meeting deadlines within budget but also delivering what the client actually wanted.

A project management plan was selected as the Final Graduation Project due to the limited execution time of three months. It provides the perfect opportunity to problem solve. Every decision is perceived from different angles within each subsidiary plan. A project management plan is a proactive endeavor that identifies potential issues as early as possible so that steps can be taken to correct them sooner rather than later.

Description of Product or Service to be generated by the Project – Project final deliverables

1. A Scope Management Plan.

2. A Change Management.

3. A Schedule/Time Management Plan.

4. A Cost Management Plan.

5. A Quality Management Plan.

6. A Human Resource Management.

7. A Communications Management Plan.

8. A Risk Management Plan.

9. A Procurement Management Plan.

10. A Stakeholder Management Plan

Assumptions

Project can be completed within the three month timeline expressed by the University.

Constraints

Time Constraint: The final graduation project needs to comply with the timeline expressed by the university. The Final Graduation Project has a limited execution time of three months with a tight and stringent schedule.

Preliminary risks

- If the manager changes his mind and might want to include wholesale processes in the projectl it will impact the scope.

- If the current employees are resistant about sharing information it might impact the time taken to complete the project and affect the completion time.
- If relevant documentation is missing it might affect the validity of the project impacting the quality.

Budget

General cost estimate of the main items/deliverables for project budget is approximately US$350.00. The cost incorporates documenting existing process situation by listing current documents and reports with analysis, develop and print process flow diagrams and narrative describing the proposed processes and compiling a completed Project Management Plan.

Milestones and dates

Milestone	Start date	End date
Project Start	1 July 2017	
Project Charter	1 July 2017	6 July
WBS	11 July 2017	17 July 2017
Introduction	16 August 2017	22 August 2017
Theoritical Framework	23 July 2017	29 August 2017
Methodological Framework	30 August 2017	5 September 2017
Annexes	6 September 2017	6 September 2017

Bibilography	7 September 2017	7 September 2017
Schedule	8 September 2017	11 September 2017
Tutoring	13 September 2017	15 November 20017
FGP Adjustments	12 December 2017	20 December 2017
Planning Process (Results)	28 August 2017	17 November 2017
Scope Management Plan	28 August 2017	31 August 2017
Change Management Plan	19 September 2017	21 September 2017
Schedule Management Plan	1 September 2017	18 September 2017
Cost Management Plan	21 September 2017	3 October 2017
Quality Management Plan	28 August 2017	5 September 2017
Human Resource Management Plan	21 September 2017	29 September 2017
Communications Management Plan	28 August 2017	8 September 2017
Risk Management Plan	28 August 2017	25 September 2017
Procurement Management Plan	18 September 2017	13 October 2017
Stakeholders Management Plan	28 August 2017	8 September 2017
Project Integration: Project Management Plan Complete	31 October 2017	14 November 2017
Conclusions	15 November 2017	16 November 2017
Recommendation	15 November 2017	16 November 2017
Tutor Approval	17 November 2017	17 November 2017
Assignment Request	24 November 2017	4 December 2017
Reviewers report	5 December 2017	8 December 2017
Adjustments	8 December 2017	14 December 2017

Relevant historical information
General & Maritime Agencies Limited is a service provider company that has been in business for many years with its founder Oswald Veira. Over the years, it has expanded its business operations in the areas of shipping, custom brokerage, maritime, wholesale and agent's services.   There have not been similar efforts relating to this project.

Stakeholders	
Direct stakeholders: Company General Manager/Managing Director-Oswald Veira FGP Lecturer-Mr Brenes Tutor- Mr. Ceciliano Company Internal Auditor-Ralph Baynes Project Manager- Tonie Cato Indirect stakeholders: Academic Advisors Reviewers Parents	
Project Manager:TONIE CATO	**Signature: Tonie Cato**
Authorized by: OSWALD VEIRA RALPH BAYNES	**Signature: Oswald Veira Ralph Baynes**

Appendix 2: FGP WBS

ID		Task Mode	Task Name	Duration	Start	Finish
0			**PMI Process**	124 days?	Sat 7/1/17	Thu 12/21
1			Graduation Seminar	25 days	Wed 7/12/17	Tue 8/15/17
2			FGP Deliverables	22 days	Mon 7/17/17	Tue 8/15/17
3			Charter	5 days	Sat 7/1/17	Thu 7/6/17
4			WBS	5 days	Tue 7/11/17	Mon 7/17/17
5			Introduction	5 days	Wed 8/16/1	Tue 8/22/17
6			Theoritical Framework	5 days	Wed 8/23/17	Tue 8/29/17
7			Methodolog Framework	5 days	Wed 8/30/17	Tue 9/5/17
8			Annexes	1 day?	Wed 9/6/17	Wed 9/6/17
9			Bibilography	1 day?	Thu 9/7/17	Thu 9/7/17
10			Schedule	2 days	Fri 9/8/17	Mon 9/11/1
11			Graduation Seminar App.	1 day?	Tue 9/12/17	Tue 9/12/17
12			Tutoring Process	60 days	Wed 9/13/17	Tue 12/5/17
13			Tutor	1 day?	Wed 12/6/17	Wed 12/6/17
14			Tutoring Assignment	1 day?	Thu 12/7/17	Thu 12/7/17
15			Communical	2 days	Fri 12/8/17	Mon 12/11/
16			Adjustment	7 days	Tue 12/12/1	Wed 12/20/
17			Produce Outputs from	20 days	Thu 8/31/17	Wed 9/27/17
18			Develop Project	1 day?	Thu 12/21/17	Thu 12/21/17
19			Develop Preliminary Project Scope Statement	7 days	Wed 9/13/17	Thu 9/21/17

Appendix 3: FGP WBS Schedule

Task Mode	Task Name	Duration	Start	Finish	Predecessors
Auto Scheduled	PMI Process	124 days?	Sat 7/1/17	Thu 12/21/17	
Auto Scheduled	Graduation Seminar	25 days	Wed 7/12/17	Tue 8/15/17	
Auto Scheduled	FGP Deliverables	22 days	Mon 7/17/17	Tue 8/15/17	
Manually Scheduled	Charter	5 days	Sat 7/1/17	Thu 7/6/17	
Manually Scheduled	WBS	5 days	Tue 7/11/17	Mon 7/17/17	
Auto Scheduled	Introduction	5 days	Wed 8/16/17	Tue 8/22/17	1,2
Auto Scheduled	Theoritical Framework	5 days	Wed 8/23/17	Tue 8/29/17	5
Auto Scheduled	Methodological Framework	5 days	Wed 8/30/17	Tue 9/5/17	6
Auto Scheduled	Annexes	1 day?	Wed 9/6/17	Wed 9/6/17	7
Auto Scheduled	Bibilography	1 day?	Thu 9/7/17	Thu 9/7/17	8
Auto Scheduled	Schedule	2 days	Fri 9/8/17	Mon 9/11/17	9
Auto Scheduled	Graduation Seminar App.	1 day?	Tue 9/12/17	Tue 9/12/17	10
Auto Scheduled	Tutoring Process	60 days	Wed 9/13/17	Tue 12/5/17	11
Auto Scheduled	Tutor	1 day?	Wed 12/6/17	Wed 12/6/17	12
Auto Scheduled	Tutoring Assignment	1 day?	Thu 12/7/17	Thu 12/7/17	13
Auto Scheduled	Communication	2 days	Fri 12/8/17	Mon 12/11/17	14
Auto Scheduled	Adjustments	7 days	Tue 12/12/17	Wed 12/20/17	15

Manually Scheduled	Produce Outputs from Initiation	20 days	Thu 8/31/17	Wed 9/27/17	
Auto Scheduled	Develop Project Charter (3.2.1.1)	1 day?	Thu 12/21/17	Thu 12/21/17	16
Auto Scheduled	Develop Preliminary Project Scope Statement (3.2.1.2)	7 days	Wed 9/13/17	Thu 9/21/17	11
Manually Scheduled	Initiation Processes COMPLETE	12 days	Mon 7/31/17	Tue 8/15/17	18,19
Manually Scheduled	Planning Processes (3.2.2.1)	60 days	Mon 8/28/17	Fri 11/17/17	
Auto Scheduled	Scope Management Processes	3 days?	Mon 8/28/17	Wed 8/30/17	
Auto Scheduled	Perform Scope Planning (3.2.2.2)	1 day?	Mon 8/28/17	Mon 8/28/17	20
Auto Scheduled	Complete Scope Definition (3.2.2.3)	1 day?	Tue 8/29/17	Tue 8/29/17	23
Auto Scheduled	Create WBS to level of Work Packages (3.2.2.4)	1 day?	Wed 8/30/17	Wed 8/30/17	24
Auto Scheduled	Activity Planning	15 days?	Thu 8/31/17	Wed 9/20/17	
Auto Scheduled	Define Activities (3.2.2.5)	7 days	Thu 8/31/17	Fri 9/8/17	25
Auto Scheduled	Determine Activity Sequence (3.2.2.6)	5 days	Mon 9/11/17	Fri 9/15/17	27
Auto Scheduled	Define Activity Resource Estimates (3.2.2.7)	3 days	Mon 9/18/17	Wed 9/20/17	28
Auto Scheduled	Define Activity Duration	1 day?	Mon 9/18/17	Mon 9/18/17	28

	Estimates (3.2.2.8)				
Auto Scheduled	Cost Planning	9 days	Thu 9/21/17	Tue 10/3/17	
Auto Scheduled	Develop cost estimates (3.2.2.10)	6 days	Thu 9/21/17	Thu 9/28/17	29,30
Auto Scheduled	Develop cost budget (3.2.2.11)	3 days	Fri 9/29/17	Tue 10/3/17	32
Auto Scheduled	Complete Quality Plan (3.2.2.12)	7 days	Mon 8/28/17	Tue 9/5/17	20
Auto Scheduled	Complete Human Resource Plan (3.2.2.13)	7 days	Thu 9/21/17	Fri 9/29/17	29,20
Auto Scheduled	Complete Communication Plan (3.2.2.14)	7 days	Thu 8/31/17	Fri 9/8/17	25,20
Auto Scheduled	Risk Management Processes	21 days	Mon 8/28/17	Mon 9/25/17	
Auto Scheduled	Establish Risk Management Plan (3.2.2.15)	7 days	Mon 8/28/17	Tue 9/5/17	20
Auto Scheduled	Perform Initial Risk Identification (3.2.2.16)	5 days	Wed 9/6/17	Tue 9/12/17	38,25
Auto Scheduled	Establish Qualitative Risk Analysis Process (3.2.2.17)	7 days	Wed 9/6/17	Thu 9/14/17	38
Auto Scheduled	Establish Quantitative Risk Analysis Process (3.2.2.18)	7 days	Wed 9/6/17	Thu 9/14/17	38
Auto Scheduled	Create Risk Response Planning Process (3.2.2.19)	7 days	Fri 9/15/17	Mon 9/25/17	39,40,41
Auto	Procurement	20 days	Mon	Fri	

Scheduled	Management Processes		9/18/17	10/13/17	
Auto Scheduled	**Plan purchases and acquisitions (3.2.2.20)**	10 days	Mon 9/18/17	Fri 9/29/17	28
Auto Scheduled	**Plan project contracting (3.2.2.21)**	10 days	Mon 10/2/17	Fri 10/13/17	44
Auto Scheduled	**Complete Schedule Development (3.2.2.9)**	11 days	Mon 10/16/17	Mon 10/30/17	33,34,35,36,42,45
Auto Scheduled	**Planning Phase COMPLETE**	11 days	Tue 10/31/17	Tue 11/14/17	46
Auto Scheduled	**Execution and Monitoring & Controlling Processes**	7 days?	Wed 11/15/17	Thu 11/23/17	
Auto Scheduled	**Conclusions**	1 day?	Wed 11/15/17	Wed 11/15/17	47
Auto Scheduled	**Recommendations**	1 day?	Wed 11/15/17	Wed 11/15/17	47
Auto Scheduled	**Reviewers Reading**	7 days	Wed 11/15/17	Thu 11/23/17	47
Auto Scheduled	**Assignment Request**	7 days	Fri 11/24/17	Mon 12/4/17	49,50,51
Auto Scheduled	**Two Reviewers**	1 day?	Mon 12/4/17	Mon 12/4/17	
Auto Scheduled	**Communication**	5 days	Mon 12/4/17	Fri 12/8/17	
Auto Scheduled	**FGP Submission**	2 days	Mon 12/4/17	Tue 12/5/17	
Auto Scheduled	**Reviewers work**	5 days	Mon 12/4/17	Fri 12/8/17	
Auto Scheduled	**Reviewer**	2 days	Mon 12/4/17	Tue 12/5/17	
Auto Scheduled	**FGP Reading**	4 days	Mon 12/4/17	Thu 12/7/17	
Auto	**Reader 1 report**	5 days	Mon	Fri	

Scheduled			12/4/17	12/8/17	
Auto Scheduled	Reviewer	2 days	Mon 12/4/17	Tue 12/5/17	
Auto Scheduled	FGP Reading	4 days	Mon 12/4/17	Thu 12/7/17	
Auto Scheduled	Reader 2 Report	5 days	Mon 12/4/17	Fri 12/8/17	
Auto Scheduled	Adjustments	7 days	Mon 12/4/17	Tue 12/12/17	
Auto Scheduled	Report for reviewers	5 days	Mon 12/4/17	Fri 12/8/17	
Auto Scheduled	FGP Update	2 days	Mon 12/4/17	Tue 12/5/17	
Auto Scheduled	Second Review	5 days	Mon 12/4/17	Fri 12/8/17	
Auto Scheduled	Closing Processes	5 days?	Tue 12/5/17	Mon 12/11/17	
Auto Scheduled	Board Presentation	1 day?	Tue 12/5/17	Tue 12/5/17	52
Auto Scheduled	Final Review	5 days	Tue 12/5/17	Mon 12/11/17	52
Auto Scheduled	FDP Grade Report	3 days	Tue 12/12/17	Thu 12/14/17	68,69
Auto Scheduled	FGP End	5 days	Fri 12/15/17	Thu 12/21/17	70

Appendix 4: General & Maritime Agencies WBS

Project Management of the Computerization of the Manual Operation of General Maritime Agencies

1. Initiation Phase
- 1.1 Business case development
- 1.2 Project manager appointment
- 1.3 Project Team installation
- 1.4 Project Charter Development

2. Project Planning Phase
- 2.1 Project Deliverables Development
  - 2.1.1 Scope Management Plan
  - 2.1.2 Change Management Plan
  - 2.1.3 Time Management Plan
  - 2.1.4 Cost Management Plan
  - 2.1.5 Quality Management Plan
  - 2.1.6 Human Resource Management Plan
  - 2.1.7 Communication Management Plan
  - 2.1.8 Risk Management Plan
  - 2.1.9 Procurement Management Plan
  - 2.1.10 Stakeholders Management Plan
- 2.2 Project Management Plan

3. Current System Revision Phase
- 3.1 Identification of Internal Procedures & Documents
- 3.2 Revision of Department's Service Procedures
- 3.3 Documentation of Data Entry Points
- 3.4 Department's Revision of Classifications, Master Files, & Coding Structures
- 3.5 Query Staffs & End-users.

4. System conversion Phase
- 4.1 Modify Internal Procedures & Documentation
- 4.2 Operation Structure Adjustment
- 4.3 Software Specification Requirement
- 4.4 Evaluation & Selection of Software Packages
- 4.5 Contact Vendors & Negotiate Terms
- 4.6 Acquisition of Software
- 4.7 Identification of Hardware Requirements
- 4.8 Purchase & Install Hardware & Software
- 4.9 Redesign Management Reports
- 4.10 Amendments of Accounts Charts & Scheme

5. System Audit & Control
- 5.1 Identification of System Functions & Job Skills
- 5.2 Train Current Staff & Management
- 5.3 Installation of Tech Support
- 5.4 Current Data input
- 5.5 Historical Data input

Appendix 5: General & Maritime Agencies WBS Dictionary

WBS Element Definitions

WBS Code	WBS Element
1.	Initiation Phase
WBS Element Description	
Defines all major aspects of a project and forms the basis for its management and the assessment of overall success.	

WBS Code	WBS Element
1.1	Business Case Development
WBS Element Description	
Outlines the benefits, disadvantages, costs, and risks of the current situation and future vision so that executive management can decide if the project is worthwhile.	

WBS Code	WBS Element
1.2	Project Manager Appointment
WBS Element Description	
Decide who will be responsible for handling the day-to-day needs of the project and making any adjustments and consultations necessary.	

WBS Code	WBS Element
1.3	Project Team Installation
WBS Element Description	
Determine individuals who actively work on one or more phases of the project who may be in-house staff or external consultants, working full-time or part-time basis.	

WBS Code	WBS Element
1.4	Project Charter Development
WBS Element Description	
Create a document that formally authorizes the existence of a project where organizational resources are utilized for project activities; spearheaded by the project manager with the authority from senior management.	

WBS Element Definitions

WBS Code	WBS Element
2.	Project Planning Phase
WBS Element Description	
A set of plans to help guide your team through the execution and closure phases of the project.	

WBS Code	WBS Element
2.1	Project Deliverables Development
WBS Element Description	
Define the desired project results and work through the stages for each of them.	

WBS Code	WBS Element
2.1.1	Scope Management Plan
WBS Element Description	
Details how the project scope will be defined, developed, and monitored, controlled and verified.	

WBS Code	WBS Element
2.1.2	Change Management Plan
WBS Element Description	
Documents and tacks the necessary information required to effectively manage project change from project inception to delivery	

WBS Code	WBS Element
2.1.3	Time Management Plan
WBS Element Description	
Establish procedures, and documentation which provides guidance and direction for planning, developing, managing, executing, and controlling the project schedule	

WBS Code	WBS Element
2.1.4	Cost Management Plan
WBS Element Description	
Identifies the cost and effort estimates of the project and describe procedures used to deal with any increases.	

WBS Code	WBS Element
2.1.5	Quality Management Plan
WBS Element Description	
Defines the acceptable level of quality and describes how the project ensure the level of quality in its deliverables and work processes	

WBS Code	WBS Element
2.1.6	Human Resource Management Plan
WBS Element Description	
Lists current and future human resources needs for an organization to achieve its overall strategic plan of an organization.	

WBS Code	WBS Element
2.1.7	Communication Management Plan

WBS Element Description
A working document that defines the communication requirements for the project and how information was distributed to and feedback received from all stakeholders.

WBS Code	WBS Element
2.1.8	Risk Management Plan

WBS Element Description
Document foreseen risks, estimate impacts, and define responses to issues; along with a risk assessment matrix prepared by a project manager.

WBS Code	WBS Element
2.1.9	Procurement Management Plan

WBS Element Description
Defines the procurement requirements and its management by developing procurement documentation through contract closure.

WBS Code	WBS Element
2.1.10	Stakeholders Management Plan

WBS Element Description
Details the project's activities related to engaging stakeholders and making the most effective use of their participation

WBS Code	WBS Element
2.2	Project Management Plan
WBS Element Description	
An approved, detailed document that include baselines, subsidiary management plans, and other planning documents that defines how the project is executed, monitored, and controlled	

WBS Element Definitions

WBS Code	WBS Element
3.	Current System Revision Phase
WBS Element Description	
A document to provide a systematic approach in performing an existing systems assessment, whose assessment results serve to identify weaknesses of the existing systems and initiate improvement activities	

WBS Code	WBS Element
3.1	Identification of Internal Procedures & Documents
WBS Element Description	
Determine documentation procedures that details documents the company requires to implement its control systems and assign responsibility for tasks and actions.	

WBS Code	WBS Element
3.2	Revision of Department's Service Procedures
WBS Element Description	
Assess instructions intended to document how to perform a routine activity as a useful tool to communicate important corporate policies, government regulations, and best practices to help ensure consistency and quality.	

WBS Code	WBS Element
3.3	Documentation of Data Entry Points
WBS Element Description	

Identify the departments where initial data enters the system that represent either business objectives or new information on a revolving basis.

WBS Code	WBS Element
3.4	Department's Revision of Classifications, Master Files, & Coding Structures
WBS Element Description	
Identify individual departments to determine appropriate classification against a standard or framework to embed codes that further define the structure and support reporting purposes	

WBS Code	WBS Element
3.5	Query Staffs & End-users
WBS Element Description	
Investigate the opinions of staff and end users about the implementation of a computerized operation system.	

WBS Element Definitions

WBS Code	WBS Element
4.	System conversion Phase
WBS Element Description	
Individual components of new system are implemented in phases with adequate planning and scheduling of conversion to include strategic involvement of users, file backup, and adequate security	

WBS Code	WBS Element
4.1	Modification of Internal Procedures & Documentation
WBS Element Description	
Revise the documentation procedures that details documents the company requires to implement its control systems and assign responsibility for tasks and actions; also institute reconciliation among different authors.	

WBS Code	WBS Element
4.2	Operation Structure Adjustment
WBS Element Description	
Modify various departments' job roles to ensure the organization performs its vital tasks and goals effectively	

WBS Code	WBS Element
4.3	Determination of Software Specification Requirement
WBS Element Description	
A comprehensive description of the intended purpose and environment of the software; describing what the software will do and how it will be expected to perform.	

WBS Code	WBS Element
4.4	Evaluation & Selection of Software Packages
WBS Element Description	
Appraise the application system to ensure that the organization's goals and objectives are met.	

WBS Code	WBS Element
4.5	Contact Vendors & Negotiate Terms
WBS Element Description	
Communicate with the party that supply goods and services to companies or consumers and agree to terms and conditions	

WBS Code	WBS Element
4.6	Purchase Software
WBS Element Description	
Acquire application and system software	

WBS Code	WBS Element
4.7	Identification of Hardware Requirements
WBS Element Description	
Recognize the hardware compatibility requirement list of tested, compatible, and sometimes incompatible hardware devices for a particular operating system or application.	

WBS Code	WBS Element
4.8	Purchase & Installation Hardware & Software
WBS Element Description	
Acquire and set up application and system software with compatible hardware	

WBS Code	WBS Element
4.9	Redesign Management Reports
WBS Element Description	
Reformat management reports to focus on business segments and capture details that analyze the drivers of the business.	

WBS Code	WBS Element
4.10	Amendments of Accounts Charts & Scheme
WBS Element Description	
Restructure the accounts to be used, and assign specific codes: division codes, department codes and account code to the different general ledger accounts. This is critical to the way in which financial information is stored and manipulated.	

WBS Element Definitions

WBS Code	WBS Element
5.	System Audit & Control
WBS Element Description	
A comprehensive examination of a system that evaluates its components through testing, audit, and control measures.	

WBS Code	WBS Element
5.1	Identification of System Functions & Job Skills
WBS Element Description	
Determine the internal operating system command, and align appropriate abilities to allow an individual to excel in a particular job.	

WBS Code	WBS Element
5.2	Train Current Staff & Management
WBS Element Description	
Develop a program that helps employees and management to learn specific knowledge or skills to improve performance in their current roles.	

WBS Code	WBS Element
5.3	Installation of New Staff: Tech Support
WBS Element Description	
Hire technical support to assist users of the new system and technology.	

WBS Code	WBS Element
5.4	Current Data Input
WBS Element Description	
Current operational information is put into the new system.	

WBS Code	WBS Element
5.5	Historical Data Input
WBS Element Description	
Previous operational information, up to a particular year and month is put into the new system until up-to-date with current information.	

Appendix 6: General & Maritime Agencies Change Request Form

Project Information			
Project Title:		**Project Number:**	
Project Manager:			
Section 1: Change Request			
Requestor Name: **Requestor Phone:**	**Date of Request:**	**Change Request Number:** *Supplied by (PM)*	
Item to be Changed:		**Priority:**	
Description of Change:			
Estimated Cost & Time:			
Section 2: Change Evaluation			
Evaluated by:	**Work Required:**		
What is Affect:			
Impact to Cost, Schedule, Scope, Quality, and Risk:			
Section 3: Change Resolution			
Accepted **Rejected**	**Approved by (Print):**	**Signature:**	**Date:**
Comments:			
Section 4: Change Tracking			
Completion Date	**Completed by (Print):**	**Signature:**	**Date:**
My signature above indicates that the project documentation has been updated to accurately and comprehensively reflect the approved changes.			

Appendix 7: General & Maritime Agencies Change Request Log Sample

Project Information							
Project Title:					**Project Number:**		
Project Manager:							
Change Number	**Description of Change**	**Priority**	**Date Requested**	**Requested By**	**Status (Evaluating Pending, Approved, Rejected)**	**Date Resolve**	**Resolution/ Comments**

Appendix 8: General & Maritime Agencies Activity List

ID	Name	Predecessor		Successor	
		ID	Relationship	ID	Relationship
2	Tutor Assignment				
3	Communication Establish	2			
4	Adjust Previous Sections	3			
5	Draft Scope Management Plan, Roles, & Product Description	4			
6	Define Scope Control, Change & Verification Develop WBS , & WBS Dictionary and submit	5			
7	Tutor Review	6			
8	Correct Scope Plan	7			
9	Draft Change Management Plan, Change types, change control board	2			
10	Change Roles, Change control Process and submit	9			
11	Tutor Review	10			
12	Correct Change Plan	11			
13	Draft Schedule Management Plan approach define, sequence activities	8			
14	Schedule Roles, threshold, & basline	8,13			
15	Tutor Review	14			
16	Correct Schedule Plan	15			

17	Draft Cost Management Plan, purpose, cost estimation, budget, roles	15, 8, 33, 34			
18	Performance Measurement, Cost Variance, Change Control and submit	17			
19	Tutor Review	18			
20	Correct Cost Plan	19			
21	Draft Quality Management Plan methodology, quality assurance	20			
22	Develop Quality Control, Metrics, Remediation	21			
23	Tutor Review	22			
24	Correct Quality Plan	23			

ID	Name	Predecessor		Successor	
		ID	Relationship	ID	Relationship
25	Draft Human Resource Plan, roles, and organisation, staffing	24			
26	Discuss acquistion, performance review and rewards and submit	25			
27	Tutor Review	26			
28	Correct Human Resource Plan	27			
29	Draft Communication Management Plan, roles, formal & informal communication process	28			
30	Discuss distribution, tracking, and communication changes and submit	29			
31	Tutor Review	30			

32	Correct Communication Management Plan	31			
33	Draft Risk management Plan, identify risks, qualification and monitor mitigation	8,16,20			
34	Draft risk register	33			
35	Tutor Review	34			
36	Correct Risk Plan	35			
37	Draft Procurement Management Plan definition, contract types, & method.	36			
38	Draft procurement decisión criteria and metrics	37			
39	Tutor Review	38			
40	Correct Procurement Plan	39			
41	Draft Stakeholder Management Plan, identify stakeholders, stakeholder register & engagement	3,5,39			
42	Tutor Review	41			
43	Correct Stakeholder Plan	42			
44	Draft conclusions & recommendation	4,8,12,16, 20,24,28, 32,36,40,43			
45	Allow for tutor review	44			
46	Make Corrections	45			
47	Submit Final Project	46			

Appendix 9: General & Maritime Milestones List

Name	Description	Date	Type		
Initiation Phase	Introduce to the project by defining its purpose and describing it deliverables to be produced.		x Internal ☐ External	Final ☐ Interim	x Mandatory ☐ Optional
Scope Management Plan Submission	Stakeholders to the project was identified from Project Commencement		x Internal ☐ External	x Final ☐ Interim	x Mandatory ☐ Optional
Change Management Plan Submission	Change Management documentation was provided to assist with change related matters.		x Internal ☐ External	xFinal ☐ Interim	x Mandatory ☐ Optional
Schedule Management Plan Submission	The activities derived from the deliverable paved the way for the Project plan process		x Internal ☐ External	x Final ☐ Interim	x Mandatory ☐ Optional
Cost Management Plan Submission	Stakeholders would be provided with Access to Project cost related matter to operate within Project budget.		x Internal ☐ External	x Final ☐ Interim	x Mandatory ☐ Optional
Quality Management Plan Submission	Assurance and control is defined and developed along with quality process descriptions, standards, and procedures that are applicable to the project phases.		x Internal ☐ External	x Final ☐ Interim	x Mandatory ☐ Optional
Human Resource Management Plan Submission	Project staff is identified and assigned resources in accordance with the project organizational structure approved in the project charter		x Internal ☐ External	x Final ☐ Interim	x Mandatory ☐ Optional
Communication Management Plan Submission	Project focuses on formal communication elements even though other communication channels exist on informal levels and enhance those discussed within this plan.		x Internal ☐ External	x Final ☐ Interim	x Mandatory ☐ Optional
RiskManagement Plan Submission	Risks are identified to determine the probability and impact of each risk in order to allow the project manager to prioritize the risk avoidance and mitigation strategy.		x Internal ☐ External	x Final ☐ Interim	x Mandatory ☐ Optional

Procurement Management Plan Submission	The Project manager obtain the most suitable vendor that meet the needs of the Project.		x Internal ☐ External	x Final ☐ Interim	x Mandatory ☐ Optional
Stakeholder Management Plan Submission	All stakeholders are given relevant information both historic and present to support the execution of the Project activities.		x Internal ☐ External	x Final ☐ Interim	x Mandatory ☐ Optional
Conclusion, Recommendation & Submission	A better indication will be created of the needs of the Project as it pertains to information technology, human and physical resources		x Internal ☐ External	x Internal ☐ External	x Internal ☐ External

Appendix 10: General & Maritime Preliminary Budget Estimates

Items	Unit /Quantity /Hrs	Cost/Unit/Hr	Sub-Total	Contingency Reserve (10%)	Control Account
Direct Costs:			EC$	EC$	EC$
Service Provider Installations	3	50	150	15	165
Broadband Subscription	3	225	675	68	743
Indirect Cost:					
Security	8	25	200	20	220
Project Management:					
Project Manager	240	50	12000	1200	13200
Project Team	240	40	9600	960	10560
Equipment Cost:					
Software license:	3	3000	9000	900	9900
Licensed Software					
Hardware:					
Desktops	4	2000	8000	800	8800
Laptops	6	1500	9000	900	9900
Servers	2	5000	10000	1000	11000
Routers & Extenders	4	800	3200	320	3520
Back-Ups	3	1000	3000	300	3300
Staffing:					
Historic Data Entry Clerks	240	25	6000	600	6600

IT Specialists	200	40	8000	800	8800
Training Cost & Support	20	100	2000	200	2200
Total Cost of Project			80825	8083	**88908**

Appendix 11: General & Maritime Risk Register

RBS Code	Cause	Risk	Consequence	Probability	Impact	P x I	Mitigation Strategy	Risk Ranking
R1.1	Continual project scope adjustment	Project Scope Changes	Schedule may be overstated	0.1	0.4	.04	Avoid Scope to be agreed to and signed before commencing work.	Low
R1.2	Equipment failures	Inadequate equipment for operations	Conversion Delay	0.5	0.5	.025	Accept Improve communication	Low
R1.3	Lack of peripherals	Delays in computer network installation	Materials delays	0.3	0.01	.03	Avoid Allocate one week of buffer time for resource procurement in cases of returns or exchanges	Low
R1.4	Poor installation	Faulty computer network	Quotation may not reflect the extent of actual work	0.5	0.2	.1	Avoid Site visit are scheduled with specific technical staff	Moderate/Medium
R1.5	Improved	Automate	Efficiency	0.5	0.8	.4	Accept	High

	service	d support improved system					Plan review to ensure that the work is captured correctly within the design.	
R2.1	Use of physical space	Project disrupts operations	Activities may be delayed	0.1	0.8	.08	Mitigate Schedule resources according to availability. Outsource critical skills that may be tied up internally.	Moderate/Medium
R2.2	Unfamiliar processes	Customer Dissatisfaction	Procedure confusion	0.3	0.4	.12	Mitigate Initiate early dialogue. Schedule meetings with stakeholders.	Moderate/Medium
R2.3	Varying expectation	Stakeholders expectation	Overwhelm stakeholder	0.1	0.8	.08	Mitigate Schedule meetings with technical and operational staff to review quality reports.	Moderate/Medium
R2.4	Improper storage of materials or data	Asset Management	Clutter	0.7	0.8	.56	Avoid Additional external Storage	High
R2.5	Improper	Design &	Work site	0.1	0.8	.08	**Mitigate**	**Moderate/M**

	work practice on project	execution of processes	injuries				Daily inspection of workers executing their duties	edium
R3.1	All activities were not considered when budgeting	Cost overrun	Cost may be overstated	0.5	0.8	.4	Mitigate 1) Review budget for and Reallocation of funds from less critical activities	HIgh
R3.2	Poor management of project funding	Pilfering	Poor management and security	0.3	0.2	.06	Mitigation Development of a registry and log system to track accessibility.	Moderate/Medium
R3.3	Changes in internal and external factors	Loss of Revenue	Damage to project materials	0.5	0.4	.2	Avoid Develop resource plan to ensure appropriate measures are taken	HIgh
R3.4	Changes in government taxes	Rising Cost	Higher costing	0.7	0.01	.07	Mitigate Establish contingencies	Moderate/Medium

R4.1	Industry growth	Increased competition	Smaller market share	0.7	0.2	.14	Avoid Avoid excessive tasks for project manager and team leaders	Moderate/Medium
R4.2	Staff leaving	Training	Company brain drain	0.9	0.8	.72	Transfer Develop bonds	Moderate/Medium
R4.3	Select supplier based on lowest bid	Selecting a less than reliable supplier	Competent contractor not invited to bid	0.1	0.8	.08	Transfer Revise negotiated terms.	Moderate/Medium
R4.4	Inclement Weather	Interruptions in the supply of products	Delay in material delivery	0.3	0.01	.03	Mitigate Establishment of lowest suitable standard of resources that can be used	Low
R4.5	Niche	Rapid business growth	Increase demand on employees	0.7	0.8	.56	Mitigate Establishment of a roster system	High
R4.6	Non-compliance with industry standards	Quality inconsistency	Injury or damage to the public	0.1	0.8	.8	Avoid Ensure industry and safety standard violations	High

		Impact (Seriousness)				
		Very Low	Low	Medium	High	Very High
Probability (Likelihood)	Very High					
	High					
	Medium					
	Low					
	Very Low					

Score	Definition
High	An event that is extremely or very likely to occur and whose occurrence will impact the project's cost (and/or schedule) so severely that the project will be terminated or will cause significant cost (and/or schedule) increases (e.g., increases of more than 5 percent) on the project; this risk should be escalated (where possible) and reviewed frequently
Medium	An event that has a 50-50 chance of occurring and, if it occurs, will cause noticeable cost (and/or schedule) increases (e.g., increases of not more than 5 percent) on the project; this risk should be reviewed regularly
Low	An event that is unlikely or very unlikely to occur and, if it occurs, will cause small or no cost (and/or schedule) increase that, in most cases, can be absorbed by the project

Probability	Impact				
0.90	0.045	0.09	0.18	0.36	0.72
0.70	0.035	0.07	0.14	0.28	0.56
0.50	0.025	0.05	0.1	0.2	0.4
0.30	0.015	0.03	0.06	0.12	0.24
0.10	0.005	0.01	0.02	0.04	0.08
	0.05	0.01	0.20	0.40	0.80
	Very Low	Low	Moderate	High	Very high

Probability & Impact Matrix

Legend	
Low Risk	
Moderate Risk	
High Risk	

Probability Scale

Probability	Probability Categories Definition	Probability Definitions
0.90	Highly likely	>90% chance of occurrence
0.70	Likely	70%-89% chance of occurrence
0.50	Even chance	50%-69% chance of occurrence
0.30	Unlikely	30%-49% chance of occurrence
0.10	Highly unlikely	<30% chance of occurrence

Impact Scale

Project Risk Factors	Negative Impact Scale				
	Very Low	Low	Moderate	High	Very high
	0.05	0.10	0.20	0.40	0.80
Quality	Little flaws on the installed computer network.	Some flaws on the installed computer network.	Disruption of operations	Loss of data	Potential harm to property or life.
Scope	Barely noticeable	Minor areas impacted	Major areas impacted	Changes unacceptable to client	Product becomes effectively useless
Cost	Insignificant cost increase	< 10% cost increase	10%-15% cost increase	16%-20% cost increase	>20% cost increase
Time	Complete project slightly over time	< 5% time increase	5%-10% time increase	11%-20% time increase	>20% time increase

Appendix 12 Risk Breakdown Structure
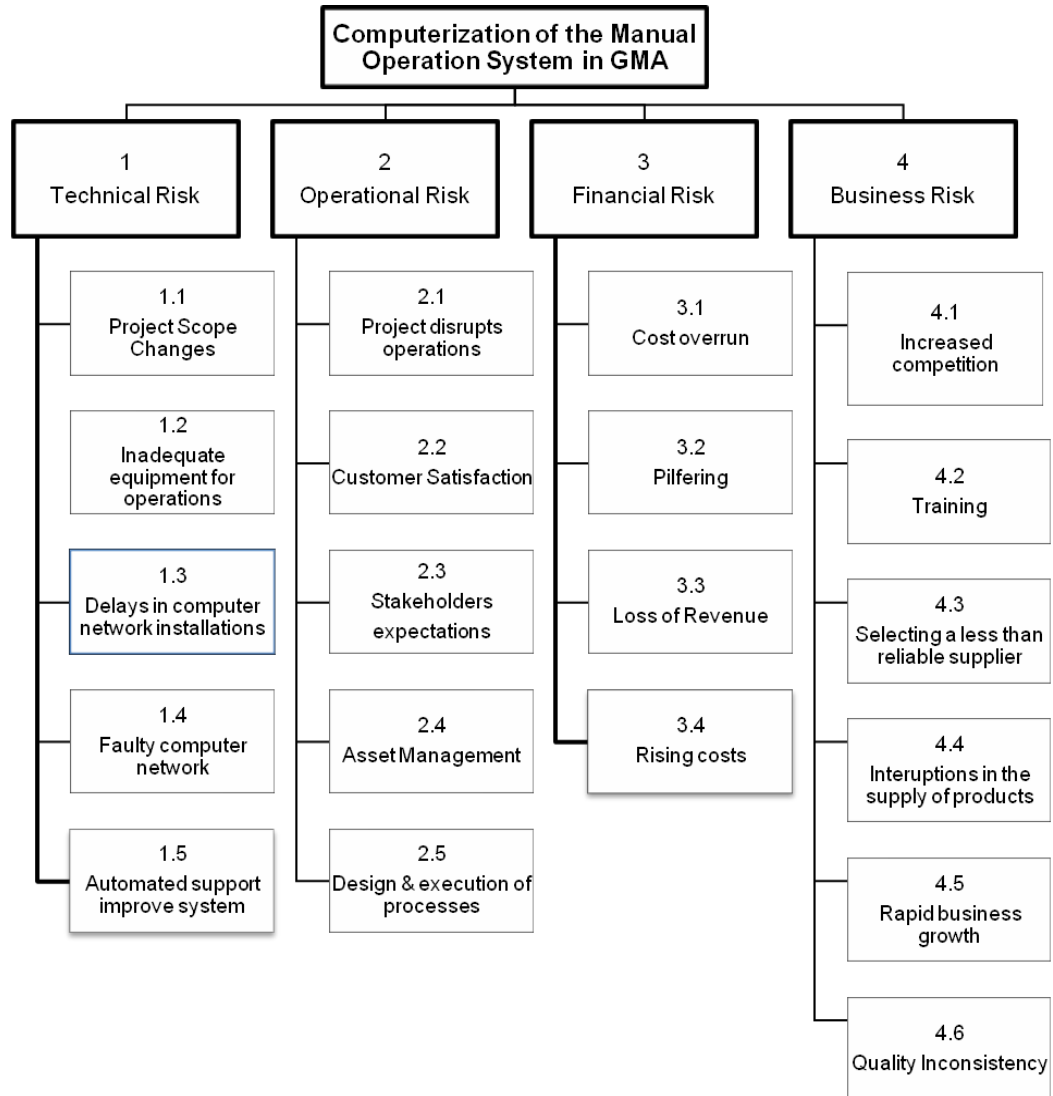
Appendix 13 Business As Usual (BAU) Interview (Source: todolistsoft.com)

1. Project Objectives.
   o Establish the overall goal of your project. What is the final product (desired outcome) to be delivered by the project?
   o Determine business background. What business problem does the project resolve and how? What business need is expected to be satisfied?
   o Explore benefits. What tangible and intangible benefits does your company gain in case the project reaches success?
   o Conduct a preliminary risk analysis. What are threats and uncertainties surrounding the project? What adverse impact do they have?
2. Stakeholders.
   o Identify people and/or organizations interested in or affected by your project. What are stakeholders of your project?
   o Determine needs and expectations of stakeholders through communication (meetings, conferences). What benefits do stakeholders want to gain upon successful completion of your project?
   o Make a stakeholder analysis matrix. What are the needs of every stakeholder and how are they linked to other stakeholders' needs?
   o Use the matrix to determine involvement level per stakeholder. What impact can every stakeholder have to the project?
   o Develop an expectation management plan. How are you going to move the project towards delivering needs and expectations of your stakeholders?
3. Budget Requirements.
   o Determine the overall cost of your project. Did you create and use cost estimates?
   o Request for necessary financial resources that cover the total cost. What is the amount of funds required to do the project and produce deliverables?
   o Calculate the overall budget. What articles will be added to the project budget? How will available financial resources be allocated?
   o Consult with project stakeholders (sponsor and customer) on possible saving opportunities for your project. Are there opportunities to shorten and cut off spending?
   o Determine override allowances. What is the amount of financial resources available for your team to do the project out of the budget?
4. Work Inventory.
   o Create an inventory of work to be done by your project. What are kinds and types of work required for completion by the project?
   o Break down the inventory to smaller work pieces. What are tasks and activities required to complete project work?

  o Separate and classify work items by type, urgency and significance. What activity prioritization method can be used?

5. Requirements Review.
  o Determine technical and functional requirements for your project. What are qualitative and quantitative interpretations of stakeholder needs and expectations?
  o Link requirements to project constraints. How are requirements linked to project objectives, budget, assumptions and timeline?
  o Make a requirements management plan. What methods are you going to use in managing project requirements?

6. Timeline.
  o Develop an estimated timeline for your project, including milestones and goals. What is the total duration of your project?
  o Schedule project activities. What are start time and finish time for every activity added to the timeline?
  o Link resources to time estimates. How are you going to allocate and utilize project resources under the time constraint?
  o Request your stakeholders for reviewing and approving your project timeline. Have you received approval for project takeoff?
  o Develop a project schedule based on the timeline. Can you set time dependencies between project activities and then put them on a single schedule?

7. Project Organization
  o Define key decision makers for your project. Who have sufficient authority to make decisions and rule the project?
  o Compose a team. What people are included in your team? What are skills and abilities required for every candidate to become a team member?
  o Define roles and responsibilities. What amount of work and duties will team members perform?
  o What is the organizational hierarchy?

Grace Peters-Clarke MA. P.G.C.E
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4th January 2017

The Academic Advisor
Masters Degree in Project Management
Universidad para La Cooperacion Internacional (UCI)

Dear Academic Advisor,

Re: Philological approval of the Final Graduation Project entitled: *A Project Management Plan for the Computerization of the Manual Operations for General & Maritime Agencies* **submitted by Tonie Foster Baynes Cato.**

I, Grace Peters-Clarke, hereby confirm that **Tonie Foster Baynes Cato** has made the requisite corrections to the Final Graduation Project document as advised. The document corresponds with the standards required of a student reading for a Masters degree.

Grace Peters Clarke

Grace Peters-Clarke

Head of English
City Academy Birmingham

THE UNIVERSITY OF
THE WEST INDIES

Grace Tendai Peters

having completed the Course of Study approved
by the University and having satisfied the
Examiners has this day been admitted by the
Senate to the Degree of

BACHELOR OF ARTS

with
Second Class Honours (Upper Division)

July 1, 2001

DATE

VICE CHANCELLOR

UNIVERSITY REGISTRAR

This Document is not valid unless it bears the University's seal

UNIVERSITY OF YORK

The Degree of

Master of Arts

in

Theatre: Writing, Directing and Performance

with distinction

was conferred upon

Grace Tendai Peters

on the twenty-fourth day of January 2009

Registrar and Secretary

Vice-Chancellor

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